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# MEDICAL RECORD

*A Weekly Journal of Medicine and Surgery*

EDITED BY

THOMAS L. STEDMAN, A.M., M.D.

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Volume 68.

JULY 1, 1905—DECEMBER 30, 1905

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31758
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NEW YORK
WILLIAM WOOD AND COMPANY
1905

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# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 1.
Whole No. 1808.

New York, July 1, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### THE CORRECTION OF NASAL DEFORMITIES BY SUBCUTANEOUS OPERATIONS.

A FURTHER CONTRIBUTION.*

By JOHN O. ROE, M.D.
ROCHESTER, N. Y.

In 1887 I had the honor of first presenting before this society an article on this subject, entitled "The Deformity Termed Pug Nose and Its Correction by a Simple Operation." Since that time, on different occasions, I have presented papers describing various operations, by which the different deformities of the nose can be corrected by subcutaneous methods without wounding or disfiguring the skin.

The difficulties attending these operations and the experience required in their performance have doubtless deterred many from undertaking them, while the injection of paraffin, a method recently introduced by Gersuny, of Vienna, for the elevation of sunken portions of the nose, has, on account of its apparent simplicity, become quite popular, notwithstanding the fact that it is not devoid of local ill effects, or even disastrous general results, as shown by the reports of such cases.

While these subcutaneous operations for the correction of nasal deformities do not demand the bold and often hazardous procedure of the general surgeon in the performance of the major operations, they yet require most accurate work and a careful attention to details.

The success of these operations also depends upon an accurate knowledge of the plastic art, and also upon the ability of the surgeon to reconstruct the organ so as to preserve its own proper proportions and to retain its harmonious relations to the neighboring parts.

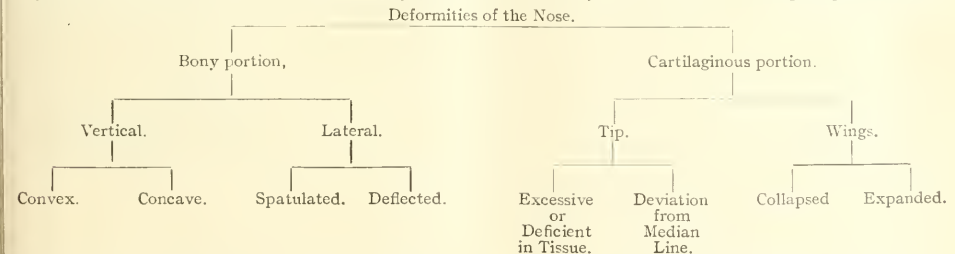
The symmetry of the nose is indeed more important than its size. A nose which is originally proportionate to the face, if deformed by loss or displacement of even a small amount of tissue from any portion will appear very unsightly, while the same nose, made one or two degrees smaller, will, if its different parts are made perfectly symmetrical, have a more or less becoming appearance. The general shape of the nose, also, should be made to conform to the general shape of the face: for example, a sharp, narrow nose would not harmonize with a broad, full face, neither would a broad, full nose harmonize with a narrow, thin face.

In the correction of all facial defects, the surgeon must be not only an artist, but also more or less of a sculptor, with perception of symmetry as related to the different features. How often do we see persons who in infancy had been operated on for harelip and fissured jaw, according to the principles most accurately laid down in surgical works, and who nevertheless present a most disfigured appearance, because of the entire disregard of the principles of proportion or symmetry. This is also the case where operations have involved the corners of the mouth and the eyelids.

A very careful study of each particular case and an accurate planning of the operation beforehand, is as important to insure the success of the operation as is the careful planning of a house by the architect, or of a bridge by the engineer necessary to the success of the finished structure.

In a previous article, read before the British Medical Association in 1888, I classified nasal deformities into two main classes—first, those deformities which affect the bony portion of the nose, and, second, those which affect the cartilaginous portion. The special deformities of the different portions of the nose I subdivided as follows: First, those affecting the bony portion, which may be too convex or too concave, or deflected laterally; and, secondly, those affecting the cartilaginous portion, which may be due to excessive or defective development of the tip; and, thirdly, those affecting the wings, which may be either collapsed or abnormally expanded.*

For convenient reference, this classification can be more clearly shown in the following diagramic form:




There are, however, other extraordinary deformities resulting from injuries or from extensive destruction of the hard or soft parts by syphilis, lupus, or other diseases, which, in many cases, will not admit of classification, owing to the peculiar distortion or extensive destruction of the hard or soft parts. In many cases, however, the method of correcting the deformity by subcutaneous operations is equally applicable and attended with the same excellent results as in the case of those previously

* Read at the annual meeting of the Medical Society of the State of New York, 1905.

* "The Correction of Nasal Deformities by Subcutaneous Operations," *The American Medical Quarterly*, June, 1889.

classified. It is true that in syphilitic cases greater difficulties are encountered and a greater uncertainty as to the result can be expected owing to the tardy healing and instability of the tissues. For the purpose of illustrating the manner in which some of these extraordinary deformities may be corrected by the subcutaneous method, I have selected the following cases:

Case I.—A young man, twenty-seven years of age, was referred to me December 19, 1901, for the correction of a deformity of his nose, which had resulted from being kicked in the face by a horse, on the 21st day of the previous August. The impact of the horse's shoe fractured the bones of the nose, driving the central portion inward, and dislocating the nasal and lacrymal bones outward, and forming a sort of ridge on the outer sides, while the toe cork of the horse's shoe caught the nose just at its junction with the upper lip, tearing up the columna and nearly all the anterior portion of the cartilaginous part of the septum.

The patient was at once sent to a large hospital in a neighboring city for surgical attention. On his arrival at the hospital about the first thing the attendant did, the patient stated, was to cut away the partially detached columna instead of stitching it into place, as should have been done, even though it were so much detached as to have become partially devitalized. Had this been done, the columna of the nose would doubtless have been saved. There have been many cases in which a large portion of the nose has been detached, and in some instances even the whole nose has been severed with a knife, sword or even bitten off, and upon being reattached and stitched on union has taken place. Therefore, under the circumstances, the cutting away of this partially severed portion was, to say the least, unfortunate.

In correcting this deformity, the first step was to restore the upper and external portion of the nose to a symmetrical and normal shape. This was accomplished by transplanting tissue from the thickened and too prominent portions of the nose to the depressed portion, and holding the nose in shape by an external saddle splint until the transplanted portions were united and fixed in the desired position. This was all done subcutaneously, the operation consisting in elevating the skin over the depressed portion by means of an incision made from the inside of the nose, and filling in the depressed portion with flaps of tissue taken from the neighboring parts, these being held in place by the nasal splint until the tissues were firmly fixed in the desired position. When this was accomplished, the important task of restoring the columna and anterior portion of the cartilaginous septum was next undertaken. After considering the various methods devised by different surgeons for the restoration of the columna of the nose, it was readily seen that none of them met the requirements of this case. Of these operations we may mention the principal ones. The earliest was the Italian method. This method consists in taking the flap from the palmar surface of the hand and suturing it in place so as to form the columna of the nose, the hand being held firmly in place until the flap has become united, similar to the Tagliacotian method for the restoration of the nose. The Hunter method is that by which the columna is formed from the skin of the dorsum of the nose, from which a flap is cut, rotated into position and stitched there. The Wood method consists in making a flap from the central portion of the upper lip between the cutaneous and mucous surfaces extending downward to, but not through, the vermilion border of the lip. This flap is turned upward and covered by a flap taken from the cheek on either side. The Diefenbach method consists in making two vertical incisions through the entire thickness of the upper lip, thus making a tongue about one-fourth of an inch in width, which is entirely free except at its upper attachment. This is turned upward and united to the remains of the septum and to the ala at the top by fine sutures. The mucous membrane of the lip, which looks outward in its new position, soon becomes skin on exposure to the air. The cut surfaces of the lip are brought together in opposition and united exactly as in the operation for hare-lip. This last-mentioned operation was the most feasible one in this case; but as the patient was a man the growth of a mustache in the nose would be a lasting source of annoyance to him. In order to avoid this and also the disfigurement that results from all the above described operations, I devised the plan of filling in the gap with a flap of tissue taken from the under side of the upper lip. As the lip was quite thick, we had abundant tissue at our command, but the question was to utilize it without injuring the external skin. I accordingly dissected up a sufficient amount of tissue from the under side of the lip to fill in the gap in the septum, leaving it attached above by a broad pedicle. The next thing was to get the flap in place without carrying with it any of the skin of the upper lip. This difficulty I overcame by buttonholing the upper lip at the point of the former lower attachment of the columna and pushing the flap through this opening. Then by folding this flap inward upon itself, and stitching the cut surfaces together, and the upper end of the flap to the remaining upper stump of the columna and the posterior border to the remaining portion of the triangular cartilage, a complete columna and septum were formed. The edges of the part to which this flap was stitched were necessarily scarified and freshened in order to secure union. This transplanted tissue formed a most excellent substitute for the original septum, and the mucous membrane from the interior of the lip on being turned outward and exposed to the air became very normal appearing skin. The wound on the under side of the lip was closed by stitching the edges of the mucous membrane together, and when healed scarcely any trace was left where the flap had been removed, and no scar where the flap was put through the lip.

Fig. 1.

The union of this transplanted tissue was so nearly complete that only a small perforation at the upper and posterior angle, where the flap was stitched to the septum, remained after healing. This opening was filled with a flap taken from the inside of the left ala, which was somewhat larger than the right and could readily spare it. The flap which was carefully stitched in place by means of curved needles* (devised by me for intranasal work) readily

* For illustration vide article on "The Removal of Obstructions and Cicatricial Contractions of the Nose by the Plastic Method," *New York Medical Journal* and *Philadelphia Journal*, July 30th, 1904.

united, filling the opening completely and leaving the septum in an excellent condition. The wound in the ala, whence the flap had been taken, was closed by stitching the edges of the mucous membrane together, so as to leave no exposed raw surfaces that might possibly result in a synechia.

Fig. 2.

Figs. 1 and 2 of the accompanying illustrations show the nose before the work was begun, and Fig. 3 after its completion. Fig. 4 is from a photograph taken before the injury, which shows the nose to have been of a fine Grecian type. The very nearly complete restoration of the nose to its original symmetry was, therefore, exceedingly gratifying, both to the patient and to myself.

Case II.—Mr. G. H., age thirty, was referred to me January 25, 1902, for the correction of an exceedingly peculiar, and, we might also say, interesting, deformity of the nose, which had resulted from an injury caused, when a boy, by falling on his face upon the ice while skating.

Fig. 3.

At the time of the injury, which was regarded as a comparatively trivial one, little or nothing was done, aside from arresting the hemorrhage and relieving the swollen condition that remained for a few days. When the swelling had subsided, and after he had entirely recovered from the injury, his nose was found to be quite crooked, the deformity after a time becoming very pronounced, as shown in Fig. 5. It will be seen by the illustration that the nose was crooked in several directions—the bridge of the nose being displaced to the left, the center of the nose to the right, while the tip of the nose was turned very much to the left, making a sort of inverted letter S. In addition to this, the septum was distorted in a similar manner, obstructing both nostrils, and the whole nose was deflected to the right about 30°. There was also a nodular projection of the cartilage on each side of the tip, the left being larger than the right and giving the end a peculiarly nobby appearance, somewhat resembling a hammer-nosed whale. In correcting this deformity, it was necessary to refracture and thus to liberate, to a greater or less degree, the entire nose as well as the septum, at the different places, in order to straighten the nose, take out the kinks, and set it straight on the face.

Fig. 4.

In straightening the nasal bones, or bridge of the nose, it was necessary to refracture them both, in order to move the center of the nose over to the right and to make it symmetrical. This was done by an original method, which I had previously devised for this purpose and used on several occasions, in order to avoid injury to the skin, which necessarily results when force sufficient to fracture the bones is applied to the exterior of the nose. This method consists in raising the skin from the bones by an incision made from the inside of the nose. Through this incision one blade of a stout pair of forceps similar to Adam's forceps is passed, and the other blade into the nasal passage. By this method the bones are readily fractured without injury to the skin or visible soft parts.

Fig. 5.

Fig. 6.

In straightening the end of the nose and putting it in the center of the face, it was necessary not only to straighten the septum, but to liberate it from its lower attachment for a considerable distance, so as to be able to set it over where it belonged.

In order to overcome the longitudinal curve in the septum, a vertical incision through the center of the septum just in front of the nasal bones was necessary, which was made in an oblique manner, instead of transversely, so that the cut surfaces could be coaptated and readily held together until union had taken place in its new position. The curved septum, after being liberated, was found to be best held in place by pins, while the whole nose was maintained in a symmetrical shape, and also in its proper position on the face until healed. This was done by a form or saddle splint made of the proper size for the nose and to correspond to the shape desired.

Fig. 7.

The result of these various operative procedures may readily be observed in Fig. 6, in which it will be seen that not only is the nose straight in relation to

itself, but also as related to the face; that is, in its proper position on the face.

Case III.—H. N., age 19, was referred to me on account of a sunken condition of his nose, caused by a specific condition. Four years before I saw him, he sustained a severe injury in an attack from highwaymen, in which he received a horizontal cut across the forehead and a deep cut between the eyes. His nose became greatly swollen and was attended with a discharge of so-called "matter" from the nostrils. After that time for three years he had an almost constant formation of crusts in his nose, which would come away in large masses, often attended with more or less bleeding. In January, 1899, the cartilaginous portion of the nose began to settle inward, wrinkling the skin at the sides and giving the nose a very unsightly appearance, as shown in Fig. 7. On examination the whole triangular cartilage was gone, with ulceration still going on at the base; the nose was full of dried crusts, which were removed with considerable difficulty. The bridge, or osseous portion of the nose, was not destroyed, and consequently appeared in comparison with the sunken portion of the nose, very prominent.

Fig. 8.

Fig. 9.

In correcting this deformity, several things had to be taken into consideration. In the first place, we had no triangular cartilage to support the anterior portion of the nose; and a plastic operation, taking a supply of tissues from the forehead or cheeks, could not be done without leaving a disfigurement, scarcely less noticeable than the present one. Consequently, the only plan that would give the best results with the least disfigurement, if successful, was the transplantation of tissue subcutaneously. This method accordingly was undertaken, and finally, after a number of operations and a great deal of patient care and attention, was a gratifying success.

Fig. 10.

The first thing necessary was the arrest of the ulceration by a course of thorough specific treatment, required by the unquestionable cause of the trouble, which had followed as a sequel and apparent result of the injuries he had sustained from the highwaymen. After this was done, and the ulceration was entirely arrested, I began the work of correcting the deformity. The first operation was to transplant a portion of each nasal bone, both of which were unduly prominent, into the depressed portion between the skin and outer wall of the vault of the nasal passage, thus making this portion of the nose quite symmetrical. This was accomplished in a very satisfactory manner through an incision made from the inside of the nose, in a manner already described in the other cases. The nose during this time was held in position by an external saddle splint and an intranasal support until the parts had become quite firm, there being more or less development of osseous tissue from the periosteum that had been transplanted with the bone removed from the bridge. It was necessary to raise the tip of the nose in order to make the nose symmetrical. The wrinkled and displaced shield cartilages were then incised, straightened out and held in position until reunited. It was then necessary to transplant other tissue to fill in the remaining depressed portion. This was done with tissue taken from the cheeks along the base of the nose. In some instances this tissue was entirely severed or disconnected, but when placed in its new position, with gentle pressure to keep the parts coaptated and prevent any accumulation of blood, the tissue readily took hold and grew without any trouble whatever. This was done at frequent intervals until the depressed portion of the nose was entirely filled in and the walls of the nostrils had become so thick and firm that danger of further settling of the nose had disappeared. Figs. 7 and 8 illustrate the nose when I first saw it. Fig. 9 is from a photograph taken a short time ago and sent to me by the patient.

Fig. 11.

Fig. 12.

Fig. 13.

Case IV.—H. G., age 28, was referred to me by Dr. Roswell Park, of Buffalo, July 19, 1901, for the

correction of a very pronounced and unsightly convex vertical deformity of the nose. In addition to this angular deformity the nose was abnormally long, giving it somewhat the shape of a parrot's beak. This condition was largely congenital, although it had been aggravated by an injury resulting from the patient being thrown from a carriage, which injury had caused more or less of an exostosis of the anterior portions of the nasal bones.

Fig. 14.

The operation for the correction of this deformity consisted in removing the angular projection of the nasal bones and also of the upper lateral cartilage, and shortening the end of the nose.

In removing the angular projection from the dorsum of the nose, great care was necessary to avoid cutting into the vault of the nostrils, which extended quite high up into the projection. In some cases, however, where the top of the nose is very projecting and the vault of the nostrils extends high up into the projection, the cutting through into the top of the nostrils cannot well be avoided. In such cases, in order to avoid leaving a flat surface on the top of the nose after the operation, the outer edges of the bones should be beveled off, and if standing somewhat apart, fractured and turned inward so as to closely coaptate. Should they, however, show a disposition to spread apart, they can be held together by a clamp or saddle splint, or sutured together with silver wire. In performing the operation for the reduction of this deformity, the work is done entirely through an opening made from the inside of the nose as in the other cases, so that the skin remains uninjured.

Fig. 15.

Fig. 16.

The method resorted to by some operators, and that quite recently, of making an incision through the skin along the dorsum of the nose in order to remove this redundant tissue, is not only unnecessary, but inexcusable, since it can be done so well from the inside of the nose subcutaneously, without the necessity of the unsightly scar, which ordinarily follows the cutaneous incision.

After the performance of this operation, the nose is best dressed by applying gentle pressure by means of a saddle splint to keep the skin in immediate contact with the parts below, so that almost immediate union takes place. The shortening of the nose is accomplished by resecting a portion of the lower part of the triangular cartilage large enough to allow the end to recede sufficiently to make the nose symmetrical; the edges are then stitched together with fine silver wire, or horsehair sutures. In this case the result was highly satisfactory. Fig. 10 illustrates the nose before the operation and Fig. 11 the result.

Fig. 17.

Case V.—Miss G. R. C., of Richmond, Ind., age 16, was referred to me July 21, 1904, for the correction of a concave vertical deformity of the bony portion of the nose, commonly termed "saddle-back nose," that had resulted from an injury sustained eight years before.

Fig. 18.

While attending a picnic, when eight years old, in running across some benches, she fell, striking her nose on the edge of one of the seats, fracturing the nasal bones. The nose bled profusely at the time, and soon afterward became much swollen, this being accompanied by considerable fever. On account of the marked swelling of the tissues, the fracture was undetected until this had subsided. By this time it was thought that the bones had become too firmly fixed in this depressed condition to render any successful attempt to correct the deformity possible. This deformity, furthermore, became much more marked as the child grew older and the development of the face took place. The nasal passages, however, were not obstructed, so that mouth breathing has not been necessary, and her health has been good.

On examination it was found that both nasal bones also had been dislocated outward, forming a distinct ridge on each side. The seasamoid cartilages in the dorsum, however, were driven inward, leaving the central portion, or bridge of the nose, flattened and almost level with the face, as shown by the accompanying illustrations, Figs. 12 and 13. The end of the nose was quite prominent

Fig. 19.

and somewhat bulbous, making a very pronounced pug. The first operation consisted in dessecting up and raising the skin from the nasal bones, through an intranasal opening, and sawing off, together with the periosteum, their projecting portions, hollowing them out so as to give to the sides of the nose their proper contour. These bone flaps were then carried up to the center and placed together in the median line, their bases being applied to the top of the sunken portion. After these parts had healed, a flap was made from each side of the bulbous portion of the end within the nostrils, extending down nearly to the border of the meatus. These flaps were turned upward into the depression caused by the sunken and partially destroyed sesamoid cartilages and held in place by an external nasal splint until the parts were all united in the desired position. This left the nose in the shape shown in the photographs, Figs. 14 and 15, taken six weeks after the operation and just before the patient left for home.

Fig. 22.

Case VI.—Mrs. Viola W., age 42, the wife of a physician, brought to me by her husband November 23, 1904, for the rectification of a very crooked nose and a badly deviated septum, causing almost complete nasal obstruction.

When about 9 or 10 years old, while playing with children at school, they making chairs with their hands and carrying each other in this manner, she fell forward to the ground, striking on her nose. The bleeding was so profuse that she was taken as soon as possible to a physician. By this time her nose had become so swollen that the fracture which had occurred was undetected. When the swelling had subsided, however, the nose was found to be quite crooked, and the deformity grew more pronounced as she developed, having increased even during the past few years.

On examination of the nose externally, there was found to be a convex vertical deformity of the bony portion, which was also deflected to the right. There was a marked depression at the osseocartilaginous junction and the end of the nose was very much bent to the left, as is shown by the illustrations, Figs. 16 and 17. On examination of the septum the osseous portion proved to be greatly deflected, turned to the left, obstructing the left nostril, while the osseocartilaginous portion was deflected to the right, obstructing the right nostril, the end of the cartilage being again deflected to the left, thus forming a letter "S" septum.

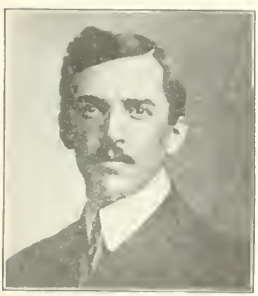


Fig. 21.

In correcting these deformities, it was necessary first to straighten the septum and to place the end of the nose in the median line. This was done by the method which I have devised, with the aid of my fenestrated comminuting forceps. In a few days, when the septum and the end of the nose had become fixed in a perfectly straight position, the angular portion, projecting to the left from the bridge of the nose, was sawed off obliquely, so as to give the bridge its proper contour, and the bone flap thus formed was placed in the depression at the osseocartilaginous junction. This flap fitted into the depression so nicely as to give the dorsum of the nose a perfectly regular contour, and, being held in position until firmly united, left the nose in the condition shown in the accompanying illustration, Fig. 18.

Case VII.—Mr. R. A., age 30, was referred to me by Dr. Goodale, of Boston, May 16, 1904, for the correction of a very serious deformity of the nose, which had resulted from specific infection contracted five years before. Three months after the infection there was an eruption; one year afterward a sore throat; three years afterward ulceration of the throat and nose. In May, 1903, there was a necrosis of the bridge of the nose, causing a perforation of the skin at about its center, just to the left of the median line. In about three months this opening healed with cicatricial tissue, leaving a cup-shaped depression and an opening through into the posterior nares, about the size of a lead pencil, which had resisted all attempts thus far made to close it.

In correcting this deformity, the first desideratum was to close this opening in order to have an unbroken skin so that the transplantation of tissues to fill in the depression could be done entirely subcutaneously. In closing this opening the skin was carefully raised from this cup-shaped depression and the citatricial tissue removed by a longitudinal elliptical incision; the edges of the skin being carefully sutured together so that when healed there was nothing left but a slight linear scar. When the parts were thoroughly healed, the projecting exostosis, the result of the previous ulceration and periostitis, was sawed off in such a manner as to correspond with the normal contour of the nose, by the method described in previous cases. These tissues were then placed in the depressed portion and held in place by the writer's nasal splint until healed, thus giving the bridge of the nose its normal shape. In the left ala there was a mass of thickened tissue, the result of the previous ulceration. By means of an incision from the inside of the nose, I made a flap of this tissue and turned it into a depression existing at the osseocartilaginous junction. It was necessary to perform two or three minor operations in a similar manner in order to fill in other depressions and irregularities. The result was a nose normally symmetrical in every way, with only a slight scar on one side of the bridge, which might readily be attributed to a Heidelburg students' duel. Figs. 19 and 20 show the nose before the work was begun, and Fig. 21 the result.

The form of dressing that has given me the best results has been a saddle splint of the desired shape and size, made to fit the nose after the deformity is corrected, held in place by adhesive plaster across the face. This form of dressing I first devised for the treatment of fractures of the nose and afterward found it to serve a most admirable purpose as a retentive instrument in the correction of the various nasal deformities.

It is, of course, necessary to remove it frequently and change its shape, as the swelling that follows the operation subsides; but it should be worn until the tissues are firmly fixed in place.

It is needless to say that in the performance of these operations the strictest aseptic precautions must be observed, for suppuration in the wound beneath the skin would not only defeat the purpose of the operation, but lead to a further deformity, possibly more unsightly than before.

With the exercise of skill and ingenuity and the most careful attention to details, we are able to relieve patients of a condition which would remain a life-long mark of disfigurement, constantly observed, forming a never-ceasing source of embarrassment and mental distress to themselves, amounting, in many cases, to positive torture, as well as often causing them to be objects of greater or less aversion to others.

It will be a surprise to any physician, who will take the trouble to investigate the subject, to find how many brilliant lives, how many noble personalities, and how much valuable talent have been, so to speak, buried from human eyes, lost to the world and society, by reason of the embarrassment and mortification caused by the conscious, or in some cases, the unconscious influence of some physical infirmity or deformity or unsightly blemish.

The effect upon the mind of such physical defects is very readily seen reflected in the face, which invariably conforms to the mental attitude, and leads after a time to a permanent distortion of the countenance.

The influence of the emotions, or the mental state, is manifested not only in the facial expression, but in the disturbance and derangements of the bodily functions and, as is well-known, and frequently observed, in the condition of the general health; the effect of the latter in turn may also be reflected in the facial expression.

The face is composed largely of muscles, but, unlike other muscles having only bony attachments, many of the facial muscles at one end terminate in or are attached to the skin, all being more or less closely bound together by fibrous connective tissue. These muscles are of the voluntary type, though controlled involuntarily by the condition of the mind; and their correlative activities are manifested by the particular form of the face and wrinkling of the skin characteristic of the different emotions. Thus each thought or emotion, disease or derangement, sending its own particular message to the different muscles, causes a distinctive expression peculiar to each particular thought.

If the mind is possessed of a certain dominant thought, whether of joy, gladness, sorrow, worry, or anxiety, the face gradually assumes and retains the corresponding expression by reason of the constant pull of these muscles both on the soft and hard parts, the latter finally yielding more or less to the continued tension.

Thus it is that habit of thought becomes fixed in the expression, and one skilled in interpreting the anatomy of expression can at once read in the face the habitual mental state.

The ordinary conditions affecting the mind—whether external and due to domestic, social, or pecuniary causes, or internal and due to the condition of the health or bodily functions—may change in character or degree, or disappear altogether; but to a sensitive person, a striking physical defect or deformity is an ever-present source of mental discomfort. If it be a facial deformity the characteristic mental attitude is not only manifested in the physiognomy, but this expression thus acquired will in turn still further add both to the facial disfigurement and to the mental distress.

44 Clinton Avenue South.

## ACTINOMYCOSIS OF THE LUNG.*

By E. FLETCHER INGALS, M.D.,
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Actinomycosis of the lung is a rare affection, yet, all told, many cases have been reported. It is most frequently observed among men who have had the care of stock that have been affected by the disease, yet not infrequently, as in a case that I have to report, there has been no contact with actinomycotic cattle, and the infection occurs from very obscure sources.

Although rare, the disease is frequent enough that general practitioners, especially in the country, should be on the lookout for it lest they fall into errors in diagnosis.

As an introduction to this subject, I wish briefly to recount the history of a case that recently came under my observation through the courtesy of Dr. Emanuel Senn and Dr. C. Volini.

The patient, an Italian, A. M., 22 years of age, came to this country about two years ago, and shortly after his arrival went to work on a railroad in Minnesota, near St. Paul, where he worked for nine months, and then returned to the city, where he remained three months, and then again resumed his work on the railroad. In Italy he had lived upon a farm, doing an ordinary farm laborer's work and taking care of some stock. Since coming to this country, while working on the railroad he lived on the construction train and slept on a straw bed, the tick of which had been filled with straw procured from a neighboring farmer. The farmer had cattle, but it is not known that any of them were sick; however, the workmen were not likely to be informed on this subject. On the 18th of last November the patient took a handcar and went to the city, where he spent the evening eating and drinking. On his way back he said that he took cold, and on going to bed he felt a good deal of pain in the back. The next day he was able to do only half a day's work on the railroad, and the following day was obliged to give up his job. Since that time the pain in the back has been present most of the time. The patient has steadily failed in strength and weight, and upon admission to the hospital, on February 27, he appeared languid and weak. He felt obliged to go to bed because of the weakness and because he had less pain and felt better when quiet. He has not been troubled with cough any of the time. His history shows that he has been a moderate user of alcoholics, tobacco, tea and coffee. He has never suffered from any illness, so far as can be ascertained, and the hereditary history is good. The father and mother, two brothers and nine sisters are all living and well. So far as he knows, there has never been either tuberculosis or malignant disease in the family. Upon admission to the Presbyterian Hospital (Chicago) he was complaining of some pain in the right side, more particularly between the right scapula and the spine. His skin was sallow, countenance anxious, the sclera moderately icteric, mental condition apparently normal. He formerly weighed 150 pounds, but on admission only 124 pounds. The temperature ranged from 99° to 100° F., pulse from 98 to 120, respiration from 24 to 30 per minute; blood contained 56 per cent. of hemoglobin, leucocytes 16,850 (Zeiss count). The voice was weak, but he had no dyspnea, and there was no other evidence of pulmonary disease. The tongue was clean, appetite fair, digestion good, bowels somewhat constipated, urine negative. There were no abnormal signs in the upper air passages.

*Read before the Nebraska State Medical Society at Beatrice, Neb., May 3, 1905.

An examination of the chest showed a swelling about 8 cm. in diameter in the right interscapular space extending from the spine to the inner border of the scapula and extending from the third rib above to the seventh rib below. This swelling was raised at its highest part about 2 cm. above the normal surface of the back. The skin about the border of the swelling was firmly attached to the underlying tissues, and there was very little motion possible. Over the center of the swelling fluctuation could be detected, and there the skin was loose and movable.

Dr. C. Volini brought this patient to the hospital and placed him under the care of Dr. Emanuel Senn, who made an incision over the swelling, from which about a teacupful of grayish pus and blood clots escaped. A counter opening was also made about two inches below, drainage established and healing by granulation encouraged. In the pus were many small yellow granules about the size of a pin's point, which upon microscopic examination proved to be the actinomycosis fungi.

When Dr. Senn called my attention to the case, he did not feel certain whether the abscess communicated with the pleura or not, but was inclined to think that it did. Upon my examination of the chest, I found the form and movements normal. Two small wounds which had been made by the surgeon were found in the right interscapular region. The physical signs in front over the lungs and heart were entirely normal. Posteriorly, I found moderate dullness at the right of the spine, extending from a level of about 2.5 cm. above the spine of the scapula to the level of its inferior angle, and from the spinous processes of the vertebræ outward about 2.5 cm. beyond the inner border of the scapula. In this region the vocal fremitus was somewhat diminished, but not entirely lost. The vocal resonance was not altered; however, the respiratory sounds were very indistinct; no râles could be heard. All other portions of the chest yielded normal signs. In the drain from the wound I observed a yellowish granule about 2 mm. in diameter. This was placed under the microscope and found to contain typical actinomycotic fungi.

This is far from being a typical case, but it serves the better to impress upon us the need of great care in the diagnosis of diseases out of the usual course.

*Anatomical and Pathological Characteristics.*—Actinomycosis of the lungs is a chronic inflammatory affection characterized by the production of linear and tortuous tracts of necrosis and softening and the formation of fistulæ connecting a greater or less number of these foci with each other or forming drains from these to the surface or to internal cavities. This disease tends to extend in different directions, and to involve the various structures with which it comes in contact. The structure of the lung and its great vascularity conduces to frequent termination of this disease in fibrous induration and shrinkage of the pulmonary parenchyma, so that advanced cases often present great flattening and immobility of the chest, like that seen after some attacks of chronic pleurisy, or in pronounced cases of fibrosis of the lung.

In advanced cases of the disease, the lesions are so complex that it is often impossible to classify them with any distinct anatomical form; but earlier nearly all cases fall with the pleuropneumonic or the bronchopneumonic varieties.

In pleuropneumonic actinomycosis, the invasion occurs from without. The pleural layers when attacked become thickened and irregularly adherent to each other, forming pockets in a part of the pleural cavity, which at first contained serum and fibrin and later pus. The underlying lung becomes pneumonic and softened in spots or irregular linear tracts, through which the burrowing tracks of necrosis undergo liquefaction and form fistulæ which communicate with the various foci or the pleural pockets. By extension, some of these finally break through the bronchial walls, and we then have superadded the bronchopneumonic form of actinomycosis. The inflammation involves the bronchial walls and the peribronchial tissues extending along the course of these tubes and resulting in linear consolidated areas. The areas soon present yellowish softened centers corresponding to the lumina of the bronchial tubes.

The lung in this condition closely resembles tuberculous bronchopneumonia. As the process extends the parts first involved tend to undergo cicatrization resulting in grayish or bluish white fibrous bands the lung tissue between which is softened and infiltrated with mucopurulent secretion in which the little yellow granules characteristic of actinomycosis can be found. Some of these granules are almost microscopic, others are two or three m.m. in diameter. These granules may often be satisfactorily examined when magnified with a low power of only 100 diameters.

When cicatrization is less advanced, the peribronchial embryonal or granulation tissue has a reddish or bluish red color, while the softened centers of the obstructed bronchi are yellowish. The older lesions are often seen in the upper part of a lobe, while more recent and smaller lesions occupy the lower part.

Sooner or later the two forms of the disease run into each other; the pleuropneumonic extending inward until the bronchi are involved, or the bronchopneumonic progressing outward until the pleura is affected. When the process first attacks the pleura a sero-fibrinous inflammation occurs in the part involved which soon causes adhesions resulting in pockets in the pleural cavity which at first contain serum but later pus. This burrows along the softened tracts where there is least resistance resulting in fistulæ by which the pockets may communicate with each other, with the surface, with the bronchi, or with fistulæ or small cavities in the internal organs.

The post-mortem appearance will depend upon the mode of invasion, the extent of the process, and the results of the secondary infections. In advanced cases, the processes of consolidation, softening, cicatrization, and contraction are so confusing, that it is often impossible to determine the variety of the beginning of the disease. In this disease the bronchi become plugged with epithelial cells from the lining membrane and with leucocytes, and there is marked cellular infiltration of the walls and peribronchial tissues. Necrosis and fatty degeneration occur in the central portion of these tracts and thus small abscesses are formed which contain actinomycelial kernels. Similar processes occur in the alveoli which are at first filled with fibrin and cellular exudate. Necrosis, however, is not so prominent a feature of this process as cell proliferation, consequently a rich vascular embryonal tissue is formed about the bronchi in which hemorrhagic points are common. This tissue tends to form limiting walls about the abscesses.

The proliferative changes cause thickening of the alveolar walls. In the contracting process that follows the alveoli are apt to become oblong and their epithelial cells to assume the cuboid form. Unlike the resolution after pneumonia, in the softening and necrotic process in actinomycosis the alveolar walls are themselves destroyed, but the resulting abscesses are small, instead of resembling those of pulmonary tuberculosis; hence, the respiratory signs usually differ considerably from those of the latter disease.

The bronchi and alveoli may also be occluded by the fibrous tissue growing inward from without. When healing takes place the actinomycetes become calcified. Microscopic examination even with low powers will reveal the colonies of Ray fungi or branching threads with bulbous ends, but these are better shown when magnified from 1500 to 2000 diameters. (See the illustration.)

*Etiology.*—The affection is usually caused by the inhalation of vegetable particles that find lodgment in some portion of the air passages, but it may be due to invasion from the buccal cavity, the pharynx or cervical region, or to direct involvement by extension of the disease from the mediastinus, the esophagus, the liver and diaphragm, the vertebræ, or indeed any of the surrounding strictures. It sometimes results from metastasis through the blood vessels.

In the case that I have recorded the disease is of the pleuropneumonic variety and the invasion appears to have been from without. The confinement of the process to a single focus, the absence of an earlier variety and the freedom of the bronchi from disease leads us to conclude that it could not have resulted from the inhalation of the actinomyces. Owing to the fact that the first evidence of the disease

Ray or Actinomycosis Fungus, magnified about 1500; A, fiber masses; B, club-shaped forms; C, dark areas intersected by loose fibre complex; D, dark nuclear areas; E, lighter marginal nuclear areas; F, fiber bundles greatly magnified.

was found on the back, between the scapulæ, and that the physical signs clearly indicate involvement of the pulmonary parenchyma, without any appreciable involvement of the bronchi, the question arises whether this invasion could have occurred through the unbroken skin or through some forgotten scratch or pimple or other slight lesion.

The ultimate cause of the disease is the ray-fungus, but it is not produced by a single parasite, for there are a number of varieties of the ray-fungi and several of these have been found in the lungs in actinomycosis. The changes found in these organs in advanced cases of this disease do not all result from the actinomyces, but some of them depend upon a mixed infection with bacteria, particularly the pyogenic cocci.

*Symptomatology.*—The symptoms of the disease vary greatly in different cases and are seldom typical, but this very atypical character is of much value in forming a diagnosis. In the pleuropneumonic variety the patient may only complain of a sense of weight or constriction of the chest or simply vague thoracic pains and of poorly defined functional disturbance; or he may suffer with acute pain as in pleurisy. These pains are usually constant, but as in the case I have related they may be slight and intermittent. If the pain girdles the chest it indicates that the intercostal nerves or their branches are compressed. Gradual and often steadily increasing emaciation and weakness mark the progress of the disease, but sometimes the process is temporarily or permanently arrested.

When cavities form, the progressive anemia, emaciation and night sweats are like the symptoms in consumption. According to the amount of lung tissue involved, to the extent of obstruction in the bronchi, or to the degree of weakness, the respiration becomes quickened, and when the bronchi are affected there is a harsh cough which is usually dry. Hemorrhage occurs only rarely. The sputum that is raised is of a mucopurulent character and usually offensive, but not so offensive as that of bronchiectasis or gangrene. The pulse is somewhat increased in frequency but usually much less than in pulmonary tuberculosis. The temperature, although increased, is less so than in the latter disease, and in some cases the temperature early is much like that of typhoid fever. These symptoms are necessarily much modified by secondary infection with pus cocci.

The intercostal spaces over the diseased pleura may be edematous. Percussion and auscultation furnish evidence of more or less thickening of the chest wall or consolidation of the lung or of both, sometimes with islands of nearly healthy lung tissue surrounded by the diseased tracts. In the pleuropneumonic variety, thoracentesis may yield a thin serous, a serofibrinous or a purulent fluid, which is likely to be obtained from two or more comparatively small pockets. The fluid may be lustrous, pearl-colored, or hemorrhagic in appearance, or it may be a thick yellowish or grayish pus.

In the bronchopneumonic variety the disease commonly attacks the lower lobe of the lung first, causing symptoms much like those of chronic bronchitis and yielding on physical examination areas of dullness with islands or patches of normal resonance and râles and bronchial signs like those of bronchopneumonia. When cavities form the whole symptomatic picture may very closely resemble that of pulmonary tuberculosis, but in actinomycosis the cavities are usually quite small so that they may not yield very distinct signs.

*Diagnosis.*—This disease is liable to be mistaken for pulmonary tuberculosis, gangrene, malignant disease, syphilis, and hydatid cysts.

An accurate history often aids greatly in the diagnosis, but finding well marked ray-fungi in the sputum settles the question. Often the branching ray-shaped fungus can be detected with a low power (1-100). The sputum or fluid withdrawn from the chest should be diluted with distilled water and the yellow kernels allowed to settle. Some of this sediment should be stained by Gram's method, but it may be necessary also to stain a control slide by Erlich's method, as these fungi are destained by acid, while branching tubercle bacilli that are sometimes found are not. The slides should be examined with both low and high-power lenses.

The bronchopneumonic form is distinguished from infectious diseases complicated by pleuritis or pulmonary disease by the chronicity of its course by its usual limitation to certain parts of the lower lobe of the lung, by the sputum being at times streaked with serofibrinous, or purulent, in actinomycosis, and by the fact that the physical signs in this variety of acti-

nomycosis are usually much less than would be expected from the gravity of the constitutional symptoms.

The pleuropneumonic form is distinguished from pulmonary tuberculosis, in many cases by the continuous pain, by the fetid sputum, and by the absence of hemoptysis and the signs of cavities.

It is distinguished from gangrene by the history, by less fetidity of the sputum and milder symptoms, and by absence of cavity signs.

It is distinguished from cancer of the pleura by the history, by the character of the exudate, which is generally sanguinolent in cancer but only serous, serofibrinous or purulent, in actinomycosis, and by the presence of the yellow kernels in the latter disease. The speedy return of the exudate when aspirated, the pain and the cachexia are much alike in the two diseases.

Syphilis of the lung may closely resemble this disease. The differential features are found in the history and in microscopic examination of the sputum. The iodides may be beneficial in either disease, therefore the diagnosis cannot be established by the results of treatment.

Hyatid cysts yield some symptoms and signs that might be mistaken for those of actinomycosis but the serum withdrawn is not coagulable by heat and nitric acid in the former, while it is in the latter, and the microscopic findings in the latter are characteristic.

*Prognosis.*—The cure of this disease can be hoped for only when it is recognized early. The normal duration has not been determined, but some cases seem to have terminated within two or three months, while others have lasted as many years. Recovery may take place, but after apparent recovery the disease may again become active. When the disease in the lungs results from metastasis through the blood vessels, from foci in other parts of the body, or when metastasis has occurred from the lungs, recovery cannot be expected. When extensive softening and burrowing have occurred, the prognosis is very grave.

*Treatment.*—In the treatment of this disease good hygienic conditions such as light and sunshine, fresh air and proper clothing and housing and good food are, of course, to be obtained if possible. Tonics are also recommended, but it cannot be shown that any of these appreciably modify the course of the disease. Iodide of potassium has been found useful in the treatment of the disease in cattle, and it has apparently been beneficial in combating the early stages of the disease in man. From 30 to 90 grains daily should be given and good effects may be expected in early cases that are progressing slowly, but the medicine can have but little influence when secondary infection with pus cocci occurs. C. J. Ochsner (Annals of Surgery, April, 1905, p. 633) states that about 90 grains should be given three times a day. That many cases are not apparently improved at all until these large doses are reached.

Surgical measures should be adopted when it is practicable to remove the diseased tissue or in the evacuation of collections of pus and the numerous adhesions between the pleural surfaces renders this an attractive field for operation, but unfortunately the tendency of the process to extend so widely in various directions renders it difficult to eradicate the diseased tissue; however, a combination of surgical and medical treatment is indicated in many cases with the hope that the iodides may cure what cannot be reached by the knife.

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## POISONING BY WOOD ALCOHOL.

### A CASE OF COMPLETE BLINDNESS (TRANSITORY), WITH RECOVERY OF VISION.

By CARL KOLLER, M.D.
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The knowledge of the poisonous properties of wood alcohol, and especially of its deleterious effects on the vision, is of very recent date; in fact, it is within only about five years that it has become generally recognized by the medical profession. Of the fifty-four cases collected from literature and tabulated by Buller in his and Casey A. Wood's valuable monograph on "Poisoning by Wood Alcohol" (read at the Fifty-fifth Annual Session of the American Medical Association, in 1904), only four cases antedate the year 1899. These four were respectively in 1879, 1888, 1897, and 1898. The other fifty cases were published between 1899 and 1904. Upon inquiry instituted among the profession in the United States and Canada, Wood has been able to add one hundred and eighty-one cases of partial or complete blindness, blindness followed by death, or death without history of previous blindness—all of recent years. It is very likely that sporadic cases occurred in former years (and were perhaps attributed to other causes). The present alarming increase in blindness and death caused by poisoning with wood alcohol is due directly to refinement in its manufacture by which it is rendered odorless. The nauseous odor adhering to the product by the old process limited its use to purposes of the arts and trades, for instance, as a solvent of shellac, etc.; and although poisoning by the fumes occasionally did occur, poisoning by drinking was quite out of the question.

Since an odorless product under the name of "columbian spirits," "colonial spirits," or "eagle spirits" has been put on the market, its uses have been largely increased, and not only its legitimate use, but it has to a very large extent entered into the adulteration of alcoholic beverages, into the manufacture of flavoring substances meant for consumption, and into the preparation of proprietary remedies in which only ethyl alcohol should have been used. Many cases of blindness and death have followed the ingestion of Jamaica ginger, lemon extract, essence of lemon, essence of peppermint, bay rum, Cologne water, witch hazel, etc.

The sensation produced in this city quite recently, through the sudden death of a considerable number of men (variously stated at 17 to 25), in a certain district, who had fallen victims to the consumption of whiskey adulterated with wood alcohol, is still fresh in everybody's memory. Under these circumstances, the publication of the following case, which presents some interesting features, appears sufficiently justified.

S. G., a Russian Hebrew, forty-two years of age, presented himself on October 28, 1904, at Dr. I. Abrahamson's clinic for nervous diseases in the Mt. Sinai Dispensary. He was totally blind, but perfectly rational. He had no idea what had caused his condition, and the history which he gave lacked, therefore, the most important element. He stated that he used tobacco and alcoholics very moderately, drank tea excessively, and enjoyed, in general, very good health, occasionally suffering from rheumatic pains. There was no history of syphilis.

He was referred to the eye department for an examination of his eyes, and, the true state of affairs being here suspected, the following history was elicited from him:

On Saturday, October 22, after the morning service, he took at the house of some friends a small

quantity (about two ounces) of whiskey, but did not feel anything unusual until after eleven o'clock in the evening. When returning home from a meeting which he attended the same evening, he felt chilly and nauseated, and vomited. He drank some tea and went to bed. The next day (Sunday) he went, according to his every-day custom, to morning and also to evening service, but neither ate nor drank. During the night he woke and noticed that the gaslight seemed dim. On Monday morning he rose at seven o'clock and as it appeared rather dark to him he asked if it was raining. Then he noticed that his vision was at fault, but ascribed it to his abstaining from food the previous day, and drank some tea. He could not read the ordinary print of the newspaper although he was able to distinguish the large letters. He felt chilly and extremely weak and his hands were cold. As the day wore on, vision became worse, but toward evening of the same day he could indistinctly see, though not recognize, human figures. On the next morning (Tuesday) he was completely blind, all perception of light being gone. Various physicians were consulted but the condition remained unchanged. Total blindness persisted for the following four days. On Friday, October 28, he came to the Dispensary. The status præsens was as follows:

"The pupils are widely dilated and absolutely without reaction. The optic nerves of both eyes present the picture of a neuroretinitis of moderate intensity. The outlines of the discs are indistinct; the radiating nerve fibers are opaque and somewhat edematous; the blood-vessels (arteries and especially the veins) congested. In the macular region of both eyes are dispersed numerous yellowish, bright-shining little spots, similar to the picture described as choroiditis guttata."

On his way home from the clinic he saw with his right eye the first ray of light. This caused him to change his attitude toward our request for a sample of that whiskey of which he had partaken two days before the visual disturbances began, and at a subsequent visit he brought a quantity of it sufficient for chemical analysis. Dr. Carl Goldmark, chief of the Dispensary pathological laboratory, made a qualitative test which showed the presence of methyl alcohol in the whiskey. As the test is very decisive and easy of execution, it might be useful to describe it in a few words. Dr. Goldmark says regarding it:

"The test depends upon the synthetic production of methyl salicylate (artificial oil of wintergreen). Beringer devised the method of producing methyl salicylate by taking half an ounce of salicylic acid, dissolving it in two ounces of absolute methylic alcohol, and then gradually adding one ounce of sulphuric acid. On this basis the whiskey was tested. To about two drachms of the suspected fluid, half a drachm of salicylic acid solution and one drachm of sulphuric acid were added in a test-tube. The odor of the oil of wintergreen was at once apparent, and became more pronounced the longer it stood."

Later, Dr. S. B. Bookman, of the Mt. Sinai pathological laboratory, made a quantitative analysis of the sample by fractional distillation, and found that it contained 34 per cent. of pure methyl alcohol. Our patient had therefore taken about 20 c.c. of pure methyl alcohol.

Potassium iodide was prescribed and the patient was directed to take hot baths to induce free perspiration, and to nourish himself well. As a result of this course of treatment there was a gradual improvement in vision for the following two months. He did not present himself for an eye examination until December 21, when sent for; but on November 18 we heard of him, that the right eye had steadily and rapidly improved since the day of his first visit, and that the left eye had begun improving about two weeks later. When he was examined on December 21, the vision of the right eye was 15/20, and that of the left 15/30. The outlines of the fields of vision were normal. The ophthalmoscopic examination showed a decided change. The discs were well outlined, and in their temporal halves very pale. The big vessels showed no abnormal caliber, perhaps the arteries were somewhat narrower than they should have been. The bright yellowish spots in the macular region of both eyes were decidedly increased in number.

The patient was lost sight of until sent for at the end of April, that is, six months after the onset of the affection. His examination on April 23, 1905, gave the following result: The pupils were more than average size, about 6 mm. in diameter, in an ordinarily bright room. When his face was turned toward the strong light of the window, they became slowly narrower, 3 mm. in diameter. The reaction to strong changes of light was very sluggish. The vision of the right eye was 4/12 and with +1 sph. cyl. +0.5 ax. hor. it was 4/8, this improvement of the vision with a convex correcting glass in a man of forty-two years, who had not used glasses before, evidencing a weakness of the accommodation which is in keeping with the weakness of the pupillary reaction. The vision of the left eye was 6/36, the refraction the same as in the right eye, but the glass caused no improvement. The field of vision of the right eye was normal in its outlines, no relative central scotoma. The field of the left eye showed moderate concentric contraction (about 15 degrees); no perception of green color; red recognized, and no relative central scotoma could be ascertained with this color. The ophthalmoscopic examination showed the optic discs opaque and very pale, bluish, edges fuzzy; lamina cribrosa visible; arteries narrow, especially those of the second order; those of the third order were hardly visible. A connective tissue sheath accompanied the arteries a short distance from the nerve head. The veins were larger than usual, especially in the left eye. The retina was very thin, appeared atrophic. In the macular region of either eye were very numerous yellowish-white dots.

That methyl alcohol is a poison dangerous to eyesight and to life is now generally concerned, although not long ago it was disputed, sincerely by some and from interest by others, the chief contention being that not the methyl alcohol itself, but admixed "impurities" produced the poisonous results. Of such, acetone was chiefly accused. The uncertainty was largely due to the fact that taken in small quantities methyl alcohol is innocuous to a great many persons, although taken in large quantities or habitually in moderate quantities it must be acknowledged as poisonous without exception. On the other hand, there are a great many people for whom a very small quantity (half a teaspoonful) would constitute a dose sure to bring on the gravest consequences. This difference, or "idiosyncrasy," well known in regard to every poison, in the case of methyl alcohol is most likely due to the difference in secondary chemical compounds formed in the alimentary canal and in the blood of the different persons by whom it is ingested. One of these secondary compounds is formaldehyde, but whether it is or is not the chief factor of methyl alcohol poisoning is not decided.

In reviewing all the cases on record, Casey A. Wood comes to the conclusion that there are three

degrees of wood alcohol poisoning: "(1) An ordinary, mild intoxication, with perhaps some dizziness, nausea, and mild gastrointestinal disturbance, terminating in perfect recovery within a few days, but occasionally followed by more or less serious damage to vision. (2) A toxic effect more pronounced in every way—dizziness, nausea, and gastroenteritis being conspicuous symptoms. Dimness of vision, often increasing to total blindness, is characteristic of this degree of poisoning. (3) An overwhelming prostration which terminates in coma and death."

The most conspicuous and characteristic feature of wood alcohol poisoning is complete bilateral blindness, appearing sometimes suddenly, but in most cases gradually after a period of failing vision. The disturbance of vision will sometimes come after a few hours; in most cases it lasts from one to several days, until a dimness of the sight is noticed. (In the case above reported it took about forty hours.) This progresses until the blindness is absolute. The interval between the ingestion of the poison and the onset of the eye symptoms is very characteristic, and may in some cases, as for instance in ours, hide the real cause of the blindness from the patient. The blindness lasts for a period of several days or even weeks, after which sight returns gradually. The improvement is frequently very considerable, sometimes full restoration takes place; but the improvement is not lasting. After several weeks the vision begins to fail again, and in the great majority of cases this progresses to final and irreparable blindness. Very few cases preserve useful vision; early treatment seems to be favorable to this termination.

Of the objective symptoms the only one constant from the beginning is widely dilated pupils without any reaction whatever. The ophthalmoscopic picture varies. Either it is entirely negative and thus corresponds with the usual assumption of a retrobulbar neuritis, or it shows a papillitis or neuroretinitis of low degree—slight swelling of the nerve-head, blurring of the outlines, radiating appearance of the slightly edematous nerve fibers, and congestion of the large blood-vessels, especially the veins. This condition was present in our case in a rather marked degree. A third variety shows pallor of the disc from the onset, with contracted blood-vessels, so that, although not so intense, it is similar to the appearance in quinine poisoning. But whatever the picture in the beginning, in all cases we ultimately find atrophy of the optic nerve and retina, an extremely pale, bluish or grayish disc with outlines distinct but fuzzy; the large blood-vessels, especially the arteries, contracted, for some distance contoured by a connective tissue sheath; no smaller blood-vessels or capillaries visible— in a word, the picture of postneuritic atrophy. Nowhere do I find mention made of the presence in the whole macular region, of the yellowish, bright spots described in the above case. I might consider them an accidental circumstance if I had not once seen the same condition in a man whom I treated for alcohol-and-tobacco amblyopia.

The field of vision shows anomalies in all cases. It is nearly always concentrically contracted, and generally there is an absolute or relative central scotoma present. In our case, after six months the right eye showed complete recovery of function (except a moderate diminution of the acuteness of vision), probably owing to the small amount of poison ingested and the early institution of treatment. The left eye showed marked although moderate concentric contraction of the field, considerable diminution of central vision, and absence of perception of the green color. A central scotoma for other colors at that time could not be established.

As to the pathology underlying these visual disturbances, opinions are divided, some ascribing it to a retrobulbar neuritis, whereas others believe that the ganglion cells of the retina are the structure primarily affected, followed by ascending—or, rather, descending—atrophy of the optic nerve fibers. The writer is inclined to accept the latter view, although it must be admitted that a number of weighty arguments can be adduced for either of them.

With regard to the course of therapy to be followed in a case of wood-alcohol poisoning, sweating by hot bahh or pilocarpine, potassium iodide internally, and sufficient diuresis (perhaps by means of a milk diet), suggest themselves as rational, and have been successful in some cases.

The utmost importance belongs to prophylaxis. The public in general must be enlightened as to the poisonous nature of this substance, and laws should be enacted forbidding its use in the manufacture of "essences" and proprietary remedies which may be the means of poisoning persons not addicted to the use of intoxicating drinks and who are entirely ignorant of the danger to which they are exposed.

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## SOME ASPECTS OF THE CANCER PROBLEM.*

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The first step in the solution of a problem is a full realization of the pressing nature of that problem. That this step has been taken in connection with the cancer problem is evident from the widespread interest in the subject shown by the recent medical literature of all countries. In America we owe this awakening to Dr. Roswell Park, whose prediction concerning the increase of cancer in this country, made some years ago, is in a fair way to be verified by the facts. In Philadelphia, for instance, the ratio of cancer deaths to the population has increased from 314 per million in 1881 to more than 700 per million in 1904.

With 1,037 deaths from cancer in this city during the past year, we must have had at least three thousand persons suffering from this affection during the same time—a most appalling state of affairs. The mere statement of such figures, which are paralleled and even exceeded in other portions of the country, should arouse to renewed effort a profession whose practical relation to the subject is illuminated by the broadest altruism.

The aspects of the cancer problem that I will briefly review this evening will not include a discussion of recent investigations into the nature of these affections. The time has not yet arrived for any but the research workers themselves to estimate the results attained. My remarks will be confined to ascertained facts and accepted views alone, in the belief that we are already possessed of more information in the premises than is generally acted upon.

I shall therefore speak briefly of (1) *The importance of a wider diffusion of our present knowledge concerning cancer.* Though there is much yet to learn concerning this affection, even possibly its true nature, and certainly the method by which it attacks its victims, yet we are in possession of most important information of a definite character concerning it. That much of this information is totally misun-

* Read before the Philadelphia County Medical Society, May 10, 1905.

derstood by the people, to their dire disadvantage, is evident by their total disregard of its cardinal points. We know, for instance, that cancer is purely local in its first manifestations, and that the only constitutional feature present in this curable stage is a possible non-immunity to it. That this fact is not understood by the sufferers themselves, is evidenced by general disregard of the early manifestations of this disease—a disregard and misconception that must be shared by some misguided physicians themselves who have given the advice, "Don't touch a cancer until you have to!" I do not believe that any physician would be guilty of this ignorance at the present day. It remains a fact, however, that a former ignorance on this subject has been most unfortunately absorbed by the general public. It should be our duty to enlighten the people on this point, whether we were formerly responsible for such errors or not, and urge the scientific value of the earliest destruction of suspicious nodules, and the deplorable results of a policy of delay, permitting a general diffusion of what was at first a strictly local malady until it is changed into a general infection.

We should inform the public that all painless, growing nodules are suspicious nodules, and should be submitted at once to the scrutiny of a physician. The common belief is that nothing can be cancerous unless painful—an unerring evidence of a disregard of all stages of these growths but the last one.

We should also do all possible to dissipate any tendency to ostracize these sufferers by assuring the public that all scientific testimony is against the possibility of the ordinary means of infection spreading these diseases.

(2) *Who is responsible for the present neglect to inquire into the causes and methods of prevention of cancer?* The opportunity to serve mankind in establishing the cause and proper means of prevention of cancerous affections will most likely be the lot of a member of the medical profession: that body of men whose daily work itself sows the seed of altruism in the heart of each individual member, if he be not altogether absorbed in love of self. In spite of this probable fact, it is an error to assume that the public may safely wait with folded hands until some brilliant physician, without special assistance, discovers the cause of cancer. Research of this nature has no possible means of remuneration within itself, and the hope for the glorious result will not pay the living expenses of the devotee, who is, apparently by an economic law of human effort, invariably poor. If the general government maintains a meteorological service for the problematic prediction of weather conditions; an agricultural department for the benefit of the farmer; a most extensive service for the benefit of the mariner; nay, even an army and navy for the general defense—surely it should provide the living expenses of workers and the other costs of a research into the cause and prevention of this affection, with its increasing menace to the life of the citizen. Such, indeed, is the need, uncertainty of results, and importance of this work that state governments should establish additional and independent laboratories of research, while the field would not be crowded if a score of financial giants each endowed an institution for this purpose.

The responsibility for this work is therefore in the hands of the public itself, and can be transferred to professional hands only with the provision of ample means for its prosecution.

(3) *What positive and negative indications for treatment we have at present?* The history of medicine records many instances where an efficient remedy has been applied to a disease long before the true nature of the disease has been understood. Striking examples of this are the discovery of the value of cinchona in malaria four hundred years before the exact nature of this affection was understood, and the discovery of the value of vaccination one hundred years ago, while the germ of smallpox is still under judgment.

Whatever the true nature of cancer, we can positively affirm that nearly 100 per cent. of external and semiexternal cancerous growths can be positively cured in their early stage by the destruction or removal of the original nidus of the disease. This cannot be said with equal truth of many affections regarded as trifling ailments, yet whose course can only be watched and assisted.

Such is the curability at its inception of these growths that the appearance of one on the body surface should be likened to the arrival of a ship infected with cholera at the maritime port of a country. The general system of the patient may be as surely protected from its dissemination as the country is protected from cholera by the disinfection of the ship and the isolation of its passengers.

Early and complete destruction of the primary growth is then the scientific remedy for cancerous growths, and if this simple plan be followed at the right time, the need for the discovery of an effective toxin for vaccination, or of an antitoxin for combating the disease, will be confined to internal primary growths alone—a very small proportion of the whole—for, to turn to a homely illustration, what practical gardener would care to inoculate his garden with a weed toxin or antitoxin when the patch of weeds is so small and circumscribed that he may pluck them out at once, root and branch? Even the detterent action of the *x*-rays would be unnecessary if the aroused sense of the public would bring these growths under treatment in their earliest stage.

Early removal or destruction being so effective, it is our duty to ascertain why so few sufferers present themselves in this stage. The fact that they go to the quacks and irregulars shows that a belief in its constitutional nature cannot account for all the neglect of early treatment, for the quack methods are usually of a purely local character. The obvious answer is that curettage and enucleation of these growths have been failures because these procedures permit a reimplantation of the cells or germs in the disturbed edges and open lymphatic vessels, while complete and wide removal is dreaded as too severe an operation, in spite of the fact that this is the only time at which it is an effective cure.

That a wide-sweeping knife operation may cure one of these small cancers on the surface, and is therefore a scientific procedure, is unquestionably true; but the attitude that neglects the value of cauterization, particularly the electrochemical methods of destructive sterilization, and clings to the knife as a panacea is anything but scientific.

It is the writer's belief that if a more judicious use were made of the cataphoric, or electrochemical method in these early and small growths, a very large percentage would be permanently cured, and without pain or material scarring, while the exercise of a wide discretion in the choice of remedies suited to the case would invite earlier resort to treatment by these sufferers, thus additionally increasing the percentage of cures.

Finally, no physician should attempt to handle these cases unless he determines to apply to them the most earnest and painstaking care. To merely operate on such a case and then lose sight of the patient is reprehensible. At the American Oncologic Hospital we have adopted the rule that all patients discharged apparently cured must return weekly for inspection during the first six months and monthly

thereafter for a year, whenever possible. By this constant oversight the earliest sign of a possible recurrence is noted and promptly destroyed, enabling us at times to snatch a brilliant success from what would otherwise have been a lamentable failure.

## THE TREATMENT OF SPASTIC CONSTIPATION.

By A. ALBU, M.D.,
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Chronic constipation, as is known, belongs to the most frequent diseases of the digestive system, being a disease of daily occurrence and affecting the poor and the rich, the young and the old. Although it does not at all spare the male sex, the female sex suffers for more from it. We may really say that this disease accompanies man from infancy to death. There are innumerable people, who evidently get through with the trouble year by year, without ever asking any medical advice at all. To a great extent these people continuously help themselves with the use of laxatives, being obliged to change them every couple of weeks and months, on account of their becoming ineffective. Perhaps the frequency of the disease, and the insignificance of complaints have been the prime reasons why clinical research formerly did not devote attention enough to the pathology of constipation. It was a general rule to regard chronic constipation as an atony of the intestines, and especially an atony of the muscular coat of the large intestine was mostly supposed to be the cause of the inactivity of the intestines. In the predominant majority of cases of chronic constipation this pathogenesis still proves perfectly true. In the last two decades, however, we have known a second form of chronic constipation, which on closer examination proved equally significant: the spastic constipation, which, contrary to atonic constipation, does not depend upon an atony, but rather upon a spastic contraction of the intestinal wall, especially of the musculature of the large intestine. The literature on spastic constipation has markedly increased during the last years, and according to my own experiences I must agree with the opinion of other authors to the effect that this form of constipation is found the more frequently, the more carefully it is sought for. Especially in the female sex a not unimportant percentage, I would estimate at least 25 per cent. belong to this form of constipation, and many of the most persistent cases of chronic constipation, refractory to all methods of treatment, even to intelligent, energetically and consistently maintained measures, do not improve for this very reason, that the treatment depends upon an erroneous supposition. Numerous cases of apparent atonies of the intestines, depend upon spastic constipation. As the treatment of the latter, as we will see, is diametrically opposed to that of atonic constipation, it will hardly be wondered at that such cases are treated for years without success.

The differential diagnosis between atonic and spastic constipation is often extraordinarily difficult, sometimes entirely impossible. In the following all the indisputable facts shall be discussed as briefly as possible. Spastic constipation affects chiefly very neurasthenic or even hysterical individuals, who show various general or local symptoms of this primary disease. They mostly are weak, insufficiently nourished, somewhat pale individuals, in the third or fourth decade of life; in the predominant majority females. Amongst the neurasthenic and hysterical symptoms they show there is sometimes a spasm in the automatic musculature, for instance pharyngeal spasm (globus), the cardio spasm, the pyloric spasm, and so forth. The spasmodic contraction of the intestinal musculature occurs at intervals, the duration being very variable. An attack may last for hours, days, and even weeks, but with frequent, more or less protracted interruptions, durwhich the intestine is atonic. Undoubtedly atony is the base upon which the spasm develops. In the syndrome of neurasthenia the development of a spasm of the automatic musculature on the base of an atony is of daily occurrence. Voluntary spasm of atonic muscles also occurs frequently; I refer to the spastic contractions of paralyzed limbs. Many patients feel the spasmodic contractions of the intestine as an indefinite oppressive sensation in the abdomen, which, however, sometimes increases to colics. In reality this spastic constipation is nothing else than the intestinal colic of chronic saturnism, caused by the incrustation of the musculature of the intestine with lead, which irritates its motor nerves. Also in ileus and in chronic stenosis of the intestine the constipation often is caused by a secondary spasm of the intestinal musculature, situated above the obstacle, and moreover dynamic ileus is exclusively dependent upon spasm of a more extended portion of intestines, this fact being best proved by the successful atropine therapy so much recommended recently. The spastic contractions of the musculature are by some patients also felt in the rectum and in the arms, so that they have the sensation of their feces being violently retained.

Corresponding to these subjective sensations of spastic contraction there is in many cases the positive proof of contracted intestinal knots, especially in the right and left portion of the lower abdomen. For the cecum on the one hand, and the sigmoid on the other hand, are the chief sites of spastic contraction, as well as of atony. In the former case one feels either continually or temporarily at the places mentioned sausage-shaped structures of about the size of the small finger and equally long, or even longer, which can easily be moved to and fro, of elastic consistency and very sensitive to pressure. It may be emphasized that the contraction of the cecum often gives rise to confusion with other sensitive resistances in the ileocecal region and often simulates a chronic appendicitis. Owing to the grave prognostic and therapeutic indications of the latter condition, such a mistake must be seriously warned against. The diagnosis is often reached, especially in dubious cases, by digital exploration of the rectum, which also demonstrates spasm in the sphincters, as the examining finger is closely grasped by the convulsively contracting sphincters. In some cases the spastic constipation is on the whole limited to this most inferior portion of the intestines. As a complication also of this form of constipation enteroptosis is not rarely met with, especially a coloptosis, the transverse colon then running at the level of the umbilicus from one hip to the other as a long, solid cord of a finger's breadth, and so-called membranous enteritis, which, according to Nothnagel's opinion, in the majority of cases, is to be regarded as a motor neurosis of the intestines (colica neurosa), and therefore closely related to spastic constipation.

For diagnosis finally the condition of the feces also is of value. In general they are, as in atonic constipation, dry, hard, and scanty. Sometimes they assume the characteristic shape of a ribbon, or of a flattened lead pencil, on account of the incarceration of feces in the spastically contracted intestinal knots. This form was formerly called stenotic feces, and has been regarded as characteristic of chronic

intestinal stenosis. This opinion, however, has for a long time been acknowledged to be erroneous. The so-called stenotic feces, very often absent even in mechanical stenosis, do not prove more than that a constriction exists somewhere in the intestines, usually a spastic one. In many cases of spastic constipation, it is true, the feces do not show any peculiarity.

The reason why I have entered into more detailed particulars of the symptomatology and diagnosis of this form of disease, fully explained in recent times by Westphalen (Petersburg), G. Singer (Vienna), and others, is, because all the forms of treatment that are to be mentioned here can be founded only upon a most perfect knowledge of the syndrome of the malady.

As the spasms develop on the basis of atony, it is obvious that every occasion for exciting them must carefully be avoided. Every irritation of the intestines and, above all, massage, which is often extraordinarily effective in atonic constipation, must be avoided. Therapeutic efforts, moreover, have to be directed to an improvement of the irritative condition, similarly to the calming of excited waves. For this purpose the following measures prove suitable: (1) The use of warm, or, better, hot baths which can be prescribed as sitz, or complete baths (at a temperature of 30-35° R. and a duration of 15 to 20 minutes); (2) the application of hot compresses to the abdomen, which not only mitigate the spasm, but also relieve the painful sensations and colic. Whether dry or moist dressings are used makes no difference. The use of the thermophor proves very suitable; (3) warm enemas of linseed oil, sesame oil, or also of castor oil in a quantity of one-quarter liter every day in the evening, given in bed with the buttocks raised, or in the knee-elbow position, whereby deeper penetration and a prolonged retention of the oil is guaranteed. It is not a question of producing immediate bowel movements by the enema, for the oil is to act as a sedative on the spasm of the intestinal musculature and should therefore remain in contaction with it as long as possible. The injections should be made as slowly as possible and with only a slight pressure, preferably with a big syringe or with a glass funnel; (4) as the best antispasmodic atropine or belladonna is recommended, the latter as the extract in the form of suppositories, in the dose of 0.2 g.-0.3 g., two to three times daily; (5) concerning the diet used in spastic constipation the opinions of expert authors differ very much. Some of them recommend a diet as bland as possible, while the others on the contrary advise heavy, vegetable food. According to my experience both opinions are erroneous. I have found a vegetable diet the best, the food being most carefully freed from all hulls and shells and so forth—that is, from all cellulose which might irritate the intestinal wall. By such a chiefly gruel-like diet on the one hand the excitement of intestinal spasms will undoubtedly be avoided, while on the other hand the atonic inactivity of the musculature is counteracted. Such patients, therefore, may be allowed to take all sorts of wheaten bread, made of fine flour, greens in form of prunes and cooked fruits. Soups and broths are also allowed. The use of milk, in quantities of 1 liter, is very advisable, if it does not constipate the bowels in the individual concerned. Alcohol, spices, cabbage, cucumbers, celery, radishes, cheese, and so forth, must be strictly avoided; (6) the introduction of solid hard rubber or wooden bougies into the rectum, which remain in position every day 10 to 15 minutes. They should be lubricated with oil and be introduced 5-10 cm. The use of these bougies is especially indicated in the above mentioned cases, and they are very useful, where a spasm of the sphincters is found.

I cannot recommend the advice of some authors who, prescribing for these patients long and continual rest in bed, because by this means the primary atony of the intestine is favored. On the contrary, exercise in the fresh air will mostly do those patients good. Only in very weak, very debilitated and also in intensely hysterical persons a regular fattening cure is recommended, which not only increases the strength, but also restores the natural mobility of the intestine. To this cure, radically disturbing their private life, the patients can be persuaded only after all other means have been tried in vain. Then, of course, this attempt is fully justified, and to the surprise of the physician and the patient very often achieves a striking success.

## INEBRIATE MANIAS: A MEDICOLEGAL STUDY.

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The following cases have a practical as well as a medicolegal interest, and reflect a confused recognition of facts in the profession that is deplorable. These cases are by no means unusual, but the great prominence of the victims and the physicians who were called to give advice make them conspicuous object lessons that should never occur in our present knowledge of the subject.

A lawyer of great prominence, actively engaged and living a regular life, although probably overworking, became suspicious of the fidelity of his wife. This became so offensive that his wife consulted a leading physician, feeling sure that some mental change had taken place in her husband's mind. The physician remonstrated with her husband and tried to show him the error of his belief. Later the husband advised with another physician, equally prominent, who assured him that this was a delusion. He then applied to a detective agency, and after months of the most careful watching, they reported that his suspicion was unfounded. He believed that the detective was in league with his wife, and determined to act as detective himself. Armed with a revolver, he spent most of his time in hunting up imaginary trails, the failure of which only convinced him more firmly of the subtlety of his enemies. In the meantime he pursued his professional work with his usual skill and acumen, and seemed in no way different from his usual manner.

He confided to his family physician his determination to shoot anyone under any suspicious circumstances. The physician advised a change and visit to Bermuda. This he did, insisting on going alone and secretly. He returned on the next steamer in the most secret way and was recognized in a room overlooking his residence in a neighboring house, and explained his presence as a mistake. He then went to the club to live.

His wife became alarmed, as he had threatened her life. Two physicians examined him carefully, and decided that they could find no reason for his strange conduct, also that there was no evidence of insanity. As to the delusion of his wife's infidelity, they gave no opinion, but would not sign any papers certifying to his impaired mental condition.

Fearing a homicide, his wife left secretly for a distant part of the country, and he went back home to live. He was still under the impression that she came to the house and was admitted from time to time. Acting on this belief, he shot at a servant girl one night, slightly injuring her.

He was examined again by two physicians, and his explanations were so plausible and his conduct so rational that they could give no opinion other than that he was sane. From the facts submitted to me for an opinion, it appeared that for at least ten years he had drank large quantities of strong spirits every day, both at home and at the club, drinking at regular intervals, and never seeming disturbed or confused from their use. He conducted his business with the usual skill. The only change noticed was dullness, particularly in the latter part of the day, his mind working more slowly, and the usual optimism giving away to criticism and doubts of the honesty of others.

The last two years the amount of spirits had been taken at shorter intervals, and he had slept more, sometimes retiring in the middle of the day for an hour or more. There was no evidence of specific disease. He was very regular in all his habits, had no bad associates, and had lived on the most amicable terms with his wife up to the time this delusion began. Both were exemplary persons. His wife was a church member and moved in the best society. My opinion that this was an alcoholic mania and that he should be declared insane at once and confined in an institution, was treated as absurd. The absence of any other symptom except this delusion was evidence to his physician that his mind was yet sound. He was finally persuaded to take an ocean voyage with some friends. He disappeared from his berth one night and was never seen again. Whether he committed suicide by jumping into the sea, or fell overboard, it was not known.

A will was found leaving all his property to his wife, and no reference was made to this delusion in any of his papers. The possibility of a homicide was averted only by the good sense of the wife, who realized her husband's irresponsibility more clearly than the physicians, and kept out of the way.

The second example of a similar case was that of a brother of an eminent physician who had accumulated a very large fortune by careful methodical work. For the last ten years of life he had drank spirits at meals and before retiring. His conduct and habits were unchanged. While he was recognized as sometimes being under the influence of spirits, his mind showed no change in the affairs of everyday life.

Suddenly, without occasion, he became convinced that his wife was untrue to him, and accused her in the most violent way. She had a family of three children, who joined with her in the injustice of this charge, and tried to persuade the father that he was wrong, but failed. For over a year this condition existed, the accusations being made oftener, and finally accompanied with threats. The wife remained in the house for weeks, hoping to allay his suspicion, which grew more intense with every effort of hers to show its falseness. Two physicians, with his brother, were appealed to, and after a careful examination, they declared it a family quarrel, in which there was no sign of mental disturbance on the part of the man. They declared that they both needed rest and a change, and urged them to go on a long tour to the West. After some persuasion the wife consented, and they went away, apparently reconciled. Ten days later they were both found dead in a bed at a hotel. He had evidently shot her while asleep and then killed himself. The matter was concealed from publicity, but the friends from whom these facts were obtained considered that his brother and the physicians had made a fatal mistake in not recognizing the insanity of this delusion and having him confined at once.

In the third example which came under my observation, a man of wealth, after drinking half a lifetime in so-called moderation, suddenly became convinced that his wife was plotting to destroy him, and was unfaithful. He concealed this delusion for a long time. His suspicions were revealed by his rushing in unexpectedly to his wife's room with a revolver in his hand, and looking through all the closets and under the bed, as if suspecting some concealed intruder. Later he openly accused her, and threatened great violence. Then, for the first time, he became wildly intoxicated on the way to Boston. His condition was so offensive that he was brought to my place for temporary care.

The question of his normal condition was brought up, and two physicians, one who had been in the family for years, and the other an expert neurologist, decided that he was not irresponsible or in any way insane, that the delusion of his wife's infidelity did not have an alcoholic origin, and that his present condition was owing to malarious complications and business difficulties. My opinion that these delusions would lead to a homicide unless he was confined and the spirits withdrawn was not shared in by his counselors. Two weeks later, in great excitement, he rushed into a neighbor's house, saying that he had shot his wife and a man he had found in her company, and would have to spend the rest of his life in a prison, or die on a gallows. Before he could be prevented he shot himself and died the next day.

It was found that he had gone downstairs secretly from his room, and seeing his wife talking with a grocery clerk, had shot at them. As they both dodged under the table he concluded that he had killed them. In the neighboring house where he went it was announced that in taking out his pistol to show it to a friend it was accidentally discharged and caused his death.

These three cases bring out clearly the great danger of permitting anyone to be at large entertaining delusions of this character, particularly where they have an alcoholic origin. The fact should be recognized that delusions of this class are evidence of an advanced stage of neuronic degeneration, and are very marked in persons who drink. They may not always concern sexual relations, but become delusions of persecution and intrigue to destroy character, property, and jealousy to prevent success in business, in politics, and in society.

Thus, a man of some prominence who drank steadily believed he was surrounded by envious intriguers who secretly sought to prevent his success in every possible way. Later he believed that his wife and family had been bought to be untrue to him and to desire his death. Suspicions of poisoning, next to sexual infidelity, are common in alcoholics and inebriates. These delusions are very dangerous and point to a degree of mental failure and inability to reason rationally that is likely to end in homicide from the slightest exciting causes. Whenever a drinking man or drugtaker becomes possessed of these delusions, he should come under public notice and care as a dangerous man, and should be placed under control at once.

In the first case I have mentioned, the physicians who doubted the irresponsible condition of the person did not realize that this delusion was alcoholic in origin. They could not understand how irresponsibility could exist in this one direction and apparent full recognition of his condition on other matters be present. They conceived that moderate drinking could not in any way impair his sanity and never be manifest in wild conduct and thought.

In the second case, much the same reasoning prevailed, although there were marked delusions of persecution, and the physician considered these of minor

importance, which a journey among strangers would break up, and his advice to the patient to go away with his wife was fatal.

In the last case it is difficult to understand why the medical advisers should have overlooked the stage of excitement and erratic conduct, together with the delusions, as mere transient conditions, particularly when they occurred in an alcoholic person.

It is very evident that in each of these three examples the medical men utterly failed to realize the gravity of the conditions present, and, in some measure, they were directly responsible for the consequences which followed. In contrast to this is the following: A contractor, of wealth, who had for many years drank spirits steadily, although a man of excellent judgment and kindly disposed, suddenly took on this delusion, and began to threaten his wife. In other respects he was perfectly clear. His family physician realized the situation and secured a commitment as insane. This was questioned, and from the opinion of myself and others the commitment was allowed to stand. After a three months' residence in an institution, he returned home greatly improved and resumed business. A year later he relapsed, and the old delusion returned with greater intensity than ever. He was committed again to an institution, where he is at present. Had the opinions prevailed, as in the former cases, this man would have committed a homicide and have suffered the death penalty. The wisdom of this course is evident from the fact that with the removal of alcohol and restoration of a degree of health the delusion disappeared, and he was able to resume business again.

These overlooked and unstudied delusions are often illustrated in the tragic deaths of persons found in hotels in large cities, who come from inland towns and register at the hotel with some strange woman, and are both found dead in the morning. One such man, who was a steady drinker for years, and who had the characteristic delusions of marital infidelity on the part of his wife, which his friends could not break up, came to New York drinking heavily, and finding some poor woman took her to his room and shot her; then, partially realizing his own condition, committed suicide. All the facts pointed to a pronounced delusional condition which his family physician and friends should have realized long before.

Many of these unexplainable alcoholic homicides start from alcoholic degeneration of the brain centers, and are veritable psychoses of the most dangerous character, requiring prompt, active treatment, and all stupid, timid efforts to determine the degree of responsibility are fatal to the cure and prevention of the case. The rule should be first to determine how far and to what degree the person uses alcohol. The steady drinker is undoubtedly more degenerate and has greater impairment of the higher nerve centers than the periodic drinker. The cumulative effects of alcohol, even in small quantities, are for more serious than a profound intoxication.

A periodic drinker has free intervals of sobriety, during which a certain reparation takes place, but in the steady drinker, no matter how small the amount used, the constant accumulation of toxins permanently disturbs both the nutrition and elimination of the body. One who has drank steadily for years is almost certain to have at some time some significant symptoms of both mental and physical impairment, such as delusions, manias, and psychoses of various forms.

When the delusion becomes well organized and persistent, it indicates a very serious neuronic change; often the manias which appear after long periods of continuous drinking are the first symptoms of paresis, and go on without break or change unless the spirits are removed, and even then the disturbance continues in some form. It is a very safe inference, which experience will confirm, that all delusions, manias, and hallucinations which come on gradually or suddenly in an alcoholic indicate irresponsibility, and call for decisive measures of care and control.

No person in this condition should be permitted to continue business and enjoy full liberty as a sane man. He may not commit a capital crime, but is liable to do damage in some way or other, either to himself or others. Recently such a man committed forgry, overdrew his account, and destroyed the company that he was interested in, giving as a reason certain schemes and projects which other members of the firm were trying to bring about to his injury. This was literally a delusion of persecution, and grew out of an alcoholic degeneration that was overlooked at the time.

Some of the facts that I wish to make prominent are these: (1) The continuous drinker of spirits in active life is cultivating a soil for the growth and development of distinct psychoses, which may break out at any time. One of the most common of these symptoms is delusions of infidelity. They are practically symptomatic of the particular cause, alcohol. (2) Delusion of persecution and delusions of grandeur, together with manias of various kinds, are natural sequels of alcoholic degeneration and should receive the most careful study. (3) All such persons are irresponsible—to what degree the facts of each case will determine. The medical man should recognize this condition and be emphatic in his statements, and never minimize or neglect to recognize the gravity of these states.

## ADVANCED SCHOLARSHIP AND MORBID MENTAL CONDITIONS; SOME CLINICAL CASES.

By WILLIAM LEE HOWARD, M.D.,
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By "advanced scholarship" I mean in this article the position attained by men who have followed a post-graduate course, taken their doctorate degree of philosophy, and are either holding professorships or trying to continue further their special work of investigation. This is rather an awkward explanation, but necessary for a full understanding of what follows.

That certain predispositions toward particular lines of study are the symptoms of a neurotic state seems probable from my clinical experience. The following cases did not have their morbid mental conditions brought about by overstudy, dissipation, or excessive worry, but their early inclinations were sown on an unrecognized psychopathic soil and the subsequent studies and thoughts were the easy channels for the psychic flow of energetic mental application. Or, to put it paradoxically: it appears as though it were the psychopathic conditions that direct certain individuals to work hard along the lines of their least mental resistance.

The life of a student of Romance languages, of poetry and literature, while involving strict mental application, studious habits, and constant work, yet does relieve the individual from contact with more practical men, physical work, or physical contests. Such a man's associates in university, college, or society, are apt to be students of the negative humanities. In his school days he will be found to be a boy who always stands well with many of his teachers, but who is an unenthusiastic spectator when his schoolmates play their games or have contests

with rival schools. There seems to be a physical inertness in his movements, and he will avoid, if possible, gymnasium work. He is generally a high-stand man in both school and college.

It is much easier to understand the conditions I refer to by taking a few clinical cases which have come under my personal supervision the last few years. Generalities of these morbid psychic conditions are always interesting, but not always convincing. The only case in this university group that demonstrated any abnormal sexual phases I have described elsewhere,[1] and for obvious reasons leave out of this clinical résumé.

Case I.—H., aged 43; now professor of Romance languages in an Eastern college, came to me while he was pursuing post-graduate work at Johns Hopkins. He realized he was on the road to mental and moral ruin through periodical attacks of uncontrollable impulses to drink—dipsomania. His birth, environments, and education were of the best, except that he was born at a time when both parents had been for a year or so under great mental and physical strain. The father was in constant danger of being assassinated, the enemy's troops were harassing his home, and the prospective mother was at no time able to get away from fear and insults. H. has a borther and two sisters who were born before the Civil War; all are normal and successful in life. He studied abroad for several years, and while he enjoyed the life and habits of Continental students, never felt any impulse to drink to excess, nor had he any impulses he could not control. Nevertheless, I am inclined to think that even the social glasses he indulged in had some effect in bringing into activity the instability of his nervous organization.

H. was 37 years old when he first came to me. He was despondent, melancholic, and discouraged. His position at the university was hanging by a thread, and if he had another attack of the "periodic insanity," as he rightly called it, he would kill himself. It is not my purpose here to describe that "apprehensive depression" (Kraepelin), which is the prodome of dipsomania, or discuss this disease, but to describe a certain group of individuals belonging to a psychopathic class which is ever liable to some form of impulsive act. Dipsomania I have fully explained and described elsewhere.[2]

When H. came to me his attacks occurred about every three months, and lasted from five days to two weeks. He was placed under treatment, and as he gave me every possible assistance, was soon confident of his ability to be successful in life. At the end of five months I left him to himself, as I was obliged to leave Baltimore for the summer. About a month after he had an attack. When he recovered at the end of three weeks he found himself hundreds of miles away, among strangers and with no recollection of how or when he left Baltimore. I kept careful control of him the next winter, and he was able to do good work at the university. He has been free from the uncontrollable impulses for three years, the proof of which is that he has held his position in a small town where the first drink taken by one of the staid college professors would be hailed from housetop to housetop as a beastly, lecherous and drunken orgy. H. has, however, to be careful to see that normal elimination is constantly active.[3]

Case II.—G., aged 46. Graduate of Columbia University. After graduation he went into Wall Street, where he remained several years. After making and losing a fortune or two he took up at Johns Hopkins University a post-graduate course in the Romance languages. He received his doctorate degree.

G. has always been a student; even amid the rush and excitement of Wall Street he found time in the evenings to pursue the study of laguages and literature. His history is good. His father was a rigid Puritan, and brought up the boy in the puritanical atmosphere. His mother was a dreamer and inclined to occult matters. She would secretly talk to her son about theosophy and other cognate subjects which seem to attract women of half-baked intellects.

When G. went to college he was imbued with a belief in mysteries, and had effeminate longings for soul matings and Mahatma meetings. He did not join in college sports, nor did he have the adolescent male energy for athletics. In this nugatory physical manner he passed through college. When he was in Wall Street his environments were such that his latent virility was brought to the surface, and apparently he did not differ from other men in the Street. He now began to take a cocktail before dinner, and in a year or so he was taking a "bracer" at noon. In the course of time he was taking his several drinks a day, and while he never went the "pace that kills," yet he was constantly under an artificial psychic and physical stimulant. One day he left his office in a dazed condition; felt, he says, as if he were walking through a mental fog. The next day he tried to attend to business, and drank more than usual, as he tells us the fear that was over him was terrorizing, and he drank to suppress it. The mental cloudiness continued to increase, the terrible fear of self he could not shake off, and his nights were sleepless and occupied by introspection of sin and poverty. He went away to the country and the seashore and gradually recovered his health. Meanwhile he had become a convert to the Roman Catholic Church. He was and is happily married. When he had recovered sufficiently to think clearly and reason well, he decided that any further activity in Wall Street meant mental ruin. He returned to his studies and entered Hopkins. He worked hard for his degree, was temperate in all things, enjoyed the society of intellectual and musical people, and saw a bright future, as he was slated for a professorship in a well-known university.

A short time after obtaining his degree he began to get sleepless, lose weight, and the old fear of mental disease worried him. He went to the seashore for the summer, where the symptoms remained unchanged, except for a constant loss of weight. He returned to Baltimore in the autumn, looking unlike himself. Thin in body, trembling in limbs, furtive glances, and shambling gait were the physical signs he showed. Mentally, he was wavering in reasoning, had faulty orientation, concentration and application impossible, fear of self constant, and despair had reached a desperate stage. He cried frequently when he told me that Dr. A and Dr. B had pronounced him incurable, that his brain was diseased. His religious ideas and theories ran riot; he was cursed, damned, and only fit for Hades. His past sins were too great to be forgiven, nothing could purge him of his awful, unpardonable sins. He began to despise his body, and would formulate conceptions of purity and impurity; he would repeatedly utter Buddha's lament: "From the sole of the feet to the crown of the head, to the limit of the brain, he saw that the body was born in impurity, came from impurity, and always let itself be drawn to impurity," and would conclude with: "What wise man, having regarded his own body, will not see in it an enemy." He would then tremble, cry, go on his knees and beg me for "God's sake to save his mind, and if I could not do that give him a lethal dose of morphine." It was pitiable to see this one-time mentally strong man now a mixture of hysteria and

melancholy. (Of course, I am speaking of objective symptoms only.)

G. had great faith in hypnotic suggestion, and as part of the suggestive treatment I agreed with him that this method would accomplish our object. Whatever else suggestion did, it certainly enabled me to get him to carry out in detail my advice, and to see me twice a day; the control of these conditions being the most difficult things we have to contend with in these neurotics when there is a mental riot in full activity. He was placed, stripped, on a lounge, and suggestions made that he was suffering from an accumulation of autotoxic material, and when this was eliminated he would be well. I massaged the regions of the liver and that organ. I placed him on purgative waters and a non-proteid diet. As he began to get confidence in himself I had him work in the gymnasium and take cold shower baths. For the insomnia I used hypnotic suggestion. For months this treatment was continued. G. now weighs 220 pounds—he is six feet tall—has better mental vigor then ever, and, what is most important of all, he knows how to keep in good mental and physical condition.

It might be asked why I personally massaged G. Because it is the personality of the physician that makes the difference between success and failure in these cases. Your constant suggestions, their appreciation of your interest, your mere presence, in fact, does most to restore their hope, without which factor they are seldom cured.

Case III.—N., aged 32. Took his baccalaureate degree, also his degree of Doctor of Philosophy, at Johns Hopkins University. His family history is excellent. N.'s whole life has been spent in hard work as a student. He devoted no time to athletics or the usual college sports, living at home with his parents during his whole college and university work with the exception of the period he did some advance work in European universities. He held the chair of English in a Northeastern university until about a year ago, when he was obliged to give up the work on account of mental hebetude and depression. For several months he was tossed between the diagnosis of organic disturbances in the cortex and the advice which is always the display sign of ignorance: "Go away; don't think about yourself; don't worry," etc., *ad nauseam.*

I found him very much depressed, mentally despondent. There were symptoms of melancholia and the abulia was marked. His whole life looked to him a failure, his future darkness and debility. His success in life and his living depended upon his mental activity, and now that had ceased. He could not concentrate his attention on any subject for ten consecutive minutes. The reading of the simplest paragraph was impossible. When he tried to remember what he read, the knowledge that he could repeat a few of the words yet could not convey their meaning to himself brought a depressed condition that had been diagnosed as maniac depressive insanity. There were no horrible introspective hours, no fear of past sins, no religious hysteria—conditions we saw in the last Romance scholar—but a simple humble resignation of the fact that he had a useless mind.

Physically, N. has a large frame, and his constitution has never been injured in the slightest by the use of wine or women. But he had been dissipated all his life, and this dissipation was the cause of the breakdown. His dissipation was in the form of constant mental work and neglect of body. With his large frame, large organs, and natural lung capacity—about one-half of the latter was constantly allowed to remain idle—it was to be expected that autotoxic material should be stored in his system and that oxygenation was constantly far below the needs of the body. For this latter condition I had him take deep breathing exercises in the open air. He was put on eliminants, sent to the mountains for the summer, and advised to study for a short time every day. A steady diarrhea kept up for several weeks, but as it appeared to be constantly of a biliary character it was allowed to continue. He improved slowly for the first two months, after which his mind became clearer and hope entered where fear had so long remained. In four months the former mental vigor returned, and he is now doing good work at the university and has realized the necessity of taking care of the body. Since writing the above N. G. has been appointed to an associate professorship.

Case IV.—R. This man does not belong, clinically, to the group we have been studying, but he must be included in the group from a sociological and occupation viewpoint. He is a well known Romance scholar and has done some remarkable work. He is married, and is 41 years old. He worked for his Ph.D. at the Johns Hopkins some years ago, but secured a position in a large western university before taking his degree. While at this university he became somewhat erratic, suspicious of his wife and friends, and finally an attack of dipsomania caused his friends to send him to a sanatorium to cure him of the "drink habit." It was not recognized at the time that dipsomania is a psychic epileptic equivalent, and he was told if he ever drank again he would lose his position. Six months in the sanatorium benefited him physically, but undoubtedly, judging from the events which followed, there was a constant deterioration of cortical activity. A few weeks after his return to his home and university work he disappeared. He was found in a distant town where he was an ambulant visitor to all the saloons and without any clear recognition of the real ego. He was arrested and confined in jail for several days, then dismissed from the university, and advised and assisted to return to Baltimore to resume his postgraduate studies. The excuse for such advice is that he was dangerous at home, and it was thought that the surroundings in Baltimore might aid him in controlling the "drink habit." Certainly this was odd reasoning to apply to a man who was fast showing a morbid personality and some phenomena of degeneration. These stigmata of a degeneration became more prominent as he remained in Baltimore, and it was deemed advisable to send him to a sanatorium. He remained there for a few weeks, but became so careless in his speech and habits that he could not be tolerated. He has disappeared, and belongs to that unfortunate class whose members "drop out of sight."*

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**The Binder After Abdominal Operations.**—Probably the majority of operators agree that a well-fitting binder is of no small service in reducing the likelihood to postoperative hernia. This aid, along with the maintenance of the horizontal position for a sufficient length of time, and carefulness as to bronchial irritation, will do much towards the prevention of the accident named.—*Clinical Review.*

*Since the above was written R. has fallen into the hands of the New York police and been taken to the psychopathic ward of Bellevue Hospital.

# MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

THOMAS L. STEDMAN, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, July 1, 1905.


## THE POLITICAL POWER OF THE PHYSICIAN.

On the occasion of the graduation exercises of the United States Naval Medical School, held at the Naval Museum of Hygiene, in Washington, on March 25, President Roosevelt delivered the diplomas to the graduates and made an address upon the duties and the opportunities of the naval medical officer. The address dealt in general with the dual character of the graduates as medical men and officers of the navy, and with the opportunities presented to them of studying rare forms of disease, especially diseases peculiar to the tropics or the modification in type of ordinary diseases as met with in hot climates.

But the point of special interest upon which the President dwelt at some length was the need of an increase in the medical service both of the army and of the navy. Every effort, he said, should be made to provide the surgeon with ample means to do his work. "Every effort ought to be made to persuade the National Legislature to take that view of the situation; to remember that in case of war it is out of the question to improvise a great medical service for the army and navy. The needed increase is more keenly felt in the army than in the navy, because it is always the army that undergoes the greatest expansion. But it is felt in both services. If a war come for which we have no greater preparation than at present we have made, if, as is perfectly certain to be the case, there be fever in the camps; if there be trouble among the volunteer forces, it is foolish to the greatest degree for the public men, and especially for the public press, to complain and shriek over the people who happen to be in power at that time. Let them shriek—or rather do not let them shriek at all, for shrieking is a sign of hysteria—but let them solemnly think over and repent of the fact that they have not made their representatives provide adequately in advance for the medical system in its personnel, its material, its organization and physical instruments necessary to make that organization effective, which alone, if prepared in advance, will obviate the trouble which otherwise is certain to come if we have a war. Let them remember not to blame the people in power when the breakdown comes, but blame themselves—the people of the United States—because they have not had the forethought to take the steps in advance which will prevent that breakdown occurring."

As regards the need of better preparation for a possible emergency, the President spoke well, but it was rather startling to have him put the blame for failure on the people. The people cannot pass laws, or vote appropriations, or reorganize the public services. These are the prerogatives of Congress. It is true the people elect the Congressmen, and if the Congressmen do not do their will they can defeat them at the next election, and put in the candidates of the opposite party. But Congressmen are elected for a long term, and there are many other questions of moment to be determined during a session of Congress—some of them of more vital importance to the welfare of the nation than even the personnel of the medical services. The nation would be happy indeed, if all questions of policy, foreign and domestic, were so adjusted that an issue at the polls could be made solely on matters relating to hygiene and the public medical services—but that would be Utopia.

Nevertheless, the President is right. Although the medical profession of the country will probably never be able to influence national legislation or health matters by minatory measures, it can accomplish much through personal influence. Every physician in the United States knows, or ought to know, who is his representative in Congress. If there happened to be a bill before the National Legislature affecting him personally, he would lose no time in seeing or writing to his representative urging its passage or its defeat as the case might be. Then let him make this a personal matter. If each and every physician would take an individual interest in this measure, and write to the Representative in Congress from his district, and to the Senator from his State, urging the passage of a bill to improve the medical services of the army and navy, it would not be long before a great light was seen in the Capitol. Importunity is the weapon of the minority, such as is the medical profession in politics. One hundred thousand letters addressed to the members of Congress would be far more effective than one hundred thousand scratched tickets at the polls.

It will be a long time before Congress meets again, but good resolutions are sometimes strengthened by incubation. Summer is a good time for thought. If every physician, during his period of leisure, will ponder over the duty he owes to his country and his profession, and over the power for good that resides in him as an individual; if he will follow the proceedings of Congress next winter, and when a bill to improve the medical services is introduced, as it will be, will seize the opportunity to urge its passage upon his Representative and his Senators, the result will be an object lesson to the medical profession, and will open the eyes of its members to the fact that they have real power, not only in this but in all matters relating to public health. A minister of public health should have a seat in the Cabinet of the President. He will never be put there by resolutions of delegates to the American Medical Association, but he can be put there by concerted individual effort of the medical men of the country.

## AN INTERESTING LESSON IN EPIDEMIOLOGY.

To find the cause of a disease is often difficult, sometimes interesting, and always important. In the May number of the *Journal of the Royal Army Medical Corps* is an article by Major Cathcart Garner, which shows in a striking way the various difficulties and disappointments that have to be encountered in the search for the cause of an epidemic, and also demon-

strates the absolute necessity of undertaking such investigation with a mind entirely free from prejudice. From the article in question we learn that early in September it was reported that in the village of Seyaffa, in Egypt, plague (probably pneumonic) had appeared, and that the normal death rate for the month had already been exceeded. Such news was particularly surprising at that time of year, and subsequent investigation into the cause of the increased rate of mortality led to interesting discoveries. First of all, the laboratory reports negatived the diagnosis of plague. Next the clinical findings in the hospital were also against the diagnosis of plague. All the sufferers were women, all were over thirty-five years of age, no two cases had occurred in the same or adjoining houses, most of the deaths had occurred within thirty-six hours from the commencement of the attack, the patients had all complained of intense pain over the sternum, and all retained consciousness till the end. A few days after these first observations, a woman was found suffering from malignant pustule, and two days later a man was found with anthrax; and cultures taken from persons dying within that same week all showed pulmonary anthrax. The diagnosis being settled, the question now arose as to its origin and mode of infection. The possibility of cattle, hides, or wool being the starting point was eliminated by the very careful trade restrictions, disinfection, and burning of refuse which had been enforced in the district on the first appearance of the disease and on the supposition that it was plague. A diligent search among the sheep within a radius of twenty miles of the village was also negative in its results. Had an infected carcass polluted the water, and the women (who are the water-carriers in the community) in this way become infected? Careful inquiry along this line proved of no more value than the previous ones. A dead donkey was at last the means of starting the investigators on the right track. It was found that there had been an abnormally great mortality among the donkeys, as well as among the women. Further investigation showed that these donkeys had died of pulmonary anthrax, and also that the human and the asinine cases had both occurred in adjoining houses and courtyards. But how had the donkeys become infected, and what relation did their infection bear to that of the women? The article in question shows that "a small outbreak of anthrax had occurred amongst cattle and sheep at the time when attention was centered on rinderpest; and the cases of anthrax having escaped notice had been returned as cattle plague. The droppings of these animals infected with anthrax had been collected and made into gilla (a cake made of dung and chopped straw, and used for fuel), which subsequently infected both women and donkeys. The mode of infection in both had been similar, namely, by inhalation; the donkey snuffing at the gilla heap, the woman inspiring gilla dust when baking.

## Schiller as a Medical Man.

The interest evoked by the recent centenary commemoration of Schiller's death, on May 9, 1805, has been widespread in this country as well as in Europe, yet but little attention has been paid to the fact that Schiller, like Rabelais, Smollett, Sir Thomas Browne, and others now best known for their achievements in letters, was originally a practising physician and surgeon, who expected to make medicine his life-work. The son of a forester and a baker's daughter, his first inclination was toward the study of theology. This ambition gave way to the necessity for adopting a more remunerative vocation, and for a time he devoted himself to jurisprudence, but later abandoned this career, in turn, in favor of the medical profession. His imaginative temperament was early evident, however, and his first dissertation on "The Philosophy of Physiology" was so daring a revolt against tenets of the day and particularly the dicta of their universally adored Haller, that his examiners confessed themselves unable to follow his reasoning and regarded the work as too unsafe to be printed. Even the young candidate's patron, Duke Charles of Würtemberg, to whom the question was submitted, was of the opinion that another year's sojourn in the academy would be of benefit to him; in short, he was "plucked." The next year he submitted two essays, one on the nature of fevers, which again was too radical for the spirit of the times and failed to gain professional approbation, while the other, a purely philosophical work entitled "Observations on the Relationship Between the Animal and Spiritual Nature of Man," was accepted. In some way, however, Schiller had lost the favor of his ducal protector, who, with characteristic fickleness, instead of the promised sinecure bestowed on him only the post of assistant surgeon to an ill-famed tatterdemalion regiment of grenadiers, without officer's rank or the right to wear a sword, and at the pay of only 18 gulden a month. His career in this position was not particularly fortunate; the disciplinary restrictions were very irksome and the artistic temperament manifested itself in what were, for those days at least, strange experiments with his patients, and his propensity for prescribing drastic or incompatible doses finally became so notorious that by a special regulation each of his prescriptions had to be submitted to his superior before being filled. One scrape followed another, his budding literary fame was frowned upon, and he was forbidden to publish any writings on other than medical subjects; and, finally, after he had been ordered fourteen days' imprisonment for having attended the first two performances of his drama, "The Robbers," without leave of absence, he made his escape from his distasteful surroundings. Before this decisive step, his ambition had been to reach a professorial chair in physiology, but after leaving the regiment he did little further work in medicine, and the world had lost an obscure military surgeon, but had gained an illustrious poet. Still, as in Goethe's case, the early scientific training left a lasting impress on his work, and it is not difficult for the medical reader to detect in Schiller's later writings many traces of his early habit of mind.

## Unauthorized Surgical Operations.

The point as to whether a surgeon is justified in performing an operation without the consent of his patient, even if in the opinion of the surgeon the best results will follow, is a delicate one. The operator may argue that his skilled knowledge should render him the best judge of the situation and that consequently he should be given a free hand. This view of the question is intensified when the patient's mental condition is such that he is hardly fitted to regard the matter from a sane standpoint. A case of unauthorized operation has been decided recently by the Appellate Court of Illinois, and is referred to in *Case and Comment* for March, 1905. A woman entered a hospital for some slight operation, and afterwards returned and submitted, as she supposed, to another of the same character. The surgeon, however, performed a major operation, and subsequently the woman brought an action against him for performing the operation without her consent. The defence of the medical man was that he deemed that "her mental condition was such that it was

impossible to take her into advisement on her own case." The judgment of the Court was that "except in cases where the consent of the patient is expressed, or is implied by circumstances and occasions other than a more general retainer for medical examination and treatment, and except, also, where there is superior authority which can legally and rightfully dispose of the person of the patient, and which gives consent, a surgeon has no right to violate the person of the patient by a serious major operation, or one removing an important part of the body." On the whole, it may be said that this judgment is a fair one. As to whether the surgeon should not be the best judge with regard to the nature or scope of an operation is another matter. However, an individual should have the right to determine the question of an operation upon himself, albeit such a course may be against his best interests. The case here mentioned is interesting from the fact that the judicial decision given with regard to it is said to be first respecting a surgeon's liability for performing an unauthorized operation.

### Radium Creation of Life.

Much interest has been aroused among newspaper readers—the term embraces us all—by a statement that Mr. John Butler Burke, of the Cavendish Laboratory, Cambridge, has "almost certainly" demonstrated the possibility of the creation of life where none existed before. According to the cabled report, Mr. Burke submitted some sterilized bouillon in a test tube to the action of radium and, after a time, discovered in the bouillon a number of minute round objects about 1 micron in diameter. These he was tempted to regard as living objects, though on what grounds the cable does not inform us, but Prof. Sims Woodhead, who examined them, is said to have pronounced them crystals, since they were soluble in water and incapable of reproduction. For want of a better name, the discoverer gave them the very poor one, since it implies that they are living organisms, of radiobes. One would be rash to deny the possibility of life appearing *de novo* upon this planet, or any other, but that it has been created in this instance we see no proof. It is far more likely that the phenomenon was of a similar nature to that previously observed by Mr. Soddy, who detected certain microscopic particles in the glass of a tube in which radium had been contained. Prof. Loeb, who was credited recently with creating life because he hastened the process of parthenogenesis in the eggs of the sea urchin, apparently was nearer to it than Mr. Burke; but he was no nearer to it than any farmer who hastens the germination of his seed by watering and manuring. The discovery of the principle of life in the near future need surprise no one who has kept himself informed of the wonders revealed by a study of radioactivity, but the discovery of the riddle of life will not necessarily give us the power to create it.

### The Physician's Bills.

That the physician is generally the last man to be paid is a notorious fact. It is also almost as well-known that the medical man, as a rule, is lax in business matters. Another somewhat curious point is that many rich people have no scruples in obtaining a doctor's services at the least possible cost. Such persons may be regarded in the ordinary affairs of life as just and equitable and would never dream of attempting to swindle their butcher or baker, but where the doctor is concerned they will resort to all kinds of low methods, with consequent loss of self-respect, in order to have the use of his skill for a paltry sum. The *New York Tribune* of June 18 contains an article dealing with the difficulties which physicians meet when they come to collect their bills. The writers gives numerous instances of the unwillingness of persons to discharge their debts to the doctor, and of their willingness to obtain his services for little or nothing. As a matter of fact, the inability of physicians to collect their just dues is to a great extent their own fault. It is because of lack of business methods. To be in these days a successful physician, financially, one must also be a good business man, and must be as insistent in claiming payment for work done as is the merchant in recovering the amount due for goods sold and delivered.

## News of the Week.

**Plague at Panama.**—A death from what is supposed to have been bubonic plague is reported to have occurred at La Boca, three miles from Panama, on Friday of last week. The dead man, a laborer, had been working on board the British steamer *Chili*, which the authorities of Guayaquil would not allow to enter that port. The house in which the man lived was thoroughly disinfected, and his forty companions were isolated and kept under observation. Rats taken from the steamship are to be examined at Ancon. Three sailors had died on the ship during her voyage from Iquique, Chile, from what was suspected to be the plague.

**Yellow Fever on the Isthmus.**—A number of new cases of yellow fever have been reported from Panama, Colon, and intermediate points in the canal zone during the past week. The Canal Commission has decided to build new hospitals, one at Empire with 500 beds, one at Colon with 96 beds, and one at Taboga with 100 beds, and also to build a sanatorium. The Commission will also take charge of the hospitals at Panama, which will be rebuilt and equipped with modern accommodations and appliances.

**The Cornell Commencement.**—At the seventh annual commencement of the Medical Department of Cornell University, last week, 74 students were graduated, of whom 62 received hospital appointments. The annual prize established in memory of John Metcalf Polk, to be presented at graduation to the three students who have obtained the highest marks for the four years of their work in the college, was awarded to Rollin Hills, Milton Goodman Wasch, and Otto Louis Goehle. The exercises were held in the college building in the afternoon, and the address to the graduates was delivered by Dr. George H. Simmons, secretary of the American Medical Association and editor of its journal. Following this was a reception to the friends of the college given by the president of the university and the faculty of the college. In the evening the Medical Alumni gave a banquet to the graduating class. Dr. Polk, Dr. Simmons, and the president of the class, Dr. Mallon, responded to toasts.

**Pennsylvania State Department of Health.**—Dr. Samuel G. Dixon, the new Commissioner of Health, has appointed Dr. Benjamin Lee of Philadelphia Assistant Commissioner, and Dr. Frederick C. Johnson of Bradford Chief of the Division of Inspection, Quarantine, and Disinfection. Dr. Lee was for twenty years secretary of the Pennsylvania State Board of Health, and Dr. Johnson was formerly resident physician in the Philadelphia and Municipal hospitals.

**Famous Witch Doctor Dead.**—"Dr." Joseph H. Hagemann died at Reading, Pa., on June 19, at the age of 73 years. He was a famous witch doctor, whose charms and incantations were sought for sickly infants and ailing farm animals alike. He enjoyed an immense practice and was one of the celebrities of his neighborhood. He dealt in charms calculated to cure the diseases of both man and beast.

**The Death Rate in Philadelphia** has undergone an increase coincident with the extreme hot weather. The number of deaths for the week ended June 24 was 451, as compard with 421 for the preceding week, and with 395 for the corresponding week of the previous year. One hundred and thirty-two of the deaths occurred in children under the age of 1 year, and 23 in individuals between 80 and 90 years of age.

**Typhoid Fever in Philadelphia.**—One hundred and sixty-four new cases of typhoid fever, with 14 deaths, were reported to the Philadelphia Bureau of Health for the week ended June 24, as compared with 166 cases for the preceding week. About three-quarters of the cases occurred in sections of the city receiving unfiltered water from the Delaware River by direct pumpage.

**New Health Commissioner of Chicago.**—Mayor Dunne has appointed Dr. Charles J. Whalen as Commissioner of Health of Chicago, to succeed Dr. Arthur R. Reynolds, who has held the position for eight years. Dr. Reynolds has been a most efficient health officer, and hundreds, if not thousands, of the inhabitants of Chicago at the present day owe their lives to him and to the assistants inspired by his sanitary zeal.

**Military Surgeons of Illinois.**—At the annual meeting of the Association of Military Surgeons of the State of Illinois, held at Danville, June 8, Dr. Nicholas Senn was re-elected president, and Dr. Charles Adams, secretary. Among the papers read at this meeting were one by Dr. Charles D. Center of Quincy, entitled "Influenza," and another on the "Mastoid Operation" by Dr. George P. Marquis of Chicago. Dr. Senn spoke on the subject of iodine and its use as a bactericide. Dr. S. C. Stanton of Chicago demonstrated the method of physical examination of recruits.

**Annual Meeting of the Chicago Medical Society.**—This society held its annual meeting June 21, when Dr. Chas. S. Bacon was elected president, and Dr. Frank X. Walls secretary. Reports of officers of the various branch societies, as well as the affiliated societies were presented, showing that the society was in a flourishing condition, with a membership of 1,710.

**Trouble Over Bellevue Hospital Food.**—The house staff, clerks, and orderlies of Bellevue Hospital have been in open revolt against what they allege is the poor quality and insufficient quantity of the food provided for them, and have complained in writing to the hospital authorities. Owing to lack of seating capacity, the orderlies are obliged to take their meals in two detachments, and it is said that those in the second section usually find but short commons awaiting them. The dietician of the hospital has sent in her resignation.

**A Woman Professor of Johns Hopkins.**—Dr. Florence R. Sabin has been appointed associate professor of anatomy in Johns Hopkins University. She is a graduate of Smith College and of the Johns Hopkins Medical School.

**Illegal Licenses to Practice in Oklahoma.**—Owing to a change in the regulations concerning the practice of medicine, trouble has arisen over a large number of licenses recently granted in Oklahoma. Prior to March 12, 1903, graduates of recognized colleges of medicine were granted licenses to practice in Oklahoma upon the presentation of their diplomas and the payment of a fee of $2. Since that time licenses have been granted only upon examination. During the interval of nineteen days between the time the new law became effective and the time when the new Board of Health was organized 180 licenses were issued to applicants. P. C. Simons, the territorial attorney general, holds that the old law was not operative when these licenses were granted and that they are illegal. It is alleged that circular letters were sent to different medical colleges advising them that they should take advantage of the opportunity of having their graduates licensed to practise before the new law was in force. The 180 physicians will be required to take the regular medical examination or discontinue their practice in Oklahoma.

**Memorial to Dr. E. A. de Schweinitz.**—The faculty and students of the Medical and Dental Departments of the George Washington University have erected, in the main hall of the medical college, a beautiful bronze tablet to the memory of Dr. E. A. de Schweinitz, who at the time of his death was dean and professor of chemistry in that institution. The memorial is 2 by 3 feet in size, with an appropriate inscription.

**Dr. John C. Hemmeter** of Baltimore received the honorary degree of LL.D. from St. John's College, Annapolis, at the commencement held June 21.

**Dr. Joseph E. Fuld** has been appointed adjunct surgeon to the Sydenham Hospital.

**Dr. William S. Bainbridge** has been appointed consulting gynecologist to St. Mary's Hospital, Jamaica, L. I.

**Examination for Laboratory Assistant.** — The Municipal Civil Service Commission of New York will hold an examination on July 12 at 10 A. M. to fill a position of laboratory assistant in the Department of Health. The applications will close on July 5.

**Unable to Starve, so Starved.**—Frau Liza Schenk, a professional faster in Hamburg recently committed suicide by hanging because she was starving owing to her failure to get fasting engagements.

**International Tuberculosis Association.**—At a meeting of the executive committee of the International Tuberculosis Association, held at the Ministry of Education, in Berlin, on Thursday of last week, application for membership was received and accepted from the American National Association for the Study and Prevention of Tuberculosis. This is the twenty-first national society to join the international association.

**Prize Essay on Sabbath Observance.**—The Woman's National Sabbath Alliance offers a prize of $25 for an essay of not more than 2,500 words, demonstrating the urgent need of a weekly mental and physical rest-day. "The experience of a Christian physician is preferred." Manuscripts, with the name and address of the writers in a sealed envelope, will be received until the 1st of November next, at the headquarters of the Alliance, Room 709, 156 Fifth avenue, New York City. The accepted manuscript shall become the property of the Alliance, and the others will be returned when called for or accompanied by the full amount of postage needed.

**A New Hospital in Orange.**—The first ward in the new Italian Roman Catholic Hospital in Orange, N. J., was opened the middle of June. It is called the ward of St. Anthony. The hospital itself is called

the Hospital of the Immaculate Conception. It occupies four separate buildings on Centre and Hurlbut streets.

**A Lectureship on Tuberculosis.**—The State University of Iowa has established a lectureship on tuberculosis in connection with the medical department of that institution, and has appointed Dr. J. W. Kime, of Fort Dodge, as lecturer.

**Excursion to Lisbon.**—Arrangements are said to have been completed for the chartering of a vessel to carry American members of the fifteenth International Medical Congress to Europe. Opportunity will be given the excursionists to visit a number of interesting points in Spain. The round trip will cost from $275 upward. Further information can be obtained from Dr. Charles W. Fassett, St. Joseph, Mo.

**Prices of Patent Medicines Raised.**—In an effort to stop the universal cutting of prices of proprietary remedies, the manufacturers of practically all the best known preparations have united in compelling retail druggists to sign ironclad contracts not to sell the goods in question at less than a rate fixed much higher than those which have been prevailing. This action has been taken with the cooperation and approval of the National Retail Druggists' Association, the members of which it is designed to protect, by taking the traffic in patent medicines out of the hands of the department stores.

**The Benefits of Registration Laws.**—The people of California are beginning to appreciate the fact that the medical laws are intended for their protection, and quite a number of prosecutions have been brought against charlatans within the last few months. Other cases have been brought by the local medical societies, and the life of the quack is no longer a happy one. The fines assessed in cases of conviction range from $100 to $250.

**Photographs of Applicants Required by Colorado State Medical Examiners.**—In order to lessen the fraud that has been practised in Colorado in regard to the state licenses to practice medicine, the State Board of Medical Examiners has made a regulation to the effect that each applicant must file with the board two photographs of himself, together with two affidavits as to his moral character signed by reputable physicians. After July 1, every applicant must submit to examination, no matter from what school he was graduated.

**Minnesota State Medical Association.**—At the recent meeting held in St. Paul, the following officers were elected: *President,* Dr. C. H. Mayo of Rochester; *First Vice-President,* Dr. D. W. Jones of Gaylord; *Second Vice-President,* Dr. Theo. Bradrud of Warren; *Third Vice-President,* Dr. S. H. Boyer of Duluth; *Secretary,* Dr. Thomas McDavitt of St. Paul; *Treasurer,* Dr. R. J. Hill of Minneapolis.

**The Middle Tennessee Medical Association** adjourned its annual session held in Franklin, after the election of the following officers: *President,* Dr. L. E. Burch of Nashville; *Vice-President,* Dr. C. N. Cowden of Fayetteville; *Secretary and Treasurer,* Dr. Wm. Litterer of Nashville. The next meeting will be held at Lebanon.

**Sioux Valley Medical Association.**—At the close of the meeting of this society, held at Fort Dodge, Ia., the following officers were elected: *President,* Dr. C. H. Churchill, Fort Dodge; *Vice-President,* Dr. A. E. Cook, Randolph, Neb.; *Second Vice-President,* Dr. R. E. Woodworth, Sioux Falls, S. D.: *Treasurer,* Dr. S. A. Brown, Sioux Falls, S. D.: *Secretary,* Dr. F. E. Franchere, Sioux City, Ia.

**Northern Tri-State Medical Society.**—The following officers were elected at the session of this society, held at Fort Wayne, Ind.: *President,* Dr. W. J. Gillette, Toledo; *Vice-President,* Dr. Theodore Wood, Angola, Ind.; *Secretary,* Dr. W. Schumaker, Butler, Ind.; *Treasurer,* Dr. A. G. Holbrook, Coldwater, Mich. The next meeting will be held in Detroit in January, 1906.

**Massachusetts Medical Society.**—At the annual meeting of this society, held in Boston, the following officers were elected: *President,* Dr. A. T. Cabot of Boston; *Vice-President,* Dr. F. H. Thompson of Fitchburg; *Corresponding Secretary,* Dr. Francis W. Goss of Roxbury; *Recording Secretary,* Dr. Edward H. Brigham of Brookline; *Treasurer,* Dr. E. M. Buckinham of Boston.

**The Death Rate in New York City** for the week ending June 24 was 17.20 per 1,000, as against 22.98 for the corresponding week of last year. The large number of deaths last year was due to the *Slocum* disaster, in which many children on a church picnic were burned or drowned. The deaths for the week from cerebrospinal meningitis numbered 34; in the week ending June 23, 1904, there were 51 deaths from this disease.

**Obituary Notes.**—Dr. Francis Drummond Gilbert died in San Francisco on May 31, at the age of 85 years. He was born in England and received his medical education in London. He lived for some time in Canada, going to San Francisco in 1873, where he practised until 1897.

Dr. Edwin D. Simpson died in this city on June 23 of disease of the heart, at the age of 52 years. He was born in this city, and was a graduate of the College of Physicians and Surgeons in the class of 1874. At the time of his death he occupied the chair of suggestive therapeutics in the New York Homeopathic Medical School.

Dr. George Philip Fenwick of Washington, D. C., died June 15, at the age of 67 years. He was born in Oak Grove, D. C., and was graduated in medicine at the Columbian University of Washington March 3, 1859. He served on the Board of Health from 1861 to 1871; was a member of the Medical Society of the District of Columbia; a member of the Obstetrical and Gynecological Society, and a member of the Medical Association of the District of Columbia.

Dr. William F. Reus of Grand Haven, Mich., died June 14, at the age of 83 years. He was born in Holland and when a young man served in the Netherlands navy, being stationed in the Dutch Indies. Coming to America, he served under Farragut in the war. Dr. Reus had practised his profession in Grand Haven thirty years, having a large clientele among the Dutch residents.

Dr. Thomas B. Gunn of North Yakima, Wash., died June 14, from intestinal obstruction, at the age of 59 years. He was a graduate of the Missouri Medical College, St. Louis, in the class of 1874. He had practised in North Yakima about fifteen years.

Dr. Walter Bryan of this city was found dead in his office on June 26. He was 38 years of age, and was a graduate of the New York University Medical School in the class of 1890. He was one of the faculty of the Brooklyn College of Pharmacy and had been professor of natural history in the College of the City of New York. He was a member of the American Association for the Advancement of Science.

Dr. Franklin B. Maner of Itaska, Tex., was shot and killed in a street duel on June 26. He was a graduate of the Medical Department of Vanderbilt University, Nashville, in the class of 1880.

# Correspondence.

## THE AMERICAN MEDICAL ASSOCIATION; WAS IT REORGANIZED ON CORRECT PRINCIPLES, AND WILL IT, UNDER METHODS PURSUED, ACCOMPLISH WHAT IT OTHERWISE MIGHT?

To the Editor of the Medical Record:

Sir: Some of the "sins of commission" in the alleged constitution of the American Medical Association, were commented on in the last communication, but those of "omission" were left untouched, being so numerous it was impracticable to undertake to deal with them.

A brief review of the By-laws and methods of procedure of the American Medical Association will complete this discussion.

By reference to any one of the four editions of the "New Constitution," it will be observed that the Constitution is short and the By-Laws long, the proportion in the last edition being as 2:12. This large disproportion is significant, and at once arouses a suspicion that the By-laws must contain much that properly belongs to the Constitution. When one begins to read, this suspicion soon deepens into conviction. The well-known rule that governs in such matters is definite and just, that is, principles and important details must be embodied in the Constitution, whilst matters of quite secondary importance are to be provided for in the by-laws. A hasty glance at the By-laws under discussion will show how grossly this rule is violated.

Chapter I deals with the question of "membership," how obtained, who shall be eligible, etc. Is that not a most fundamental and important subject? Does it not lie at the very foundation of the entire system of organization? If so, and of this there can be no doubt, then it emphatically belongs to the Constitution. Aside from being misplaced, this chapter contains some radically wrong and thoroughly untenable provisions. Think of conceding to the "general secretary," as this chapter does, or for that matter to any other officer, the right of admitting and expelling members upon ill-defined conditions and upon information that might sometimes be inaccurate. For a corporation to abdicate two of its highest and most important functions and confer them upon one person is simply monstrous and unprecedented! To render the case, in this instance, infinitely worse, the "general secretary," upon whom such supreme authority is conferred, need not be, and as a matter of fact is not, himself even a member of the House of Delegates. The most elementary thinker on the subject of constitutional provisions would in formulating a constitution have restricted the right of the "general secretary" to receiving applications for membership and reporting them to the Association for such action as it might see fit to take thereon. To forestall possible objection to this proposition on the ground that it would be impracticable, the writer will say that did time and space permit it would be easy to point out a way in which the admission of members could be very expeditiously attended to by the Association itself. So far as expelling members is concerned, or dropping them from membership, that is a function that should not be exercised by the Association except in accordance with a prescribed and systematic investigation, to outline which would require more time than is now at disposal. If the Association itself should exercise great care in dropping the name of a member from its rolls, then how unjust and unwise to permit the "general secretary" to do it upon very inadequately defined grounds.

The subjects of which Chapter II of the By-Laws treat also belong to the constitution and should have been included therein.

The three first sections of Chapter III, providing for dental and pharmaceutical members, should have no place in either the By-laws or Constitution. Dentists and pharmacists have their own national organizations and should concentrate their support on them, and not divide it with other national organizations. For the same reason, it would not be wise for the national dental and pharmaceutical associations to admit physicians to regular and active membership. Whilst courtesies between the American Medical Association and the bodies named would be entirely proper, interchange of membership is unwise and impolitic, and is not conducive to the best interests of any of the organizations concerned. Further, a suspicion will insinuate itself into one's mind that the motive back of these provisions of the By-laws is a mercenary one. If so, that would condemn them forever.

The three last sections in this chapter deal with Associate and Honorary Members and Members from Adjoining Countries. The provisions in regard to such members are unnecessarily mixed and confused, and yet are susceptible of easy solution. Honorary members, for instance, are provided for in three separate places, instead of being disposed of at one place.

The subjects treated in Chapters IV, VI, VII, and VIII of the by-laws conspicuously belong to the constitution and should be transferred there. Whilst objection might be made to a number of provisions in these chapters, they will be passed by for the present, with the right reserved, however, of referring to them should occasion arise.

Chapter IX is devoted to the Board of Trustees, and inasmuch as the Articles of Incorporation vest the management of the Association in a board of nine trustees, the discussion of this chapter is important. Logically, this chapter, or rather the subject of which it treats, belongs to the Constitution, but doubtless the framers of that instrument would endeavor to defend their action in placing it in the By-laws by pointing to the Articles of Incorporation, in which the following words occur: "Trustees . . . are to be elected as the By-laws direct." Obviously, it is only the provision regulating the way in which the trustees are to be *elected* that must appear in the By-laws; all else referring to this board might and should have appeared in the constitution. The writer is under the impression that information has reached him to the effect that Illinois statutes (under which incorporation was obtained) confer upon corporations the right of amending their Constitutions and By-laws at any annual meeting. If so, this might be urged as a reason for putting so little in the Constitution and so much in the By-laws. But, accepting the fact, defence does not necessarily follow. Rather than violate a fundamental and authoritative rule in regard to the construction of Constitutions and By-laws, it would have been better to put in the Constitution what naturally and logically belongs there, and then conform to Illinois law by providing that the Consitution could be amended at any annual meeting, than to insert in the By-laws matter that obviously and palpably does not belong there.

Before proceeding, however, with the discussion of this chapter, it is worth while to point out the stupendous absurdity of vesting the management of the Association in a Board of Trustees. In law, trustees are provided for the management of the estates of minors, of people who are *non compos mentis*, or of people who for any other cause are incapable of managing their own affairs. Does the American Medical Association belong to either one of the categories? If not, then, it should as soon as possible be released from the humiliation which the present articles of incorporation impose upon it.

The first clause in the chapter under discussion is a broad and unqualified mandate, as follows: "The Board of Trustees shall have charge of all properties and of the financial affairs of the Association." If this clause is to be literally construed, then, the rights of the Association in so far as the management of its affairs is concerned consist in electing trustees, that, and nothing more. If the clause is not to be literally construed, then, what does it mean, what qualifications shall be applied to it? If the Constitution itself does not explain, who can? Is not a wide gap left here for wrangling and differences of opinion? Is it artistic in "constitution building" to leave such room for doubts, uncertainties, and disputes? Did the framers of the Constitution ever stop to think closely and logically upon the exact scope and meaning of their words? Have any of the larger committees to which the several editions of the "New Constitution" were referred ever given the document anything more than a hasty and superficial reading? If not, is it a matter of surprise that crudity and indefiniteness have resulted? Passing over the third and fourth clauses in the chapter, both of which are open to criticism, the fifth clause reads as follows: "It [the Board of Trustees] shall appoint a general manager and editor of The Journal, which two positions may be held by one person, and such assistants as may be necessary, and shall determine their salaries and the terms and conditions of their employment."

If this is not imperialistic of the highest type, the writer would acknowledge his profound obligations to any one who will furnish a better example of that kind of authority. Not so much as, "by your leave," or "with your approval." That is, the Board of Trustees must do all!

The next clause reads as follows: "All resolutions or recommendations of the House of Delegates pertaining to the expenditure of money must be approved by the Board of Trustees before the same shall become effective." Possibly the legal status of the Board of Trustees, as fixed by the Articles of Incorporation, may justify the unprecedented requirement laid down in the above provision, namely, that acts of the Association must be approved by one of its creatures, but, if the legal status be so, the first effort at reorganization should have been to appeal to the State of Illinois so to amend the articles of incorporation as to enable the Association to outrank in authority any one of its own agents or creatures.

Passing over a number of clauses, the following one is

reached: "The Board of Trustees shall fix the salary of the secretary and treasurer." Here, again, the Board is crowned with imperial authority, and is not even required to consult with, or ask the approval of, the Association in reference to an important matter. The Association must, according to the constitution, *elect* a secretary and a treasurer, but according to the by-laws can have no voice whatever in fixing the salaries of these officers! It was seen above that the Board of Trustees "shall appoint a general manager and editor of The Journal" and fix his salary. We now see that the same board must fix the salary of the secretary. The very pertinent question arises: When all three positions are filled by the same person, how many salaries are fixed? In this connection it is not out of place to look into one of the annual reports of the Board of Trustees and see what may be found. The one submitted last year (1904) will be used. It seems from this report that the revenues of the Association for 1903 amounted in round numbers to two hundred and twenty-five thousand dollars. They must be considerably greater than that now. It is evident, therefore, that the management of the finances of the Association has grown to be a stupendous responsibility. Without stopping to analyze the figures of the report, although they stand in obvious need of explanation, attention will be called to the following quotation from the report: "Just at this point we desire to call attention to the fact that your Treasurer's Report differs from those of former years from the fact that since March 1, 1903, he has been really the Treasurer of the Association, receiving from The Journal office only the surplus funds of the Association, not collecting the dues as formerly. All dues are now collected in The Journal office, through the bookkeeper. This change in methods of bookkeeping has resulted in simplifying accounts and has curtailed the expenditures of the Association materially, having completely done away with the necessity of transferring monies from The Journal office, to be within a few days drawn out again from the treasurer and used in The Journal office. Now The Journal collects all accounts, whether dues, subscriptions, or advertisements, or whatever else they may be, uses the money in paying all expenses of The Journal and the Association, and hands over the surplus to the Treasurer. He becomes the custodian of the funds of the Association that are not in active use, and of the invested funds."

As a piece of financial philosophy the position here advanced is certainly one of the most fallacious on record. According to the reasoning submitted, if a corporation had no surplus it would not need a treasurer at all, although millions of dollars might pass across its desk annually. The proposition that the treasurer of a corporation is only really the treasurer when he merely handles the surplus and the invested funds is certainly unique and original.

We are told in the above quotation that the bookkeeper in The Journal office "collects all accounts, whether dues, subscriptions, or advertisements or whatever else they may be, uses the money in paying all expenses of The Journal and the Association, and hands over the surplus to the Treasurer." With the revenues of the Association amounting to more than two hundred thousand dollars, passing through the hands of that bookkeeper, it would be interesting to know whether he is required to give bond? Formerly, the treasurer was required to give bond, and as he has largely become a "figure-head," it would seem right and proper that whoever handles the revenues of the Association in The Journal office should be required to give an adequate bond.

Another point in connection with the Report of the Board of Trustees: The board states that it has had the accounts covering the financial operations of the Association audited by a professional auditor. As the board reports to the Association, would it not be much more logical for the Association to appoint a committee to audit the financial report of the Board. Would the following not be a strictly parallel position to that taken by the Board of Trustees in reference to auditing the accounts of the Association: The treasurer of a large corporation in submitting its annual report informs the Directors that he has had his accounts audited by a professional auditor, consequently nothing further in the way of auditing will be needed. Would the Directors be likely to accept such auditing? The writer distinctly disclaims any intention of discrediting the correctness of the accounts, he is simply calling attention to the business principles involved.

Chapter X of the By-laws is devoted to "Committees," and contains many curiosities The first one of these appears in section 1, and consists of classifying the committees before provision is made for their creation, which is certainly reversing the natural and logical order of things.

Another curiosity also appears in this same section, as may be seen by the following provision: "These Committees shall be nominated by the President and elected by the House of Delegates, unless otherwise provided." Comment is unnecessary in order to point out several incongruities in this provision, one of the most obvious of which is: How one and the same committee is to be nominated by the President and elected by the House of Delegates? Suppose the President should nominate certain persons as members of a committee and the House of Delegates should elect others, what would be the status? The President of the United States is required to nominate some officers and the Senate to confirm. In case of a conflict the status is clear, but in the case under discussion it is far from clear.

The section in this chapter providing for a "Committee on Medical Legislation" would richly reward a hunter after "curios." The second sentence reads as follows: "This Committee shall have power to cooperate with the officers of the State and local societies, and with the chief officers of the U. S. Army and of the Navy, and of the U. S. Public Health and Marine Hospital Service, to create a National Legislative Council, and a National Auxiliary Congressional Committee, and make such rules not inconsistent with the constitution and by-laws of this Association as it may deem desirable for their government."

In order to comprehend the meaning of this sentence, answers to the following questions would be indispensable: 1. What kind of State and local societies are to be cooperated with—medical, literary, religious, industrial, or what? 2. What chief officers of the Army and Navy are to be cooperated with? As the President is the commander-in-chief of the Army and Navy, how far down the line of chief officers must the cooperation extend? If cooperation with *medical* officers was meant, it should have been so stated. 3. After the cooperation provided for has been secured, how are a "National Legislative Council" and a "National Auxiliary Congressional Committee" to be created? Inasmuch as a "Legislative Council" must be one that legislates, and a "Congressional Committee" one that originates in Congress, it is feared that any attempt to reason from titles to duties would result in confusion and obscurity. After getting answers to the above questions and pursuing the sentence further, it develops that the original Committee on Medical Legislation, consisting of three, is authorized to make the rules for the government of the bodies created, although each of these might easily consist of forty or more members and might contain high officials from the President of the United States down to an undefined limit. Did an oligarchy ever enjoy more power?

Without stopping to point out other anomalies in this section, attention is called to sub-section 4 of section 11 in the same chapter, which is in these words: "(4) A Committee on Legislation and Political Action, to which shall be referred all matters relating to State and National Legislation, Memorials to Legislatures, to the United States Congress, to the President of the United States, etc. (The members of the National Committee on Medical Legislation shall be members ex-officio of this Committee)." Herein another committee, having precisely the same jurisdiction as that conferred on the "Committee on Medical Legislation," seems to be provided for. True, the members of the latter committee are made ex-officio members of the former one, but if providing for two committees with the same jurisdiction does not create confusion, then what shall it be called?

Leaving other curiosities in this chapter unmentioned and passing over several chapters, the subjects of which belong to the constitution and not to the by-laws, we tarry long enough to call attention to the fact that under the chapter devoted to "Publication" the term "executive committee" occurs five times—important duties being imposed upon said committee—and yet in the chapter devoted especially to "Committees" no committee entitled "executive committee," is provided for. The question very naturally arises as to how the important duties imposed are to be discharged when the committee named to discharge them has no constitutional existence?

Under the head of "Amendments," on the last page of the by-laws, the climax of "curios" is reached in the following provision: "The House of Delegates, at any annual meeting, wherever the same may be held, may instruct the Board of Trustees to make any changes in the articles of incorporation in accordance with the law, which may appear desirable, or which may be made necessary by any change or amendement to the constitution and by-laws of this Association."

It is a question as to whether the logic or the syntax of the above quotation is the more remarkable. How the Board of Trustees of the American Medical Association could be expected to make changes in Articles of Incorporation granted by the sovereign state of Illinois is utterly beyond the comprehension of the writer, indeed, is a colossal absurdity!

This review of the alleged Constitution and By-Laws of the American Medical Association might have been made much more exhaustive, but enough has been said, perhaps, to show that, judged from a literary and logical standpoint, they are far below the plane they should occupy. It is fortunate, therefore, that they are null and void.

The experience acquired during the past five years of effort to improve or perfect organization should be a valuable teacher, and should point with luminous certainty to the road that should be traveled from this time forth.

Turning now to a brief discussion of methods pursued, it is evident that many of the members of the Association have not realized the weighty obligation that rests upon them personally to give the subject of organization earnest thought and close attention until carried to a high degree of perfection and efficiency. Many are deeply absorbed in the scientific work of the Association, forgetful, perhaps, that achievement in this field depends largely upon correctness and perfection of organization. One of the natural and inevitable results of inattention on the part of a large proportion of the members of the Association to the principles and details of organization is that the control of affairs has been largely usurped by an oligarchy. The delegate who has not observed this must be blind indeed! In truth, the delegates themselves are responsible for this condition of things and can promptly cure it by resolving, each for himself, to do his own thinking, and also by refusing to follow except when and where his judgment approves. Leadership is a magnificent and imperial endowment when it comes through a happy combination of wisdom, courage, and unselfishness. Such a leader will attract, and ought to attract, loyal and enthusiastic followers, and with such support may win great victories in behalf of truth and right. If leaders are to be followed, let us see that they are preeminently endowed with qualities that entitle them to lead.

The House of Delegates, and at least one of its standing committees, has on several occasions shown a strong disposition to overstep the line of demarcation that should sharply divide the authority of the national body from that of the State organizations. Allusion is had to a disposition to deal directly with the county societies, instead of with the State organizations. Several notable instances of this kind could be pointed out. A brigadier-general who should communicate officially with the captains of companies in his brigade, instead of with the colonels of the regiments, would soon overthrow all discipline and bring disorder and discord. The same rule should apply to the case under discussion, and unless it is scrupulously adhered to, all harmony of organization will soon be destroyed.

When the fourth edition of the "New Constitution" was submitted for adoption at the Atlantic City meeting of last year, the writer, relying upon justice and right, raised the point of order that it would be illegal and unconstitutional to adopt the document at that meeting, contending that it must lie over to the next annual meeting in order to admit of mature consideration. The point of order was overruled by the president, whereupon the question for adoption was put by a *viva voce* vote and declared adopted, when, according to the real and existing constitution, unanimous consent would have been required for adoption, and according to any of the editions of the alleged "New Constitution," a two-thirds vote would have been required. The procedure, therefore, was simply a mockery.

Nothing was left for the writer to do but to submit a protest. This he did in the following terms, a number of other gentlemen uniting with him:

*To the President and Members of the House of Delegates of the American Medical Association:*

The undersigned, delegates representing, wholly or in part, the affiliating organizations of the following named States, to wit, Alabama, Tennessee, Georgia, North Carolina, South Carolina, Mississippi, and New York, desire to place themselves on record as expressing the unqualified opinion that the recent action taken by this body in adopting a new constitution and by-laws was in open and direct violation of a provision of the existing constitution and by-laws, and therefore is illegal and void. The provision to which reference is made reads as follows: "No amendment or change in the constitution and by-laws shall be acted on until it shall have been presented at a previous annual session."

Upon comparison of the two constitutions in question, we find that the text of the new one differs in many and material points from that of the former one; neither do we find in the minutes of the last annual meeting of the Association, as published in The Journal of the Association, any record of such changes having been submitted to the Association. Further, we find in the official minutes of the last annual meeting of this Association the following resolution: "Resolved, It shall be a standing rule of the Association that no amendment or change in the constitution or by-laws shall be acted on unless it shall have been presented at a previous annual session."

Believing for the reasons given that the action complained of was precipitate and unconstitutional, therefore unwise, we beg that this protest against said action shall be spread upon the minutes of this meeting, and published along with the other proceedings.

All of which is respectfully submitted.

Signed: W. H. Sanders, L. C. Morris, W. H. Robertson, Delegates from Alabama; Duncan Eve, J. T. Herron, Delegates from Tennessee; J. B. Morgan, Floyd W. McRae, Delegates from Georgia; J. W. Grosvenor, Delegate from New York; J. Howell Way, Albert Anderson, Delegates from North Carolina; W. H. Harrison, Delegate from Mississippi; E. L. Patterson, Delegate from South Carolina.

When the above protest was submitted, motion was made to lay it on the table, which motion was promptly adopted.

The right of protest is one universally conceded to members of deliberative and legislative bodies, and perhaps no other instance than the above is on record in which this right was either questioned or denied. Indeed, so precious and valuable is the right of protest esteemed that it is often embodied in the constitutions of States. Under the circumstances related, was not the action of the House of Delegates the rankest despotism? An organized body of American citizens denying to a number of its members the inherent and inalienable right of a freeman—the right of protest! Such tyranny and under such circumstances is almost beyond belief!

A few words, personal to the writer, and this discussion and review will be finished.

The position of a fault-finder is generally an unenviable one, but sometimes convictions are so profound that no alternative is left but to assail, be the consequences what they may. So is it in this instance.

When the first edition of the "New Constitution" appeared in print the defects of principle and detail stood out with glaring and disappointing prominence to the writer. Throughout this discussion he has relied largely upon notes and comments made upon the "New Constitution and By-Laws" in 1902.

Wishing to promote, and not to hurt, organization, he sought to find private avenues through which he might reach the "powers that be," and point out to them wherein in his opinion the organic law might be improved. Failing utterly in this effort, he waited for some opportunity to arise of which he might avail himself to carry out his purpose. None came until the fourth edition of the "New Constitution" was submitted to the Association at the Atlantic City meeting of last year. This document, after having been submitted by the "Committee on Constitution," was referred to a larger committee, and an invitation was extended to any members of the Association who might desire to be heard to appear before the Committee. The writer availed himself of this invitation and was accorded a hearing by the Committee. He proceeded to point out what appeared to him some of the obvious defects in the Constitution and By-Laws, whereupon, he was ruled out of order and the hearing terminated. Before leaving the room, however, he was informed that he would have the privilege of looking up the Chairman of the Committee at his hotel the next morning and stating to him individually any views he might wish to submit in regard to the Constitution and By-Laws. It is needless to say that this gracious privilege was not utilized!

The Committee reported the next day favorably on the new draft of a Constitution, whereupon, as has been explained, the writer raised the point of order that the House of Delegates could not violate an existing constitution in order to adopt a new one. His point of order was overruled, and the fourth edition of the "New Constitution" was rushed through in open and direct violation of both the old and real constitution, and what was believed to be, at that time, the existing constitution.

The writer yields to no one in his desire to see the American Medical Association grow great and prosperous, but he is at the same time profoundly convinced that this cannot occur in any other way than by formulating and adopting a constitution based upon philosophical principles and logically put together from foundation to dome.

For a quarter of a century he has been closely identified with a State organization whose constitution is thirty-two years old, the principles and details of which were conceived and embalmed by the genius and fertility of Jerome Cochran, the profoundest thinker and philosopher on the subject of medical organization that this, or any other, country has ever produced. With such a teacher and such an experience, it is not strange that his ideals should be high and that his ambition for the American Medical Association to occupy the lofty plane to which it is entitled should be genuine and pure.

The scientific workers in the Association have been for many years, and are still, doing magnificent work; it only remains for the legislative and executive departments to do correspondingly well. That this can be done does not admit of the shadow of a doubt.

W. H. Sanders, M.D.

Montgomery, Ala.

## PNEUMONIA SIMULATING APPENDICITIS.

To the Editor of the Medical Record.

Sir:—Some years ago I was called by Dr. Judson C. Smith to see a young woman who had developed symptoms of a violent infection, during the preceding twenty-four hours. There was a marked temperature elevation, rapid pulse, and constant complaint of acute pain in the right iliac region. There was rigidity of the abdomnal muscles, but not in sufficient degree to prevent palpation of the viscera, and the appendix was found in the pelvis, adherent to the right oviduct. There was no chest symptoms. The case seemed to be one of appendicitis, although the appendix was not markedly tender on pressure. This is sometimes a feature of cases of appendicitis in which rapidly occurring gangrene has destroyed the nerves of the appendix. On operation I found a normal appendix adherent to an oviduct which had been the seat of some prior infection. The peritoneum was normal in appearance, and evidently not involved in an acute inflammatory process. On the following day the patient developed a typical right lobar pneumonia, and cultures of pneumococci were obtained. She made a good recovery from the pneumonia, and the operation wound healed by primary union. A week later I was called by Dr. C. S. Elebash in a precisely similar case, but finding the appendix normal on palpation, we discussed the idea of the case being one of pneumonia, and waited. On the following day acute lobar pneumonia was fully in evidence.

Recently I was again deceived, in spite of being on guard against mistake and being familiar with the literature bearing upon the subject. I was called late at night by Dr. J. Seymour Emans to see a boy five years of age, who had bene under observation for four days with symptoms of a violent infection, the character of which could not be made out. A friend of the family had been called in for what seemed to be emergency symptoms that evening, as Dr. Emans happened to be out of reach. The diagnosis of perforative appendicitis, with peritonitis was at once made, and the opinion given to the effect that operation must be done instantly. Dr. Emans coming in later, called me up by telephone, stating that he had not felt that the case was one of appendicitis, but that the case was becoming a very serious one. He had made exclusion of pneumonia and of the acute exanthemata as well as possible. There had been nausea and vomiting, the boy complained much of pain in the right iliac region, the abdominal muscles were so rigid that palpation of the viscera could not be made; the temperature was 100° F. and the pulse 130. the symptoms indicated a grave condition, and while I did not make a diagnosis of appendicitis, my diagnosis was of some acute abdominal infection sufficient to call for an operation, with the possibility of finding appendicitis. Dr. T. G. Bennett was summoned, and I opened the abdomen through a small incision. The peritoneum was not the seat of inflammation at any point, and the appendix was normal. Closure of the abdomen was at once made, without disturbing any of the viscera further than was necessary in feeling for exudate. On the following day a right lobar pneumonia showed itself. Dr. J. E. Winters, who saw the case in consultation, said that he had very recently seen a similar case in which the symptoms of pneumonia had not been in sufficient evidence to admit of classification for several days. A number of cases of pneumonia simulating appendicitis have been reported. Usually the high temperature and absence of marked tenderness of the appendix on pressure would be sufficient to put one on guard, in advance of the appearance of symptoms of cough, pain in the chest, exudate, and other evidences of pneumonia; but in this boy's case abdominal rigidity prevented any special examination of the appendix, and the low temperature and rapid pulse rate were strongly indicative of an abdominal infection of some sort. The chest had been examined with particular care.

Robert T. Morris, M.D.

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## OUR LONDON LETTER.

(From Our Special Correspondent.)

AERIAL CONVECTION OF SMALLPOX—ADRENAL CARCINOMA OF THE LIVER—ADENOIDS.

London, June 9, 1905.

The question of aerial convection as a cause of the spread of disease has lately come up again and has been discussed relative to both sanitary measures and medical theories. The public has long been satisfied that in regard to the spread of smallpox the influence of hospitals is great, and in consequence sanitary authorities have found difficulties in obtaining sites for such buildings. On the other hand, many sanitarians seem still unconvinced that the danger alleged is serious. The Epidemiological Society has devoted two meetings to the discussion of the subject, at the conclusion of which the president, Dr. B. A. Whitelegge, C.B., expressed the conclusion that it was reasonable and safe to admit, and therefore to provide against, all forms of communication of diseases; of these it must be acknowledged that aerial convection was one in many, if not all, diseases, and perhaps it played a more important part in smallpox than in any.

The discussion began with an elaborate paper by Dr. G. S. Buchanan, who said the prevalence of smallpox during the last four years had necessitated the establishment of more isolation hospitals and revived interest in the subject of their influence. He stated the various cases in which a regular graduation of the incidence of smallpox around hospitals had been observed from the time of Mr. Powers' report (1886). He concluded that the observed facts as to diffusion of dust in various circumstances showed the reasonableness of the hypothesis that aerial convection is the cause of the spread of smallpox around isolation hospitals.

Dr. C. B. Kerr said the paper was the best defence he had heard of the aerial hypothesis, but there were facts on the other side. The only isolation hospital in Edinburgh was badly placed—only 72 yards from the fever block, with 400 patients, and 335 yards from the poor-house, with 1,000 inmates, while paupers were at work all day close to its boundaries. The average number of patients in this isolation hospital had been 55 for two months and 47 for three months. Within the one-quarter mile circle was an asylum with 400 patients and a general population of 2,000. Yet within a mile of the hospital there were only two cases of imported smallpox and two secondary in the poor-house. Curiously, there were also two in another poor-house far away. A number of pateints in the fever hospital in the ward nearest the smallpox block were unvaccinated, but none of them took the disease. The nurses for the smallpox wards were volunteers from the fever hospital, and, once in, were not allowed to leave the building. He thought the association of smallpox and fever hospitals advantageous. Old nurses were more to be trusted than new recruits. Just outside the mile limit several houses were invaded, but in three of the first four exposure to infection was proved. The actual epidemic was concentrated round the site of the old hospital, which was blamed for former outbreaks as a center of infection.

Dr. Newsholme criticised Dr. Buchanan's conclusions as to several outbreaks and his method of calculating incidence by the percentage of houses invaded. He pointed out, too, that the wind carrying the infection from one hospital must have already been in the East, and from the other in the West. He would not deny the possibility of aerial distribution of smallpox any more than of scarlet fever or other infectious diseases, but in smallpox it was claimed to be the dominant factor. Personal infection, direct or indirect, should be absolutely excluded before admitting aerial convection.

Dr. Thresh admitted surreptitious communication may have occurred at Purfleet. The first cases appeared before the hospital was opened and subsequent ones around the original focus just as in St. Pancras, where there was no hospital.

Dr. Niven agreed with Dr. Buchanan's paper, and further held that hospitals were more dangerous when occupied by acute cases.

Dr. E. W. Hope said all cases were acute at first and the unvaccinated were most infectious during scabbing and convalescence. But the mildest cases contributed to the spread. Round the Park Hill Hospital at Liverpool, twelve distinct outbreaks occurred before the opening and nine afterwards, and of four of these nine were traced to infection elsewhere. The maximum incidence was shown by the map to be when the hospital was empty.

Dr. McVail, referring to Dr. Kerr's Edinburgh experience, remarked that inmates of schools and asylums should not be compared with the general population, as they were mostly recently vaccinated.

A paper by Drs. S. Phillips and B. Spilsbury was read at the Clinical Society on a case of primary adrenal carcinoma of the liver, in a woman of 40, who died after a fortnight in hospital. On admission there was enormous ascites, wasting, and debility. Paracentesis gave 386 ounces of clear yellow fluid, after which the liver could be felt greatly enlarged with nodules all over it of various sizes. Other nodules in peritoneum and omentum. It was found at autopsy that the left lobe of the liver was almost replaced by firm, white nodules of all sizes. Right lobe similar but less extensive growth. Others attached to peritoneum. The adrenals were normal. Microscopic specimens exhibited at the meeting showed the growths had the characteristics of carcinoma originating in adrenal cortex. Aberrant "rests" of suprarenal tissue have been described by several observers since Schmorl described such in 1891. They may consist of cortical or medullary substance and may give rise to neoplasms of epithelial

type, reproducing the structure of adrenal tissue. Pepere first recorded malignant disease of the liver thus arising, and the present case exactly resembled his, both clinically and pathologically.

At the Clinical Society, Drs. F. Taylor and J. Fawcett related a case of milky ascites in which the opalescence was not due to fat. Paracentesis was performed nine times and the fluid was always milky. At first this was put down to fat, but under the microscope no globules were seen. The fluid was found post mortem in both pleuræ as well as in the peritoneal cavity—analysis showed fat only .045 p. c. Some proteid was considered the cause of opalescence which had been ascribed by others to (1) lecithin, (2) mucoid substances, (3) a proteid like casein, (4) a combination of lecithin and a proteid.

Mr. Jas. Berry read an account of a case of syphilitic destruction of the left ala of the nose. The ulceration had healed under iodide and an artificial ala fitted and worn for three months, but as the patient wished to go abroad and have something else done a plastic operation was performed which was successful and left only a linear scar in the furrow between the nose and cheek, and was not very noticeable. It was remarked by members that plastic operations in syphilitic cases gave only poor results, and the longer the interval after inoculation the less satisfactory. One member advised a three years' course of mercury in this case.

Throat specialists do not take a narrow view of their branch—they are rather driven towards expansion with the persistence of territorial empires. Thus laryngology has absorbed rhinology and threatens to appropriate otology. In the course of its progress adenoids naturally fell to its share, and the energy with which these growths have been traced is characteristic. The specialty has not only impressed other branches of the profession, but excited the attention of the public until it is no uncommon event for parents to take their children to a throat hospital to "have their adenoids removed," though the parental diagnosis is not always correct, being founded on snoring, mouth-breathing, deafness, or some equally uncertain symptom. In London, therefore, there is not much danger of adenoids being overlooked, and one might have supposed that the same might be said of the country, for provincial practitioners are quite awake on the subject. However, a discussion on this point has been raised at one of the laryngological societies, and a resolution proposed and seconded to appoint a committee to investigate the prevalence of adenoids in the child life of the country and its effect on national stamina. We have heard enough lately of our national decadence, but one hardly suspected adenoids to be an important factor in this improved deterioration. Some enthusiasts seemed to think national authorities might take up the matter, but others thought it would be no use to expect any help from rate-payers who are already so heavily burdened, or even from officers of health who are handicapped with other work. Some who did not support the resolution offered a mild sympathy with any proposal to collect accurate statistics, and others testified that there was no lack of information on the disease among country practitioners and no inability to deal with it. It was pointed out that in rural districts where the children led a more outdoor life and in purer air we might expect that adenoids would be less common, if anything, than in towns, and some impressions in this sense were stated. The resolution, when put to the meeting, was lost, so the injury is left to individuals interested enough to collect statistics for themselves.

## OUR PARIS LETTER.

**(From Our Special Correspondent.)**

RECEPTION OF ENGLISH PHYSICIANS AT PARIS—CONGRESS OF THE FRENCH SOCIETY OF OPHTHALMOLOGY—CONGRESS OF THE FRENCH SOCIETY OF RHINOLOGY, OF OTOLOGY, ETC.—ADENOPATHIES—THE MICROORGANISM OF SYPHILIS—ILLEGAL PRACTICE OF RADIOTHERAPY—TRAUMATIC DELIRIUM—OBITUARIES.

PARIS, June 10, 1905.

THE reception for the English physicians has been most successful, two hundred attending. The visitors were delighted with the cordial welcome which everywhere awaited them. The program of entertainment which was given in our last letter was carried out in every detail. Opportunity was given to the English physicians to come in touch with every part of the French medical world. The reception at the Sorbonne was most brilliant. Liard and Bouchard welcomed the visitors with great cordiality, Sir William Broadbent, Professor Clifford Allbutt, and Mr. Olgivie replying for the guests. Not less successful was the reception at the Faculté. With great eloquence the Dean Debove welcomed the guests, reminding them that in the medical world both English and French met upon common ground, the very walls of the Faculté saluting them. Next they were received in the magnificent salons of the Hôtel de Ville by the President of the Municipal Council, assisted by the Prefect of the Seine and the Prefect of Police. In the free intervals which were left them the guests visited the various hospitals and clinics. Every evening they were invited to dine by members of the French committee and by personal friends. The excursions to Chantilly, Vichy-Evian, Biarritz, Pau, Cauterets, Salies, etc., were of the greatest interest to those who participated in them.

The soirée at the Automobile Club, and the banquet at the Grand Hotel, in which five hundred participated, were very happy events. The orators of the evening rivaled each other in giving toasts, and the enthusiasm of all present was at its height when Bouchard announced that Sir William Broadbent, President of the English Committee and Physician to the King of England, had just been nominated Commander of the Legion of Honor.

At the same time with the reception to the English Physicians, two congresses met at Paris—that of the French Society of Ophthalmology, and that of the French Society of Rhinology, Otology, and Laryngology. One of the most interesting questions discussed by the French Society of Ophthalmology was without doubt that of the complete correction of myopia, in which Bourgeois of Reims laid down the rules for such correction.

At the French Society of Rhinology, Otology and Laryngology, Gellé read a paper on "Adenopathies in the Affections of the Nasal Fossæ and of the Nasopharynx." This work comprised two parts; the first was devoted to the study of the anatomy of the lymphatic net-work, the afferent trunks, and the neighboring glands, according to the most recent researches; the second, which was the clinical section, showed when and how in the presence of acute or chronic infections of the nasal fossæ the glands react. At the same meeting Lombard gave his report on "The Operative Indications in Certain Clinical and Anatomical Farms of Frontal Sinusitis."

The Academy of Medicine at its meeting on May 16, listened to a communication concerning the microbe of syphilis. Schaudinn and Hoffmann, in a recent number of the *Deutsche medizinische Wochenschrift*, published a paper dealing with the bacteriology of syphilis. They sent their preparations to Metchnikoff and the fame of this work was spread abroad, arousing public curiosity. Metchnikoff and Roux declared to the Academy that the researches of Schaudinn have resulted in the discovery of a spirochæta which ought to be considered as the true pathogenic agent of syphilis. These researches have had as a point of departure the work which was undertaken to verify the existence of a minute protozoon described by Segel at the beginnig of 1905. Schaudinn was not able to find the protozoon in question, but his attention was attracted by spirilla of two varieties: *Spirochæta refringens* and *S. pallida*. In twenty-six cases studied by Schaudinn and Hoffmann, the *S. pallida* was always found. In eight examinations of fluid extracted by glandular puncture the result was always positive. Metchnikoff and Roux have made control experiments on the monkey. In six of their animals they four times found the *S. pallida*. One of the negative cases was explained by the fact that the monkey was on the road to recovery. In the other case the observations are not yet concluded. In the comparison of the preparations the absolute identity of the spirochæta found in man and that found in the monkey has been confirmed. On examining the fluid obtained by scraping the papules of secondary syphilis in man the parasite was found in evidence four times out of six. The examination of the scrapings from acne, from the itch eruption, and from psoriasis did not determine the presence of an analogous parasite. Summing up their results, Metchnikoff and Roux believe that one can count on finding in those researches an element of diagnosis in syphilis, especially by the employment of the method of Marino which stains the organism in a quarter of an hour. As to the cultures, it is entirely too soon to speak of those, but the mass of the actual data argues in favor of the fact that syphilis is a chronic disease due to the presence of *Spirochæta pallida* (Schaudinn.)

Professor Debove has drawn the attention of the Academy to the free practice of radiography by men who have not the least notion of this science. The Röntgen rays have given undeniable therapeutic results, but they can also cause various accidents; serious radiodermatitis, scars, and in women, atrophy of the ovaries and consequent sterility. It may be that this last effect will soon constitute a true social peril. Debove, reminding the Academy that the Röntgen Congress held at Berlin had just unanimously voted that the employment of Röntgen rays in man belonged only in the province of physicians, proposed to nominate a committee, the members of which should study this question and should see if it is not legitimate to ask the authorities to prosecute such persons who, while not possessing the diploma of a doctor of medicine, are making use of the Röntgen rays in the treatment and the diagnosis

of disease. The Academy unanimously approved of the proposition and nominated a committee.

At the same meeting the Academy took up the election of two foreign associate members. They elected Ehrlich of Frankfort, and Ramon y Cajal of Madrid, whose investigations in neurology are known to the entire world.

The Surgical Society devoted parts of two meetings to an interesting communication on post-traumatic delirium. Picqué attempted to demonstrate that delirium tremens as observed in certain subjects as a consequence of traumatism was not always an alcoholic delirium, but generally a delirium of infectious origin. The conclusion reached from his study of this subject was that the delirium appeared generally only when the infection was apparent and disappeared at the same time with the infection. Only the absence of all infection can authorize one to make the diagnosis of pure alcoholic delirium tremens. Inasmuch as most of the cases are of infectious origin and as such are relieved by surgical methods, care should be taken to place these patients under the care of a surgeon and not send them to asylums for the insane.

Professor Berger presented two reports on interscapulothoracic amputation for malignant tumors of the scapula and upper extremities of the humerus. He declared it to be an excellent operation, easy and certain of execution, exposing the patient to only slight risks of death, and yielding a large number of permanent good results, and even some definite cures. He said that in a majority of these cases immediate relief was experienced and life was sufficiently prolonged to make the operation worth while.

At the Hospitals Medical Society, Jacquet and Sevin, of Leipzig, presented a communication at the meeting on May 19, in which they declared that their search for the spirillum of Schaudinn in a large number of cases of tertiary syphilis had been without success. On the other hand, in the case of secondary lesions they habitually found it. At a previous meeting Jacquet reported an interesting observation on the cutaneous syndrome of gastrointestinal origin, cured by alimentary hygiene.

The Hospitals Medical Society at its last meeting held a memorial service for one of its distinguished members, Maurice Soupault, a physician of the Paris hospitals, who died just as he was going to publish an important work on the diseases of the stomach, a line of investigation to which he had given special attention. We have also to note, with equal regret, the death of another learned man, little known to this generation, but whose fame should be universal, namely, Paquelin, the inventor of the thermocautery.

## Progress of Medical Science.

*Boston Medical and Surgical Journal, June 22, 1905.*

**The Preservation of the Urine.**—From an elaborate series of experiments with various substances employed to keep urine from spoiling, J. B. Ogden arrives at the following conclusions: (1) Boracic acid is the most practical urinary preservative that we possess when used in the proportion of 5 gr. to 4 oz. (or 2½ gr. to 2 oz.) of urine. (2) Formaldehyde solution should be used only by the physician or a responsible person. It should be remembered that one drop of the solution will preserve a pint of urine for about a week, and that one drop can be used in 4 oz. of urine without harm. (3) Other substances than boracic acid and formaldehyde should not be used. (4) The name of the preservative and the quantity that has been used should always accompany the specimen to be examined.

**Impetigo Contagiosa.**—J. T. Bowen refers to this disease as a collection of "cutaneous abscesses caused by pyogenic microorganisms." He describes the evolution of the lesion which is found between the lower horny layers and the rete. So far as concerns its relation to eczema, we know that the latter may have been produced by a long continued impetigo, or an eczema may become infected with the pus cocci. Staphylococci generally predominate. Energetic treatment may be resorted to, as only the superficial layers of the skin are involved. Soap and water, so highly injurious to the sensitive, inflammatory eczema of child or adult, should be freely used. Removal of the crusts by this means twice a day, followed by the application simply of a 10 per cent. ointment of boric acid in lanoline or lard is, in a large majority of cases, sufficient for a cure. Much stress is laid upon the thorough removal of the crusts with soap and water. Certain cases, especially those of the adult type, will require a more energetic treatment, and an ointment of sulphur, or, where the affection is not extensive, the ammoniated chloride of mercury may be used with effect. Very strong parasiticides should be avoided, as a rule, as unnecessary, and as tending to produce a dermatitis. Complication with eczema calls for great caution lest too vigorous treatment be instituted.

**Scabies.**—J. S. Howe declares that the average general practitioner often fails to make a correct diagnosis of this condition. He describes the parasite causing it, and says that atypical forms of the affection often occur in the cleanly and well-to-do, and that under these circumstances the diagnosis is not always easy. The lesions are scanty, and are nearly always discrete papules or vesicles, or both combined, and of pinhead size. Burrows in the skin are rarely found. An urticaria often accompanies the scabies, and a diagnosis is made of the former malady. The author prefers the following plan of treatment. The patient should, on retiring, take a hot bath, and scrub himself thoroughly with soap and water. After the body is dried, on ointment, consisting of napthol, B 3i; sulph. flour, 3ii; balsam Peru; vaseline, aa 3i should be rubbed thoroughly into all the affected parts. This process, omitting the bath, is to be followed on the two succeeding nights. If this is thoroughly done, the patient should be cured. In infants and persons with delicate skins, prone to dermatitis and eczema, balsam of Peru is very effective and less irritating than the ointment before recommended.

*New York Medical Journal, June 24, 1905.*

**The Demonstration of the Flagella of Motile Bacteria and a Simple Method of Making Microphotographs.**—E. W. Duckwall mentions the following requisites for the proper demonstration of flagella: Culture to be made on 2 per cent. agar from young growth in bouillon. Suspensions in water to be made according to nature of organism. Coverglasses to be absolutely clean. Mordant to be used only when fresh. Dye to be made fresh, and used while warm. Spread on coverglass not to be confluent. Fixing to be done without injury to flagella. Staining to be done without overheating. Washing with alcohol and water without breaking the film. Clearing with xylol after thorough drying. Mounting in xylol balsam without previous examination. His paper is an elaboration of these rules, and is illustrated by several excellent pictures, which attest to the value of his methods. As to making microphotographs, he finds a camera about twice as long as the ordinary four by five inch camera, used in a horizontal position, to fulfill every need. The best plates are the isochromatic or orthochromatic swift plates, which are corrected for colors. He has found the acetylene radiant preferable to gas, oil, or electric light. It is slower than electric light, but brings out all details with wonderful nicety. The only screens he uses is green glass. Printing from the negatives on glossy velox brings out the best detail. The glossy velox is then ferroplated, which makes a beautiful photograph.

**Anesthesia in Throat Surgery.**—H. Wallace discusses the relative advantages and dangers of chloroform, ether, and gas, under the conditions named. His belief is that for the operator, the gas-ether sequence with narcosis pushed well to palatal relaxation, the patient being in the dorsal position with moderately lowered head, secures the best results as regards least danger to the patient and the greatest facility of operative technique.

*American Medicine, June 24, 1905.*

**Bromides in Epilepsy.**—Frederick Peterson states his object in bringing this subject before the profession is to excite a general antipathy to the indiscriminate use of this drug in epilepsy. He believes that as a rule this drug is worse than the disease. The sum total of comfort, happiness, and well-being of the epileptic would have been greater if the bromides had never been discovered. When the drug is to be employed, it should be used in small doses, combined with some of the harmless remedial agents, or instead of the bromine salts, some preparation of brominized oil, which is less powerful and less noxious, should be given.

**Treatment of Incontinence of Urine in Children.**—Noble P. Barnes explains the physiology of evacuation of the bladder in early infancy. Delay in controlling the urinary function beyond the period of dentition becomes an abnormal condition termed enuresis. He divides the causes into organic (including anomalies, injuries, and diseases) under four headings; and functional, under seven headings. Successful treatment is determined by etiologic factors. Close attention must be given to diet, hygiene, habit, and training. Medical, mechanical, and mental treatment are discussed.

**Treatment of Appendicitis in the Precarious Stage.**—J. G. Sheldon believes that operation, not through an anterior incision, but through Petit's triangle, should be the method of choice in treating appendicitis in which the inflammatory process has invaded structures beyond the appendix, and is not localized. This operation offers little risk of contaminating the small intestines; it provides efficient drainage, and is not liable to be followed by hernia. It is

believed to be more efficient in treating precarious cases of appendicitis than the expectant plan of treatment, or operation through an anterior incision.

**The Therapeutic Value of Ergot in Labor.**—J. C. Applegate does not regard ergot as an appropriate or safe remedy at any period during labor, until the presentation or expulsion of the placenta, notwithstanding the statement in many textbooks that it is valuable for uterine inertia. Its physiological effects on the uterus are unlike the rhythmical labor contractions in that they are less intermitting, more continuous, and predispose to constriction, particularly of the lower segment. Paralysis of the fetal heart from compression, retention of the placenta and membranes, and rupture of the uterus are the attending dangers. Complications of the third stage of labor or post-partum hemorrhage rarely follow the expression of the placenta after the Credé method. He regards ergot as valuable at the end of the third stage of delayed labor or when uterine inertia has been a factor, also after placenta prævia and reposition of an inverted uterus. With a uterus normally contracted, the author considers it valueless and rather detrimental when used for the prevention of septic infection, since its tendency is to disturb the venous thrombi and lock too completely within the uterus excreta that would otherwise be liberated. Ergot may be administered by the mouth as a safeguard, but for the control of hemorrhage better results are obtained by hypodermic administration.

**Gunshot Wounds of the Stomach.**—W. M. Jordan advocates immediate operation in cases of suspected wound of the stomach. If the stomach is full at the time of operation, he advises syphoning its contents by means of a tube passed through the bullet wound. For closing the perforations, a purse-string suture of silk is recommended, which is reinforced by a second one in order to add strength as well as to increase the approximated area. Nothing whatever should be given by the mouth during the first week, the patient being sustained by nutrient enemas, and water being given by subcutaneous and rectal injections of normal salt solution. Morphine is given for a few days to limit peristalsis and check gastric secretion. A wound of the posterior surface of the stomach constitutes a positive indication for drainage of the lesser cavity of the peritoneum, the presence of such a wound being taken as presumptive evidence of injury to the underlying pancreas or left kidney. Two cases are reported, the first having a single perforation on the anterior surface, with subsequent recovery, and the second presenting two perforations on the anterior surface; death from shock occurred four hours after operation.

*Journal of the American Medical Association, June 24, 1905.*

**When Not to Operate for Appendicitis.**—J. E. Moore combats the dictum that all cases of appendicitis are operative cases, and holds that while certain classes of cases, such as chronic appendicitis without acute attacks, those with localized abscess and acute cases seen in the beginning of the attack, call for operation provided hospital facilities and a good surgeon are available, there are some other cases in which surgical interference is not advisable. The conditions in which the radical operation is not the best treatment are summarized by him as follows: "First, when the patient is evidently moribund; second, when the patient is evidently convalescing; third, when certain grave complications are present; fourth, in the midway cases beginning with the third day when the physician and surgeon are in doubt; fifth, in the extreme cases of suppurating peritonitis." Even in serious complications, or when general anesthesia is contraindicated by the condition of the patient, if localized abscess exists, he states that it should be evacuated under local anesthesia. Ochsner's starvation treatment, Moore says, has been badly misunderstood. Ochsner did not recommend starvation and lavage for appendicitis, but for spreading peritonitis due to neglected appendicitis. In such cases Moore, by opening abscesses locally, and by using to a greater or less extent Ochsner's method, has been able to tide them over to a successful interval operation.

**Bright's Disease.**—Bright's disease, according to A. C. Croftan, is a toxemia presumably of intestinal, and, by implication, of hepatic origin, involving, primarily, the cardiovascular apparatus, and secondarily, many organs of the body, including the kidneys. Casual treatment, therefore, in his opinion, must be directed toward the digestive disorders that underlie most causes of the disease. Symptomatic treatment is not the conventional treatment of the kidneys, but the treatment of the heart and arteries. When nephritis is established, it, of course, calls for treatment, but nephritis may not occur till late in the disease. The general measures of maintenance of the nutrition by regulated diet and the avoidance of nervousness, care, worry, and fear, are naturally of paramount importance. Croftan advises the use of intestinal antiseptics, sulphocarbolate of zinc, sodium glycocholate, and organic peroxides, together with bismuth as a test for the presence of sulphur compounds in the feces. When the stools are not colored black by bismuth sulphide it is an indication that the intestinal antiseptic is given in sufficient amount to check the putrefaction of albumin, and in most cases the indican and other aromatic urinary ingredients also will have disappeared. Small doses of digitalis, one drop of the tincture, t.i.d., are useful in rendering the heart less susceptible to the disturbing stimulation of circulating toxins, and may be given without danger of impairing the power of the heart to respond to larger doses in emergency. Continuous vasodilatation, lowering blood pressure in the kidneys, reduces the albuminuria and enables the renal epithelium to regain its tone and to resume its functions. Other measure that aid are hot baths, rest in a warm bed, and judicious life in a warm, dry climate, all favoring relief of arterial tension and rest to the heart. Croftan condemns kidney decapsulation as irrational in Bright's disease. In acute nephritis underfeeding is advisable, but in chronic cases the daily amount of feeding, expressed in calorie values, should be inversely proportionate to the presumed duration of the nephritis. There is no reason why a mixed diet may not be allowed in these cases, excluding only such foods as produce substances difficult of elimination by or irritating to the kidneys. A milk diet is good in the acute disease, but injurious in chronic cases, and the excessive water drinking, so often advised, is irritating to the kidneys and injurious to the overtaxed cardiovascular apparatus. Sweating a nephritic patient may be of some value in relieving the patient of excess of water which the kidneys cannot dispose of, but giving much water at the same time is irrational. The restriction or withdrawal of chlorides is useful.

**Circumcision.**—G. T. Vaughan attaches three hemostats to the preputial margin, one at the frenum and the others at the sides, in such a way that when traction is made the inner skin of the prepuce is tightly stretched and the outer skin is lax or nearly so. While an assistant keeps the parts on the stretch, he cuts off squarely the portion beyond the glans, slits up and trims the remaining hood of inner skin covering the glans and unites it to the outer skin by a continuous suture of fine catgut, securing with the suture any bleeding vessels. The blood is then wiped off and the foreskin pulled forward to cover two-thirds of the glans, and the patient put to bed. No dressing is required. The advantages he claims for this method, are: the line of union is covered and protected from infection; no dressing is needed; little or no danger of adhesion of the prepuce to the glans, or of contraction of the preputial orifice. The glans is left partially covered as it should be, and plenty of skin left to meet the varying conditions of the organ.

*The Lancet, June 17, 1905.*

**The Advantages of a Purin-free Diet.**—W. A. Potts says there are few types of chronic disease that are not benefited by a diet from which such substances as meat, fish, tea, coffee, mushrooms, asparagus, and the pulses are excluded, these being the ones which contain purin bodies in appreciable amount. In some instances no other treatment is so efficacious and there are now on record numerous cases in which no improvement took place during years of treatment on conventional lines, while the adoption of the diet under consideration has in a period varying from six months to two years, effected a permanent cure. The purin-free diet is also, he says, a useful adjuvant in the treatment of disorders of a less chronic nature, and especially of those that are generally designated as gouty, rheumatic, or neurotic. In advising such a regimen, it must be remembered that though a vegetarian diet may be made purin-free it is not the most desirable, nutrition and vigor being maintained with difficulty. Meat should be replaced by something of greater calorie value, such as cheese; while if purin-containing substances are excluded, there is no necessity for vegetables. The staple food should be selected from milk, cheese, nuts, and cereals, with fruit as a sauce. Great variety is possible. The author reports several cases in which more or less benefit followed after the institution of a purin-free diet, and concludes that, although this method of treatment is simple in the extreme, yet it requires care and discrimination in its application, and at first, at any rate, the patient must be kept under constant observation. However careful the explanation, there is often some misunderstanding; and minor troubles, such as constipation and difficulty of digesting certain foods, frequently develop in the early days of treatment. To insure success thorough mastication must be insisted on. The change of food must be made gradually, not more than one meal being altered at a time, in the manner suggested by Haig. At the same time careful records should be kept of the weight and other clinical tests instituted, so as to measure the progress. If care is taken in such matters this method of treatment will be found of real value and deserving more general application than it has yet received.

**Some Surgical Notes on Tuberculosis of the Kidney.**—Howard A. Kelly names three avenues of access to the kidney by which tuberculosis may reach it. By the blood; by

ascending the ureter; by direct extension from some contiguous organ. Without any doubt, the writer adds, the infection of the kidney is almost always hematogenous. The focus of the disease is often found in the thorax. The condition of the lungs should always receive the most careful attention. The diagnostician has to consider if the patient has a tuberculosis of the urinary tract; if the disease is still localized; and, if the diseased kidney is removed, whether the remaining kidney is able to do the work. The most difficult cases to diagnose are the early ones, in which the bacilli are often sparse or appear in the urine only at considerable intervals. In obscure cases the urinary sediment should be injected into two guinea pigs. The injection in one should be made into the peritoneal cavities, and in the other under the skin of the groin or axilla. The writer prefers to all other methods the direct aëroscopic examination of the bladder. By catheterization, the appearance of the ureteral orifice and the thickened ureter should be determined. It should be remembered that a simple pyelitis is not infrequently present in the opposite kidney. The opposite ureter may be markedly thickened and still the kidney be free from tuberculosis. The condition of the bladder should be noted as having an important bearing upon the operation and the subsequent treatment. The urea coefficient of the opposite kidney should be determined. The enlarged kidney found in the loin may be the one functionally enlarged and, therefore, the only sound organ. Radical treatment in every case that will permit it, is indicated.

*British Medical Journal, June 17, 1905.*

**Acute Abdominal Symptoms.**—W. Watson Cheyne emphasizes the responsibility of the physician in the treatment of an "acute adbominal illness." First, the diagnosis must be made as quickly as possible, and next the advisability of immediate operative interference must be decided upon. The most prominent symptoms of such an illness are severe abdominal pain, vomiting, and more or less collapse. In many cases, in which surgical treatment is necessary, and is too long delayed, the danger of the patient is greatly increased. It must also be remembered that unnecessary surgical intervention may have disastrous results. The writer briefly reviews the most prominent symptoms. The character and situation of the pain will often give most valuable indications. The chief points to be noted in regard to this symptom are its severity and position, whether it is constant or spasmodic or both, whether it is localized or diffuse, and whether the spasmodic pain is intestinal or not. In perforations of the stomach, intestines, and so on, the pain is usually severe, constant, and of a burning character. In rupture of cysts, the pain from the first is more diffuse and not so severe. Renal or ureteral pain shoots down to the scrotum and thigh. Tenderness may vary according to pressure or percussion. In cases of inflammation and rupture it is marked from the first, and is generally greater on percussion than on pressure. The reverse is true in the case of strangulation. Although the seat of the disease is generally indicated by an area of marked tenderness, this is not always so. Note should be made as to whether it is limited or not, and as to its tendency to spread or remain localized. Rigidity of the abdomen is marked in peritonism. Vomiting is not of any great diagnostic value as a symptom when the patient is first seen. Its persistence is of great importance. This indicates some mechanical obstruction. Collapse is very indicative of a rupture or of an internal strangulation or hemorrhage, and may be marked. As a rule, the occurrence of a rigor or chilliness at the commencement indicates some inflammatory condition, and not infrequently ushers in an attack of appendicitis. A common symptom in all of these conditions is increase in the pulse rate. A rate of 120 or over indicates a serious state of affairs and is in favor of surgical intervention. As a rule, too, a small, running, and irregular pulse is a very bad sign. Elevation of the temperature in the early stage separates inflammations from strangulations, hernias, twists, and so on. The presence of free gas in the abdomen is always a sign of rupture of the alimentary canal. The general aspect of the patient should be carefully noted, as this is apt to be an excellent index of the gravity of the condition. The most common causes of acute abdominal symptoms are various forms of acute intestinal obstruction, such as internal hernia, strangulation by bands, volvulus, intussusception, and so on, appendicitis, and its complications, and perforations of the alimentary tract.

**Constriction of the Ureter.**—K. W. Monsarrat divides the causes of ureteral constriction into three classes: Congenital anatomical anomalies, morbid effects of the ureteral channel itself; morbid affections which involve the ureter from the outside. Anatomical peculiarities are kinking of the duct over an abnormally situated renal vessel and an oblique or unusually high insertion of the ureter into the renal pelvis, causing difficulty in the emptying of the latter. Congenital stricture has been recorded in a few cases. The affections of the canal which may cause stricture are, ureteritis, injury, and the lesions caused by calculi. The writer declares that of the acquired conditions other than those of the canal itself, which may lead to ureteral obstruction, the most common at the upper pole is renal mobility causing kinking of the duct at the lower pole, new growths, and inflammatory processes of the pelvic organs. Obstruction to the passage of urine down the ureter will finally lead to the dilatation of the renal pelvis and of the ureter above the obstruction. In certain cases there may be resistance sufficient to lead to symptoms of ureteral colic without any marked dilatation. Diagnosis may then be difficult.

**Clavicle Fractured by Muscular Action.**—William Burns speaks of a collier twenty years old, who was running at a good pace when sharply turning around a corner he felt something at his shoulder give. Examination showed the right clavicle to be broken at the junction of its inner and middle third. There had been no fall or violence of any kind, and the fracture was due entirely to muscular action.

*Berliner klinische Wochenschrift, June 5, 1905.*

**The Principles of the Exercise Treatment in Tabes.**—Frenkel in discussing this subject says that the greatest discrimination is necessary in the application of this form of treatment, for, improperly used, it is a source of more harm than good. The mistake must not be made of confusing simple muscular exercise with the practice of coordination, and he also warns against the use of massage for tabetics. All coordinated actions must be learned by the individual, and if the power of coordination has been lost, every muscular act must be learned over again just as a child does it. The usual steps of each movement must be separately rehearsed until the ataxia is reduced sufficiently to permit the whole to be attempted. As the ataxia is due not to loss of muscular power, but to deficient sensibility, if a tabetic learns to perform a coordinated action which had become impossible, it means that the centers have become educated to get along with a subnormal degree of sensibility. In teaching a tabetic to walk, for example, a great deal of practice is needed to produce the proper coordinated movements of the trunk muscles which precede every step. As the sense of fatigue is greatly diminished, the patient's sensations are no guide as to the length of the time exercises may be kept up, and it is well to restrict them to two sessions a day each, of not more than five to fifteen minutes. The pulse rate also rises rapidly during the exercise, and it is advisable to wait after each movement until the rate has become normal again, before going on to the next exercise. The prognosis of the disease is greatly improved by the judicious employment of the principle of reduction and the author believes that the atony of the abdominal muscles and intestine, cystitis, paraplegic forms, etc., have been reduced in frequency since its introduction.

**The Diagnosis of Death by Drowning.**—Marx reviews the modern researches into this question, which though numerous, still do not render a positive opinion easy in all cases. Among the newer methods suggested is the detection of differences in the concentration of the blood in the right and left sides of the heart by determination of the freezing points, the idea being that the foreign fluid in the lungs so long as circulation continues, will be diffused into the blood of the pulmonary circulation. Attempts have been made to apply the same method to the pulmonary edema fluid, and to the cerebrospinal fluid, but without reaching very reliable results. Comparisons of the degrees of hemolysis found in the different regions of the circulation have also been made, and some authors attach importance to the manner of dissemination of the water plankton throughout the lungs. The grade of distention of the lungs or their "hyperaëration" is also considered of importance by some observers, but it appears that for forensic purposes at least it may still prove to be impossible to declare with certainty whether a body was dead or not before sinking below the surface of the water.

*Deutsche medizinische Wochenschrift, June 8, 1905.*

**The Most Favorable Time for Appendicitis Operation.**—Arnsperger, in describing the customs at Czerny's clinic in Heidelberg, says that the standpoint adopted there is against the routine, immediate operation in every case of appendicitis received. The mild, acute attacks, especially the first ones, are treated expectantly, with the idea of transferring the operation to the safer interval stage. Every case of appendicitis should come under the surgeon's care from the beginning, because special training is needed in order to judge of the gravity of the case, and because operative intervention may become necessary at any moment. Under such conditions, however, immediate operation is not always indicated, and it may be preferable to wait, knife in hand, to see if the operation may not be postponed till the attack has subsided. In other words, the effort should be made to differentiate between the severe attacks in which immediate operation is required, and the less serious ones in which delay is possible. The interval operation always offers the best chances for an uncomplicated

convalescence, and acute cases should be operated if any threatening conditions present themselves but others, if kept under constant, careful surgical supervision, may safely be treated conservatively, and held over to the interval. During the past five years the records of the clinic show 308 cases of appendicitis, with 280 operations, and a total mortality of 8.76 per cent. Of the operations, 150 were done in the interval without any deaths, 9 with complicating tuberculosis, or actinomycosis of the cecum, with two deaths, and 121 in the acute, or subacute, stage, with 25 deaths.

**A Further Contribution to the Inoculation of the Horse with Syphilis.**—Piorkowski describes further observations on the horse inoculated by him some time ago with the blood obtained from syphilitic subjects. Patients that had been treated with mercury were chosen for the purpose, with the idea that the parasites, being damaged by the drug, would give up their poison more readily. The injections were repeated every three or four days, 5-10 c.c. being given each time, and a slight rise of temperature was the only evidence of reaction. Four weeks after the first injection an eruption appeared, which spread until, at the end of eight to ten weeks, the entire body was covered with papules. There was also patchy falling out of the hair, and now, at the end of six months, some papules still persist, and a few new ones are appearing, while there is on the back a bald spot the size of a child's head. Temporary glandular enlargement was also produced. The allegation has been made that these manifestations might be the result of the injection of foreign albumin, but neither the author himself nor any of the other observers he has questioned have ever seen so pronounced an eruption from this cause. A second horse was injected with the blood of the first, and in due time developed similar lesions. Siegel has examined one of the papules, and, in serial sections, was able to find bodies which he identified with those described by him as occurring in syphilis. Similar eruptions were produced in rabbits that were injected with the blood of the syphilitic patients, or with the blood of the second horse. The author does not draw any conclusions from these observations, but hopes to throw more light on the subject by means of other experiments now in progress.

**Koch's Investigations of the Coast Fever of Cattle, and Horse Sickness in Africa.**—Kleine who accompanied Koch on the trip to Africa, which he made in order to study the cattle pests, describes some of the results obtained. It was found that the local veterinarians regarded the rinderpest as a variety of Texas fever, because of the occasional occurrence of hemoglobinuria and the presence of pear-shaped parasites in the red blood cells, but it was discovered on closer investigation that the latter appearances were simply due to a secondary infection in the course of a hitherto unrecognized disease, to which Koch gave the name of African Coast fever. The disease is characterized by high temperature, weakness, and pulmonary edema, and is fatal in 85 to 90 per cent. of the cases. In the red cells small rod, or ring-shaped, organisms are found, which in some instances are present in almost every corpuscle. Animals that survive the first attack are immune. The fact that sick animals, kept under conditions that prevent the possibility of a fresh infection, sometimes develop Texan fever, shows that the parasites of the latter must have been present in the body for some time, but only after the powers of resistance have been broken down by the first illness is multiplication of the parasites possible. All the cattle kept in infected regions finally become immune, but fresh animals at once acquire the disease. Efforts to exterminate the tic that serves as intermediary host for the disease, or to keep the cattle free from it, were found impracticable, and the best results in combating the disease were obtained by a process of immunization with the blood of infected animals, which, though still imperfect, appears to have distinct possibilities. The problem presented by the horse sickness is still more complex, as its inciting agent is undiscovered, probably owing to its minute size. Here again attempts to provide a suitable immunizing serum, though still in the experimental stage, give definite hopes of success.

*French and Italian Journals.*

**Cancerous Degeneration of the Uterine Stump After Partial Hysterectomy for Fibromata.**—Richelot has been accumulating data on this subject. Two cases have been reported by Martin. One of the patients was a woman who had been subjected to total hysterectomy, but the author thinks that at the operation a bit of the cervix was left. The second patient was a woman, fifty years old, who underwent the operation of partial hysterectomy. Ten months later the stump showed cancerous degeneration. Various other observers, Picqué, Beurnier, and Bazy, have reported the same kind of degeneration which followed partial amputation. Labeyrie has noted a case in which cancerous degeneration developed two years after the patient was operated on for fibroma. Richelot has recently been able to collect twenty-two of these cases.—*Le Bulletin Médical,* June 3, 1905.

**A Case of Angioma of the Quadriceps Extensor.**—Hardouin reports this interesting case. The patient was a man twenty-three years old, who entered the hospital for a lesion in the region of the right knee. Pain had developed about three and one-half years before. It had appeared suddenly, and was severe enough to prohibit walking for eight days. It then disappeared for some months, only to reappear from time to time. Nothing of special interest was noted in the appearance of the knee, and it was only at the end of a number of crises that a distinct swelling appeared. Inspection showed a tumor located in the lower internal parts of the quadriceps. The swelling was clearly independent of the knee, giving on palpation a sensation of elasticity. It was not very tense, and it did not fluctuate. There was a point very tender on pressure, a little above the patella near the internal condyle of the femur. The movements of flexion were limited. There was no muscular contraction or atrophy. There was a slight hydrarthrosis. The skin was intact. Diagnosis was uncertain. At operation, although an Esmarch bandage had been applied, a large quantity of blood escaped on incision. A diffuse tumor was found infiltrating all of the antero-internal part of the quadriceps. The tumor consisted of a very vascular tissue, comprising large vessels, some of which had become as large as a thumb. There were also many small vessels. The mass of muscle that had been invaded by the neoplasm was removed. The hemorrhage was arrested by means of ligatures. Examination showed the tumor to be an angioma. Recovery was uneventful.—*Bulletins et Mémoires de la Société Anatomique de Paris,* March, 1905.

**Some Points in Relation to the Technique of Appendectomy.**—Chaput presents the following conclusions: The horizontal incision, beginning near the iliac spine, avoids the section of muscular fibers, and favors drainage in all directions. When drainage has been accomplished by the abdomen, postoperative hernia can be avoided by secondary suture of the wall on the sixth day. The best treatment of the stump consists in cutting the appendix down to the level of the cecum, and suturing in layers the small resulting wound. Drainage of pelvic abscesses and of generalized peritonitis is well accomplished by rectum or by vagina. Local anesthesia is most convenient in the operation of appendectomy in the case of adults who are not nervous.—*La Presse Médicale,* June 3, 1905.

**Traumatic Delirium.**—Quénu calls attention to the existence of several kinds of delirium, post-traumatic, delirium of toxic origin, which has been noted by all surgeons, and finally a third form of delirium, which is the true delirium tremens of alcoholics. The pathogeny of the latter is not known. However Quénu is inclined to think that it is related to the phenomena of autointoxication. He does not approve of treatment by alcohol, nor by opiates. Trousseau and Vulpian also disapprove of the alcohol treatment. Vulpian administers digitalis—that is, a diuretic medication. Magnan also does not advise the use of alcohol, but prescribes the milk régime. It is for the same purpose—that is, to favor the elimination of toxins, that Quénu uses subcutaneous injections of artificial serum. Magnan uses cold enemata, and Letulle employs cold baths. Finally, in cases in which there are cardiac phenomena, Quénu prescribes small doses of the sulphate of strychnine.—*Gazette des Hôpitaux Civils et Militaires,* May 27, 1905.

**Criminal Anthropology in Forensic Practice.**—C. Antonini tells us that we are in a stage of transition from the time when criminals were all judged accountable for their crimes, and the future when all crimes will be studied in reference to the causes of their commission. We have learned the superiority of prophylactic measures over repressive measures, this knowledge stimulating us to reforms which tend to lessen the social contrasts, which are a fertile soil for the development of criminal instincts. Anthropology of criminals has formulated a great number of preventive measures, which will exercise a beneficial influence on crime. The ideas as to the responsibility of insane persons have become gradually modified, so that the popular ideas as to infanticide, political crimes, etc., has changed, and a realization has begun that we must have reformatory, as well as punitive, measures for such persons. We may divide all persons into three classes—normal, criminal, insane. The classification must be aided by all the means possible—normal psychology, criminal anthropology, clinical psychiatry—so as to give the best possible information to the administrator of the law. We must have the best medical talent, as well as the best legal talent, and a body of judges capable of comprehending the efforts to get at the real truth of the criminal's responsibility. Then we must have proper institutions for the restraint and reform of the abnormal criminal, as well as the repression of the normal one.—*Gazzetta Medica di Roma,* February 15, 1905.

# Book Reviews.

A Textbook of the Practice of Medicine.. For Students and Practitioners. By. Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia; Physician in the Jefferson Medical College Hospital; One Time Clinical Professor of the Diseases of Children in the University of Pennsylvania; Laureate of the Royal Academy of Medicine in Belgium; of the Medical Society of London; Author of "A Textbook of Practical Therapeutics" and "A Textbook of Practical Diagnosis." Illustrated with 129 Engravings and 10 Plates in Colors and Monochrome. Philadelphia and New York: Lea Brothers & Co., 1905.

Dr. Hare needs no introduction to medical readers, his therapeutic treatises having established his reputation as a medical author of no mean rank. The present work is one that has been looked forward to with some curiosity by those who knew of its incubation, and who wondered whether the author would be as happy in his tilling of the broad field of medicine as he had been in the cultivation of the garden of therapeutics. We think it safe to assert that the book will disappoint no one. It is most comprehensive in its scope, including tropical diseases, affections of the nervous system and of the muscles, and diseases due to animal parasites. Under the latter are included the affections due to the presence of trypanosomes, but the malarial fevers are in the section treating of infectious diseases; it would seem as though they ought to be in the same section.

Dr. Hare's experience as a medical writer and editor, as well as a clinician and therapeutist has peculiarly fitted him for the task of preparing a textbook on the practice of medicine, and the book before us is such as we, knowing the author's qualifications, would expect. It is thoroughly practical in every chapter and well adapted to meet the wants of all—not too technical for the third or fourth year student and not too elementary for the practitioner. The sections on symptomatology and diagnosis are especially to be commended, but we much confess to a little disappointment in the therapeutical chapters. We had hoped that a specialist in this branch would be a little more optimistic. In the section on croupous pneumonia, for example, there is not even mention of the possibility of jugulating the disease by sodium salicylate, creosote, potassium iodide, or hot packing, although the experience of a multitude of practical men has, the reviewer believes, shown that this is possible. Even if the author of a textbook does not himself look with favor on this mode of treatment, he should at least defer so far to the authority of other competent observers as to mention their claims. There is no absolute authority in medicine, and so long as it is not a fixed science, no one who puts forth what purports to be a guide to the inexperienced is justified in keeping back any therapeutic measure which has received the stamp of approval of so many men of standing and authority. The same ignoring of alleged valuable measures is to be noted in the sections on treatment of other diseases. But, of course, no practitioner worthy of the name, depends upon a single author, and other books will supplement what is lacking in this. As a whole it is a most valuable addition to the many works on practice already before the public, and if studied in connection with other books it will be an acquisition to the library of the physician—a book to be read and studied and one full of invaluable points in pathology and symptomatology, and also, in most of the sections, in therapeutics as well.

Diagnose und Therapie des Eczems. I. Teil: Diagnose von Dr. S. Jessner, Königsberg. Würzburg, 1905.

This brochure belongs to the series of "Dermatologische Vorträge für Praktiker," of which we have reviewed a number. In some fifty pages the author undertakes the difficult task of describing (without illustration) the various forms under which eczema appears and flourishes, and of pointing out the differentiation from the many dermatoses with which eczema is so often confounded. Regional eczemas are taken up separately and discussed from a somewhat different standpoint.

Manual of Psychiatry.. By J. Rogues de Fursac, formerly Chief of Clinic at the Medical Faculty of Paris. Authorized Translation from the French by A. J. Rosanoff, M.D., Junior Assistant Physician, L. I. State Hospital, King's Park, N. Y. Edited by Joseph Collins, M.D., Professor of Diseases of the Mind and Nervous System in the New York Post-graduate Medical School, etc. New York: John Wiley & Sons; London, Chapman & Hall. 1905.

While in general the process of specialization has been conducive to the expansion and the progress of medicine, there has been a tendency at times to carry the differentiation too far, so that the subordinate division has come to be unduly separated from the main branch. Such a course must ultimately result in evil, as practice in any department of medicine will be successful only as it is based on a knowledge of the broad, fundamental principles of the entire art and science. According to this view psychiatry can be looked upon merely as a subdivision of internal medicine, with which the general practitioner should have an intelligent acquaintance, as it is he who sees the beginnings of mental aberration and to him is often afforded the opportunity of aborting the development of well-defined insanity or of diminishing the severity of the attack and of applying early the appropriate corrective and therapeutic measures. To this end books such as that before us are capable of materially contributing. The text is subdivided into two parts, namely general and special psychiatry. The former comprises in five chapters a consideration of etiology, symptomatology, and the practice of psychiatry, while the second part deals successively in seventeen short chapters with the subjects of deliria of infectious origin, psychoses of exhaustion, acute alcoholic intoxication, chronic alcoholism, chronic intoxication by the alkaloids, psychoses of autointoxication, thyrogenic psychoses, dementia præcox, chronic delirium, general paresis, mental disorders due to organic cerebral affection, psychoses of involution, manic-depressive insanity, reasoning insanity, constitutional psychopathies, the mental disorders of epilepsy, the mental disorders of hysteria, and arrests of mental development.

The book is an excellent compendium of the subjects with which it deals, and the translation is a most satisfactory one. The work can be used with advantage and profit by general practitioners and psychiatrists alike.

Diseases of the Heart.. A Clinical Textbook for the Use of Students and Practitioners of Medicine. By Edmund Henry Colbeck, B.A., M.D., B.C. (Cantab.); F.R.C.P. (Lond.); D.P.H. (Cantab.), Physician to Out-patients at the City of London Hospital for Diseases of the Chest, Victoria Park, E.; Physician to the Metropolitan Dispensary, E. C.; Late House Physician to St. Mary's Hospital, etc. Second Edition, Revised and Enlarged. Chicago: W. T. Keener & Co., 1905.

Diseases of the heart constitute a not inconsiderable field for the activities of the clinician, and the state of the circulation is a matter of no little importance to surgeon and obstetrician and specialist alike. Accordingly, each should be thoroughly equipped with the means for accurate diagnosis and ready application of appropriate remedial measures. To this end a knowledge of principles is not less essential than experience in clinical observation. Each is complemental to the other. An admirable exposition of the former is contained in the volume before us. A description of the anatomy and physiology of the heart is followed by a consideration of methods of diagnosis and a discussion of the pulse and of cardiography. A chapter is devoted to congenital affections of the heart and great vessels, and separate chapters to diseases of the pericardium and acute endocarditis and chronic endocarditis. Chronic valvular lesions are first dealt with collectively and then the states of incompetence and stenosis affecting the several valves and orifices are taken up individually. Combined valvular disease is given consideration by itself. The prognosis and the treatment of chronic valvular disease are discussed in separate chapters. The book closes with sections on disease of the myocardium, angina pectoris, and functional disorders of the heart. The text is supplemented by forty-three illustrations and a frontispiece. In the present edition a short account is given of mechanical strain of the heart and of the Stokes-Adams syndrome, and the treatment of chronic valvular disease has been amplified. Scant consideration has been given to the instrumental determination of the blood-pressure, the clinical importance of which is, however, acknowledged. Altogether the book is deserving of warm commendation.

Traitement du Cancer Utérin Inopérable. Par le Dr. J. Récamier, Ancien Interne des Hôpitaux de Paris, Ancien Aide d'Anatomie à la Faculté, Chirurgien de l'Hôpital Libre Saint-Michel. Paris: Georges Steinheil, 1905.

A work by this well-known writer on such a subject cannot fail to obtain wide attention. He arranges his material in five chapters and discusses in them the indications for the operative treatment of uterine carcinoma, giving the results of hysterectomy as well as those of palliative treatment. He considers also the various kinds of palliative treatment in the case of hemorrhage and hydrorrhea. The remaining chapters deal with the treatment of pain, of uremia, of anuria, and finally with the general treatment of cancer.

Beiträge zur Klinik der Tuberculose. Herausgegeben von Dr. Ludwig Brauer, a. o. Professor an der Universitat Marburg. Band 3, Heft 5. S. 331-426. Würzburg: A. Stuber, 1905.

The topics treated of in this publication concern the curability of tuberculosis, the diagnosis of cavities and nervous deafness occurring in the course of the disease. All are discussed with characteristic Teutonic exhaustiveness.

# Society Reports.

## AMERICAN NEUROLOGICAL ASSOCIATION.

*Thirty-First Annual Meeting, Held at Philadelphia, Pa., June 1, 2, and 3, 1905.*

(Special Report to the MEDICAL RECORD.)

THE PRESIDENT, DR. WILLIAM G. SPILLER OF PHILADELPHIA, IN THE CHAIR.

FIRST DAY—THURSDAY, JUNE 1.

**President's Address.**—Dr. WILLIAM G. SPILLER of Philadelphia, in this address, said that disturbances in the associated movements of the eyes (Blicklähmung of the Germans) afford a sign of localizing value in lesions of the brain, and yet this subject has received comparatively little attention. He had had an opportunity to study four cases in which paralysis of lateral associated ocular movements occurred, and nine cases in which paralysis of upward or downward associated ocular movements was a striking sign, including three of the four cases referred to above. He had examined microscopically the material obtained from four of these cases. His remarks were devoted chiefly to the upward and downward associated palsies. Paralysis of lateral associated ocular movements was indicative of a lesion of the posterior longitudinal bundle near the sixth nucleus. The evidence that could be obtained regarding the existence of a cortical center for associated movements related almost entirely to lateral associated movements and paralysis of this form when resulting from a cortical lesion was transitory. He had little anatomical or pathological evidence that was really valuable concerning the existence of a cortical center for upward or downward associated movements, but in reasoning from analogy we must assume that such a center, or centers, existed. All the pathological evidence that Dr. Spiller had been able to obtain in cases of persistent palsy of associated upward or downward movement was indicative of a lesion near the aqueduct of Sylvius. It was extremely doubtful whether a lesion confined to the corpora quadrigemina and causing no pressure on the surrounding parts, ever caused paralysis of the associated ocular movements. Topolansky had shown that electrical irritation of the corpora quadrigemina of rabbits did not produce ocular movements and that this process could be removed without producing symptoms; and Bernheimer, from experiments upon monkeys, had demonstrated that the ocular movements did not depend upon the integrity of the corpora quadrigemina, that this part of the brain did not contain a reflex center for these movements, and that after destruction of this part the ocular movements were normal. Cases had been reported in which the corpora quadrigemina had been destroyed in a man without disturbance in the movements of the eyeballs. The ocular motor nucleus, as shown by recent investigations, was merely the place for the transference of impulses, and, according to Siemerling, we were not in a position to state which parts were concerned in the innervation of the individual muscles. In two of the cases that Dr. Spiller had studied, paralysis of upward associated movement was caused by a tumor within the pons. In neither case was the oculomotor nucleus directly invaded, although undoubtedly compressed in each. Three other cases of his series afforded evidence against a center for coordinated ocular movements in the corpora quadrigemina. In one the paralysis at first was only in upward movements, later in lateral associated and in downward associated ocular movements. In these cases, therefore, a paralysis at first confined to one form of associated movements later extended to other forms. In any case, the paralysis of associated ocular movements disappeared, leaving only paresis of the left superior rectus, and finally this also disappeared. In still another case, the associated palsy disappeared, leaving paralysis of muscles only on one side. It was very common to have a palsy of one or more branches of the oculomotor nerve in association with paralysis of associated upward or downward movement, and this was more easily explained by a lesion of the oculomotor nucleus than by a cortical lesion. Cortical centers controlled associated movements in isolated muscles. The lateral associated ocular movements could be explained by the connection formed by the posterior longitudinal bundle between the nucleus of the branch and the internal rectus muscle and the nucleus of the sixth nerve of the opposite side. It was reasonable to suppose that certain fibers connecting different parts of the oculomotor nucleus with one another or connecting the group of nerve cells innervating the inferior rectus with the nucleus of the trochlear nerve had a coordinating function similar to that of the posterior longitudinal bundle, and that this function might be disturbed by a small lesion. It was striking that the paralysis of downward associated movement, necessitating the implication of two separate nuclei of ocular muscles without paralysis of upward associated movement was exceedingly rare, far more so than was the isolated paralysis of upward associated movement. Dr. Spiller said he had studied thirty-eight cases of paralysis of upward or downward associated movements reported in the literature, and these, together with his own nine cases, made a series of forty-seven. He had found paralysis of associated upward movement without paralysis of downward associated movement in twenty-six cases. Paralysis of upward associated movement with paralysis of downward associated movement was found in sixteen cases. Paralysis of upward associated movement with impairment of lateral movement often developing later was found in fifteen cases. Paralysis of upward associated movement without impairment of lateral movement was found in twenty-two cases. Paralysis of downward associated movement without paralysis of upward associated movement was found in five cases. The reaction of the iris was impaired in fourteen cases. The optic nerve was affected in fifteen cases and normal in twelve cases. Convergence was impaired in fifteen cases. Ptosis was found in seven cases and was absent in thirteen cases. An autopsy was obtained in nineteen cases. In all of these cases, except one, parts about the aqueduct of Sylvius were implicated. Tumor was found in fourteen cases, bullet wound in one case, apoplectic cyst in one case, hemorrhage in one case, and an uncertain lesion in one case. Recovery, or partial recovery, occurred in seven cases. As a result of his studies, Dr. Spiller believed that persisting paralysis of associated lateral movement indicated a lesion of the posterior longitudinal bundle; that persistent paralysis of associated upward or downward movement indicated a lesion in the vicinity of the oculomotor nucleus, and that paralysis of associated ocular movement was not the result of a lesion of extracerebral nerve fibers. Lesions of the cerebral cortex might certainly cause paralysis of lateral associated movements, and possibly of upward or downward associated ocular movements, but cortical paralysis of associated ocular movements was transitory, except possibly when the center on each side of the brain was destroyed. Paralysis of associated ocular movements might be caused by hysteria. Any case in which associated ocular palsy was persistent and was of organic nature was unsuitable for operation unless the operation was merely palliative. The paralysis of associated ocular muscles might be produced by inflammatory lesions, or lesions of a similar character (alcohol, syphilis), as well as by tumor, and might disappear later in the course of the disease.

**A Fatal Case of Neurasthenia.**—Dr. THEODORE DILLER of Pittsburg reported the case of a man of excellent habits who, at the age of 46, after twenty-five years of incessant activity, became profoundly neurasthenic, with many morbid fears. Repeated examinations of his organs and secretions by various observers failed to discover organic disease. The patient died of collapse at the age of 49, having exhibited a few weeks before his death some loss of power in his legs, and occasionally loss of control of the bladder.

No autopsy was held. Although admitting that organic disease might have been present which escaped his notice, Dr. Diller inclined to the tentative opinion that the patient died of a progressive loss of vital tone, which had produced the clinical picture of neurasthenia. He mentionad a second case, accounted one of neurasthenia, in which the vital tone for a time was so low that death was feared, but in which recovery subsequently ensued.

Dr. B. Sachs of New York thought the title of Dr. Diller's paper was unfortunate, and that one could not admit such a thing as a fatal case of neurasthenia, especially when no autopsy had been made. There were many other possibilities in this case.

Dr. George W. Jacoby of New York said that Diller's case was of great interest, but that the American Neurological Society should not go on record as accepting a diagnosis of neurasthenia without an autopsy having been made. There were many cases of marasmus in which the cause of the symptoms could not be found at autopsy. There was a class of cases in which there was clinically nothing but marasmic symptoms to be found in which there was nothing positive except absence of free hydrochloric acid. The other gastric secretions and the blood were negative. Did such lesions cause death? Grawitz had reported many fatal cases due to such cause. We should be careful in our clinical examination in order to exclude other diseases. This case proved that all patients should be examined in every possible way in case there was doubt as to the diagnosis.

Dr. Langdon said that he agreed with Sachs and Jacoby in reference to this case, which should be put down as one of incomplete diagnosis. He had had such cases, which he called prepernicious anemia. If the patients had died in that stage, the disease would have been put down as hysteria or neurasthenia, but there was later well-marked pernicious anemia. He did not admit the diagnosis which Diller had made.

Dr. Joseph Collins of New York said that he hesitated to discuss this case, because it raised the question of diagnosis. He said it would be a stigma of impotence to let this diagnosis go unchallenged. He had never heard a better description of arteriosclerosis than was set forth in Diller's paper. The autopsy, he believed, would have shown contracted kidney, hardened blood-vessels, and other lesions of arteriosclerosis.

Dr. Philip C. Knapp of Boston said the diagnosis should not be attempted on this evidence.

Dr. Meyer believed the diagnosis was wrong, but thought the error not so serious as the previous speakers contended.

Dr. H. C. Gordinier of Albany suggested the diagnosis of aplastic anemia.

Dr. F. X. Dercum of Philadelphia said one must be careful regarding the term neurasthenia. He made a diagnosis of something else unless he was certain of neurasthenia.

Dr Diller, in closing, said that he was obliged for the individual views expressed. He thought the diagnosis correct. He had been careful not to say that there was not some organic disease which produced the neurasthenia yet escaped his observation. He had excluded phthisis, Bright's disease, and arteriosclerosis. Should he reverse his diagnosis after death, it would be because neurasthenia could not result fatally.

**A Study of Pathological Gait.**—Dr. Joseph Sailer of Philadelphia presented this paper, which gave the results of several years' study. In studying the gait his method was to take a strip of ordinary manila wrapping paper, 15 by 20 feet long, and fasten it upon the floor. The soles of the feet of the person to be studied were covered with a black paint made of lampblack and linseed oil, and he was directed to walk the full length of the paper. The impression of the feet was thus obtained. The paint was made somewhat thicker than ordinary paint, and was evenly smeared on with cotton. Sailer exhibited a number of such impressions, four years old, which were as good as when first made. Sailer thought this gave better results than any other method, and was at the same time very simple and easily carried out. By this plan, the length of the steps, the separation of the legs, the contact of the foot, the dorsal flexion of the toes, rotation of the leg, force with which the foot was brought to the floor, and other features could be accurately studied. It did not give an idea of the action of the limbs while in the air, but this could be studied by instantaneous photography. There were two groups of pathological gait; first that due to disturbance of the bones; second, that due to disturbance of the neuromuscular mechanism.

**Multiple Sclerosis; Four Cases, with Autopsy; Consideration of Differential Diagnosis.**—Dr. E. W. Taylor of Boston read this paper. He stated that multiple sclerosis had received very little attention in this country, only seven cases having been reported in America. He said that a study of recent literature indicated that not enough pains had been taken to differentiate this disease from others, and he believed the disease was much more frequent in this country than would appear from autopsy records. It was very frequently reported from the clinic of Oppenheim and others of Europe. The disease must be differentiated from as many as twenty-three other diseases. The author reported four cases with autopsy, and in addition had three cases now under observation as well as five or six other cases which further study would probably show to be multiple sclerosis. All four of the cases reported were in women, two of whom were above 40 years of age. In three there was complete absence of the three cardinal symptoms—intention tremor, nystagmus, and scanning speech. The pathological anatomy was clean cut, definite, and unmistakable, more so than in any other disease. He found that there was no choice between gray and white matter, so far as distribution of the lesion was concerned. Systemic distribution was rare. It was not necessarily distributed throughout the brain and the cord. Taylor considered it primarily a myeline degeneration, and not a primary gliosis. He found actual patches of sclerosis in the dorsal roots. He had observed patches of sclerosis absolutely separate from the blood-vessels. He thought more attention should be given to the study of the eye symptoms. As indicating the difficulty in diagnosis, the author said that his first case was mistaken for one of hysteria, the second for brain tumor and the third for diffuse combined degeneration, and that the correct diagnosis was made only in the fourth case, and then shortly before death. In all the cases the lesions of multiple sclerosis were found, though in the third case the lesions were somewhat limited and only in the cord.

Dr. B. Sachs of New York said that he had been on the lookout for multiple sclerosis for several years in a large neurological service. By exercising every care, out of 150 cases of nervous disease he had been able to make a diagnosis of seven cases of multiple sclerosis; two of these patients had died, but autopsies could not be obtained. Some cases labeled ataxic paraplegia turned out later to be multiple sclerosis. He would question whether it was warrantable to draw a sharp line between combined degeneration and multiple sclerosis. He thought one disease might merge into the other. He agreed with Taylor that examination of the eye-ground was important. He also thought, as did Strümpel, that we should drop the term intention tremor and substitute for it ataxic tremor. He had observed tremor of the head when examining for nystagmus. Multiple sclerosis was hard to differentiate from cerebrospinal syphilis.

Dr. Joseph Collins of New York said that at the Montefiore Home, where only incurable cases were taken, he had made a careful examination of all the patients for multiple sclerosis. In 135 cases of nervous disease he found only two that had been called multiple sclerosis. On reexamination he found only seven cases which he could by any possibility call multiple sclerosis. In a service of eight years in the New York Hospital, with 200 beds in his care, to which

many cases of nervous disease were admitted, he had made the diagnosis of multiple sclerosis in only five cases. He agreed with Dr. Taylor upon the importance of the eye symptoms. In one case at autopsy he found patches of sclerosis scattered throughout all the internal organs as well as in the cord. Whether this widely disseminated sclerosis was all of the same character and origin, he was unable to to say, but considered it a valuable observation.

Dr. B. Onuf of Sonyea, N. Y., observed in cases of multiple sclerosis spasmodic movements of the extremities and spasmodic laughter. In one of his cases, when the patient attempted to talk, before he proceeded far he would break out into a fit of uncontrollable laughter. This would be repeated a number of times.

Dr. J. K. Mitchell of Philadelphia had gone over 1,000 general neurological cases at the Orthopedic Hospital and Infirmary for Nervous Diseases and elsewhere, in the last two years, and had seen only four cases in which he would diagnose a multiple sclerosis. The difficulty of making a positive diagnosis without the cardinal symptoms was great.

Dr. H. M. Hoppe of Cincinnati said that multiple sclerosis should not be mistaken for hysteria, because in hysteria there was no ankle clonus, Babinski's sign, or other positive evidence of organic disease. During the past 11 years in about 400 cases of nervous disease, he had had only one case of multiple sclerosis, which was confirmed at autopsy. The symptoms of multiple sclerosis were evanescent. He questioned whether it was a primary myeline degeneration.

Dr. Taylor, in closing, said that he accounted for the larger percentage of cases of multiple sclerosis abroad by the fact that, where in this country we would put down the diagnosis as blank, abroad, either by more careful study or otherwise, they settled upon a diagnosis. He did not agree with Sachs that there was no sharp line between ataxic paraplegia and multiple sclerosis, but agreed as to the difficulty of differentiating the latter disease from cerebrospinal syphilis.

**Two Cases of Cervical Rib, with Operation.**—Dr. Hugh T. Patrick of Chicago presented this paper. He said that when he came to look up the literature he found that cases of cervical rib with operation were very rare. In his cases the symptoms were those of sensory disturbance referred to the distribution of the lower part of the brachial plexus. Both cases were in young women. In one the condition was bilateral and was peculiar in that no symptoms were shown on the side of the larger rib. Both patients had been to prominent neurologists who failed to make a proper diagnosis, which he arrived at by means of the *x*-ray. The operation was followed by anesthesia and pain due to operative disturbance of the plexus, but this was only temporary.

Dr. M. Allen Starr of New York had had one case this year of bilateral cervical rib. The symptoms were worse on the side of the larger rib.

Dr. Wolfstein reported a case of cervical rib which was at first mistaken for uniradicular palsy.

Dr. Harvey Cushing of Baltimore said that one important feature from the surgical aspect was that the rudimentary rib might be cartilaginous, as he found in one case. He removed a cervical rib a few years ago, but in this case there was no return of motility or sensation in the parts affected.

Dr. D. J. McCarthy of Philadelphia reported a case from the Phipps Institute.

Dr. Patrick, in closing, said that he considered diagnosis by palpation uncertain, and that it was impossible to make a diagnosis without the *x*-ray which rendered it extremely easy.

**Acute Polioencephalitis Superior (Wernicke).**—Dr. J. Ramsay Hunt of New York read this paper, stating that acute polioencephalitis superior was an encephalitis with a hemorrhagic tendency which involved also the white matter and the basal ganglia. In some cases the white matter was more involved than the grey. He reported a case in a man aged 40, who had been addicted to excessive alcoholism for many years. The onset of the disease was sudden and manifested by headache, vomiting, and profound prostration. There was paralysis of all the ocular muscles except the external recti, and the intrinsic muscles. Later, there was difficulty in swallowing, bradycardia, delirium, great motor restlessness, and incontinence of urine and feces. Finally coma developed, and death resulted from respiratory failure. The duration of the illness was five days. The autopsy revealed foci of encephalitis in the medulla, and pons, also internal hemorrhagic pachymeningitis.

Dr. George W. Jacoby of New York reported the case of a physician 33 years of age. He had complete ophthalmoplegia. Upon attempts at movement of the eyes the patient would break out into a fit of uncontrollable laughter. The speaker thought that in this case there was involvement of the optic thalamus. He had slowly improved. The ophthalmoplegia and fits of laughter had disappeared.

Dr. Theodore Diller of Pittsburg spoke of a case of internal hydrocephalus of one and one-half years' standing, finally confirmed by autopsy, which was mistaken at first for encephalitis.

Dr. E. W. Taylor of Boston said that attempts at determining the exact extent of the lesion of the brain at autopsy were often not entirely successful; because of the difficulty of making out the artificial distinction of the various anatomical parts of the brain.

Dr. Hugh T. Patrick spoke of a case in which there was facial paralysis with involvement of the neck muscles, which was found to be simple poliomyelitis in the cord and polioencephalitis in the brain, the white matter not being involved.

**Disease of the Cerebral Venous System.**—Dr. D. J. Mc Carthy of Philadelphia presented this paper in which he reported a study of the brain in 23 cases of generalized arteriosclerosis. Preparatory to this he studied the vascular supply of 120 brains at the Phipps Institute. He found no regularity in the venous supply to the cortex, but the arterial supply was more uniform. It was important to recognize the unity of the vascular system of the brain. There was too much tendency to study the arteries to the exclusion of the veins and capillaries. In one of his 23 cases he found a gelatinous exudate in the ventricles. This was rare. It might be a transudate due to passive congestion. Arterial and venous hemorrhage was differentiated by microscopical examination. Free venous hemorrhage occurred more frequently in infancy and was the result of trauma.

Dr. George L. Walton of Boston spoke of a case which was at first thought to be arterial hemorrhage, but proved on autopsy to be escape of blood from the lateral sinus. It was in a young man, and resulted from a blow on the jaw received in a friendly boxing bout. He thought the force, instead of being distributed, as it usually is, throughout the petrous portion of the temporal bone and finally around the cranium, was in this case transmitted directly through the bone, which was broken, and expended upon the lateral sinus.

**A Study of Two Brain Tumors of Endothelial Origin—One a Multiple Cylindroma, One a Neuroepithelioma.**—Drs. Herman C. Gordinier and H. H. Carey of Albany read this paper, in which they gave a detailed report of the symptoms and the pathological findings, with special attention to histological structure of the tumors. Both tumors were incorrectly located *intra vitam*. The first case was one of multiple cylindroma, which involved the second, third, fourth, and eighth cranial nerves, and produced symptoms very much like those of tumor of the corpora quadrigemina. The tumors were of a hyaline-like material; the basement substance was much in excess of the cellular element. The nuclei varied in size. Origin from the pia mater or cerebral cortex could not be made out. The authors considered the tumor congenital in origin, and thought that the cells were destined originally to form blood-vessels on account of the tendency to do so in the tumor. The malignancy of the tumor was not great. The

second case was that of a boy, 10 years old. The tumor was a neuroepithelioma of the choroid plexus of the fourth ventricle growing dorsally and producing symptoms of a tumor of the cerebellum by involving the median lobe. The patient suffered from headache and dizziness, much disturbance of gait and double optic neuritis. The cerebellar tissue was not involved. The authors thought that the tumor had its origin in the ependyma of the fourth ventricle.

*(To be continued.)*

## AMERICAN GYNECOLOGICAL SOCIETY.

*Thirtieth Annual Meeting Held at Niagara Falls, May 25, 26, and 27, 1905.*

DR. EMILIUS C. DUDLEY, OF CHICAGO, PRESIDENT.

*(Continued from page 991, Vol. 67.)*

**The Relation of the Appendix to Pelvic Disease.**—Dr. REUBEN PETERSON of Ann Arbor, Michigan, read a paper on this subject, in which he presented the following conclusions based upon the clinical and microscopical study of 85 appendices removed during the course of operations for pelvic disease. In the first series of 200 cases, reported last year by him, a little over 50 per cent. of the appendices were found microscopically to be normal. In the present series, 49.3 per cent., or practically 50 per cent., were found normal. The same microscopical classification was adopted as last year, namely, (1) negative; (2) chronic inflammation; (3) doubtful significance; (4) former inflammation; (5) acute inflammation, and (6) periappendicular inflammation. The only change in the classification was that groups 1 and 3 were practically united, and with the exception of two cases were placed in the negative group. This was a minor detail of classification, however, as in each series the appendices in both groups were considered normal. 2. In both series practically one-half of the removed appendices were microscopically normal, while the remainder showed evidences of acute or chronic inflammation, or the results of former inflammation. 3. The average length of 79 appendices was 9.99 centimeters. In the first series the average length was 8.25 centimeters. 4. The appendix was found adherent in 20 out of the 85 cases, or in 23.4 per cent. This was 5 per cent. higher than in the last year's series. But both series show that the appendix was adherent twice as frequently in those cases where microscopic examination showed past or present disease. A certain proportion of adherent appendices were, however, perfectly normal microscopically. 5. Abnormalities in shape were noted in 27 out of 85 cases. The appendices were found to be club-shaped, constricted, or bent upon themselves in 10 of the 27 cases, yet microscopically such appendices were normal. Hence the same conclusions arrived at last year held good for the present series: Mere shape of the appendix cannot serve as an index of its normality or disease. Appendices may be club-shaped, constricted, or bent upon themselves, and yet be perfectly normal. 6. There were fecal concretions noted in 14 out of the 85 cases. This gave a percentage of 16.4, and was double that noted last year. This might be explained by the more accurate observations made in the present series of cases. It did not take into consideration microscopic concretions, but only the palpable forms. In 7, or one-half the cases, the appendices with fecal concretions were normal, hence, as noted in the first series, their existence did not denote disease. 7. Exactly 50 per cent. of the 34 patients in the present series with chronic disease of the appendages, showed accompanying disease of the appendix. 8. The following conclusion would hold good for both series: In chronic disease of the appendages adhesions of the accompanying appendices are present in nearly 50 per cent. (47 per cent., second series) of the cases where microscopic examination shows the latter to be diseased. In a certain proportion of cases, however, although the appendix may be adherent, it is also perfectly normal. 9. Of the 17 normal appendices accompanying chronic disease of the appendages, 9 were noted as changed in shape, or contained fecal concretions, hence in chronic disease of the appendages, the appendix, which is club-shaped, constricted, or contains fecal concretions, is not necessarily diseased. 10. There were 21 cases of uterine fibromata among the 85 patients. Of these, 48 per cent. had accompanying disease or evidence of former disease of the appendix. The percentage was in the first series practically the same. 11. There were eight cases of large ovarian cystomata in the second series. Of these, 50 per cent. had accompanying disease of the appendix, 20 per cent. less than in the first series.

**Inflammatory Conditions of the Appendix Accidentally Brought to Light in Pelvic Operations.**—Dr. HUNTER ROBB of Cleveland, Ohio, stated, in a paper on this subject, that of 370 appendices removed and examined microscopically, 103 were normal; 46 showed signs of a chronic, and one of an acute, appendicitis. In 88 cases there was an hypertrophy of the subperitoneal or internal coat, or of both coats. In 66 cases the changes were of doubtful significance; in 36 the lumen was occluded; in 16 dilated; in 12 the appendix contained concretions; in 1 case the appendix was cystic and had undergone myxomatous degeneration; in 1 case no lymphoid tissue was present. Conclusions: "(1) In a large number (in his series, 323 out of 370) of pelvic cases no inflammatory changes in the appendix were found even microscopically. (2) When one finds a normal appendix in conjunction with disease of the pelvic organs, it is improbable that the latter condition has been brought about by a perforation of the appendix which had afterwards healed. (3) On the other hand, an old periappendicitis and adhesions might often be looked upon as the result of a septic infection, originating in and spreading from the organs of generation. (4) An appendix which looks abnormal macroscopically does not always show inflammatory changes on microscopical examination. (5) Nevertheless, when the removal of the appendix adds very little to the gravity of the abdominal operation, for the benefit of the patient it should be taken away. (6) In his series of 370 cases there were four deaths; but a careful analysis shows that the fatalities should in no instance be attributed to the removal of the appendix."

**Appendicitis in Its Relation to Pregnancy.**—Dr. HENRY C. COE of New York stated that his experience had led him to believe that many mild cases were overlooked, or were mistaken for other affections—adnexal disease, pyelitis, colitis, etc. In view of the tendency to obstinate constipation and intestinal toxemia, one would expect to find that appendical complication were not infrequent during pregnancy. Moreover, many women with a history of former attacks became pregnant, when all the conditions favored recurrences, though they were usually of a mild type. Eight illustrative cases were cited from the writer's private practice, four patients recovering without operation, two being operated upon at the third and fifth months, without interruption of the pregnancy, while the remaining two were carried through the puerperium and submitted to operation later. Dr. Coe then discussed the symptoms, diagnosis, differential diagnosis, prognosis, and treatment. The writer's views coincided practically with those of Pinard, namely, to treat appendicitis in the pregnant female according to the same rules as in the non-pregnant. In mild cases carry the patient to term, if possible, and operate as soon as convenient after the puerperium, if the trouble persisted. With the persistence of local pain, and if an induration was felt, operate as in any other case. Perforation and abscess formation called for immediate operation, rapid work, as little handling of the uterus as possible, and free drainage. Accouchement forcé, previous to operation, as recommended by Marx, was not approved by the writer. Since the toxemia of pregnancy was often of intestinal origin, as in appendicitis, careful attention should be paid to the regulation of the bowels by the use of laxatives, high enemata, restricted diet, the drinking of large quantities of water, etc.

DR. A. LAPTHORNE SMITH of Montreal said that no

machine was stronger than its weakest part, and in the human mechanism the weakest part was the one which was the least used. Owing to our mode of living the vermiform appendix was one of the least used organs, and consequently the weakest. In all cases of pelvic disease, and in most cases of pregnancy in cities, the whole organism was weakened and labored under difficulties. There was, therefore, in such cases a special reason why an organ, which even in man was unable to withstand the attacks of bacteria, should be unusually liable to infection, ulceration, and gangrene. In many cases of supposed pelvic disease, and fever after delivery, the appendix was responsible for most of the trouble, although it might not always present gross lesions. Therefore, no woman should be allowed to begin or continue a pregnancy with an appendix which was known to be chronically inflamed, and all operations for the removal of the uterine appendages should begin by the removal of the vermiform appendix.

Dr. Seth C. Gordon said it was his invariable rule, whenever he opened the abdomen for any other purpose, to remove the appendix whether good, bad, or indifferent.

Dr. Frederick W. Sears stated that one should not be fearful about operating upon pregant women for appendicitis, as his experience had been that they bore the operation better than the non-pregnant. His experience, however, had been limited to three cases.

Dr. Andrew F. Currier did not believe that it was good surgery to remove any organ of the body which he was not convinced was diseasel. In certain cases in which there was a strong probability of malignant disease, an exception could be made; but the function of the surgeon was to build up rather than to remove.

Dr. Clement Cleveland looked upon the appendix as a useless organ, and when operating for other intraabdominal conditions he would not hesitate to remove the appendix. In cases where the appendix had not been found diseased, but had been removed, there was no history to show that any harm had come to those patients. The effect had been *nil*. The arguments of Dr. Currier did not appeal to him.

Dr. Fernand Henrotin said that so far as clinical observation was concerned, the appendix was not only responsible for inflammatory attacks, but for a good deal of indigestion, colic, dyspeptic symptoms, and trouble in the abdomen which was never accurately diagnosed. After an operation for its removal patients were less affected. He would remove the appendix in every instance when operating for some other purpose, unless there were contraindications to its removal.

Dr. Herman J. Boldt said that quite recently a woman, pregnant about the fourth month, had a number of attacks of acute pain in the abdomen. Upon bimanual examination under ether, it was impossible to determine anything definite, but because of the extreme pain he opened the abdomen and found an appendix about six inches long, curled upon itself, and in a state of acute inflammation. Since its removal the woman had been well. He narrated other similar instances.

Dr. James F. Baldwin of Columbus, Ohio, had for the last eight years made it a routine practice to examine the appendix in all cases when operating for other intraabdominal pathological conditions, and had removed the appendix in a large number of cases. Out of 3,000 abdominal sections he had removed the appendix 1,800 times.

Dr. E. P. Davis said there were special reasons why appendicitis should appear in pregnant women, and why the appendix should be removed during pregnancy. As a general proposition, the bacillus coli communis was present in abundance in the intestine of every pregnant woman, and any condition of the intestinal tract during pregnancy, which in the slightest degree lessened peristalsis of the normal intestine, predisposed to infection by that organism—infection of the adnexa, the uterus, or the appendix. On the other hand, a pregnant woman, whose metabolism was well maintained, was in good condition for a surgical procedure, because she had a physiological blood plethora. She bore anesthesia well. The removal of the appendix was applicable to pregnant women and need not be delayed until after delivery, as it was much safer to do the operation during pregnancy than to let the woman run any risk.

Dr. Arthur W. Johnstone said that his experience had been limited to four operations performed on pregnant women for appendicitis between two and a half and four months. All recovered. There were no miscarriages.

Dr. Malcolm McLean had not arrived at the point where he would remove an organ simply because it might in the future give trouble. He advanced reasons for taking this stand.

Dr. Ely Van de Warker saw no reason why, if one saw a perfectly healthy appendix, and the abdomen was opened for some other purpose, it should be removed for fear that something was going to happen to it in the future. Such a proposition seemed to him too absurd to discuss. Appendicitis was comparatively rare, in his opinion. He had spent his life in doing gynecological work, and had opened the abdomen thousands of times, but had never removed a normal appendix, yet he had seen no harm ensue from leaving it. If one were to follow such reasoning, he might as well remove the gall-bladder and other organs for fear they would cause trouble in the future.

Dr. J. Riddle Goffe did not believe in removing a healthy organ, such as the appendix, when we did not know what its function was. It might have some function. There was a time when physicians did not know the function of the spleen, but it was not removed because the abdominal cavity was opened. There was a time when we did not know the function of the thyroid gland, but surgeons did not take it out. He thought we might wake up to the fact some day that the appendix had a function.

Dr. Philander A. Harris raised his voice very strongly against removing perfectly healthy appendices unless there was abundant time to do it, or unless the patients desired it.

Dr. H. J. Lipes of Albany said the appendix had a decided function. It was composed largely of mucous glands, situated in the lower part of the cecum, and there was no more stagnant portion of the intestinal tract than it, and no portion that needed lubrication more to get rid of the fecal material. He thought this mucous secretion helped along the digestion.

**The Radical Abdominal Operation Versus the Vaginal Operation for Carcinoma of the Uterus.**—Dr. C. C. Frederick of Buffalo, N. Y., read a paper on this subject, in which he drew the following conclusions: "(1) The radical operation for carcinoma of the uterus should be done only when the gross lesions can quite certainly be diagnosed as confined to the uterine tissue. (2) The deeper tissues of the cervix were generally invaded first, and also the deeper layers of the vagina in the immediate vicinity of the cervix were infected before the disease appeared upon the mucous surface. (3) The bladder wall was very early infected, especially when the anterior lip of the cervix was the starting-point of the growth. (4) When pain became a prominent symptom, the growth had passed beyond the uterine tissue. Such an involvement was a positive contraindication to a radical operation. (5) Carcinoma of the body presented an entirely different condition. In these the liability of extrauterine lymphatic infection was less for the same period of growth. (6) When the radical operation was done, it was necessary to remove as much of the vaginal walls and pericervical tissues and broad ligaments as possible. (7) It was a well-attested fact that in most recurrences after hysterectomy the growth was found in the cicatrix and the adjacent vaginal tissues. (8) In view of the point at which recurrence began, removal of the pelvic lymphatics and glands did not insure against recurrence. (9) If the vagina was ordinarily capacious, and if the uterus could be drawn down, it would seem that the vaginal route was naturally the one by which the operation could be most readily and thoroughly done. (10) It was possible, yes, probable, that some cases of recurrence were due to the

infection of the freshly incised tissues at the time of operation by contact of the carcinomatous mass or its fluids. By the vaginal operation this might to a degree be prevented by the removal of the cancerous mass or by thoroughly cauterizing it before beginning the operation proper. (11) The operation could be more quickly done than by the abdominal route. (12) Convalescence after vaginal operations, was much more rapid; there was much less pain, and there was much less shock to the nervous system. (13) For the cervical carcinoma, in most instances the combined clamp and cautery operation seemed to be the preferable one. (14) Undoubtedly, infected areas were reached and rendered harmless by the free use of the cautery in this operation. (15) The vaginal walls and all tissues should be seared by it, except those at the utero-vesical junction." The writer would, therefore, limit the abdominal operation to those patients in whom the condition of the vagina or immobility of the uterus made the vaginal operation practically impossible.

**Paravaginal or Abdominal Operation in Carcinoma of the Uterus.**—Dr. GEORGE GELLHORN of St. Louis, Missouri, in a paper with this title, presented the following conclusions: (1) The object of the symposium was to discuss how we might improve our operative technique in order to better the results in uterine cancer. (2) The following conclusions applied only to cancer of the cervic uteri. (3) The radical abdominal operation, so far as the routine ablation of the lymphatic organs of the pelvis was concerned, had thus far failed to yield the desired results. (4) On the other hand, the eradication of the parametria had been found to reduce greatly the percentage of cures. (5) The single abdominal and vaginal operations which did not include this procedure should be discarded. (6) For the extirpation of the parametria, Wertheim's method was the best of the abdominal operations. It had, however, he believed, certain disadvantages as compared with the paravaginal method of Schuchardt. (8) Considering the encouraging results of igni-extirpation, a combination of thermocautery with paravaginal extirpation gave promise of further improvement in operative results.

**A Suggestion for the Surgical Treatment of Incontinence of Urine in Women.**—This was the title of the president's address, delivered by Dr. E. C. Dudley of Chicago. After referring to the expansion of gynecology, he suggested an operation which was based on the same principle as that proposed by Albarran, namely, advancement of the meatus urinarius to the clitoris, but this was done without dissecting the urethra free and, therefore, it obviated the danger of sloughing of the urethra; it was performed as follows, in two steps:

"*First Step.*—A horse shoe-shaped surface is rather deeply denuded between the meatus urinarius and the clitoris, and to either side of the urethra throughout the entire length of it.

"*Second Step.*—The meatus is drawn up to a point near the clitoris, and is secured there by means of two sutures. The lateral portions of the denuded surface are now closed. The effect of the operation is to replace and to retain in its functional relations the sagging displaced urethra. The two purse sutures necessarily stretch the urethra upward to the region of the clitoris, and the lateral sutures must tend to hold it in its new position. By this means, it is proposed to straighten out the urethrocele by longitudinal traction, and by lateral traction to collapse and to hold together the dilated walls of the urethra, and thus to overcome the sacculation at the neck of the bladdder, where residual urine is apt to accumulate and give rise to trigonitis cystitis, and possible incontinence. In many cases, it will be necessary to combine with the operation some appropriate surgical treatment for an associated cystocele, and in nearly all cases to perform perinerrohaphy to relieve also relaxation of the posterior vaginal outlets."

In one case he saw fit to narrow the pouching urethra in order to overcome the urethral dilatation. He had performed this operation five times since January 1st, 1905. In the first four cases relief from incontinence was immediate and had been continuous. The last operation was too recent to be taken into account. In one case there was so much relaxation of the skin and other soft parts in the region of the clitoris that he feared the sutured urethra might pull these structures down to the old malposition instead of being held up by them, but so far it remained well in place. In such a case, again, or in the event of recurrence from such a cause, he should be disposed to make a deep oval denudation over the pubes on the mons veneris, just above the clitoris, the longer axis of the oval being directed transversely, and to unite the margins of this wound by a transverse line of union, so as to make the clitoris a fixed point on a sufficiently high plane to hold the urethra taut. For obvious reasons, this procedure would be preferable to the removal of the clitoris, and the union of the meatus to the parts thereby exposed.

**The Mortality in Operations for Fibroid Tumors of the Uterus.**—Dr. J. MONTGOMERY BALDY of Philadelphia contributed a paper on this subject. Degenerations of fibroid uterus, except malignant and necrotic, were of more scientific interest than practical value. The greatest dangers of fibroids lay in the large death-rate following operations due to heart degeneration, arterial changes, lung thrombosis, etc. He pointed out the condition inherent in all fibroid tumors of the uterus, and said the tumor should be removed at a period early enough to anticipate the changes.

**Migratory Uterine Fibroids.**—Dr. REUBEN PETERSON of Ann Arbor, Michigan, reported cases showing the different stages of the separation of the uterine growths from the uterus, and their attachments to other abdominal organs. The causes and results of such migration were studied in the light of literature on the subject, and the personal experience of the author. Case 1 was an irregularly shaped subperitoneal fibroid, the size of a fist, attached to the uterus by a very slender pedicle. The latter was very friable and broke away from the uterus during the removal of the latter. The omentum was attached to the posterior surface of the fibroid and partially nourished it. Case 2 was one of subperitoreal uterine fibroid, the size and shape of a normal kidney, connected with the uterus by a narrow pedicle, twisted once on itself. The tumor was situated on the right uterine horn, although the pedicle came from the other horn. The tumor was also attached to the bladder, pelvic peritoneum, omentum, and appendix. Case 3 was a hard, smooth tumor, the size of an orange, unattached to the uterus, having all the characteristics of a subperitoneal fibroid, surrounded on all sides by the omentum and nourished entirely by the omental blood vessels.

**Surgical Treatment of Ulcer of the Stomach.**—Dr. WILLIAM H. WATHEN of Louisville, after discussing the various pathological conditions indicating the necessity for stomach drainage, and the operations that had been performed, drew the following conclusions: "(1) Some cases of acute and subacute gastric and duodenal ulcer, and many cases of chronic and duodenal ulcer, should be treated by efficient stomach drainage into the duodenum or jejunum. (2) Drainage by pyloric divulsion and by pyloroplasty with its modifications has not been successful, and these methods are now practically obsolete. (3) Gastroduodenostomy, as modified by Kocher and Finney, may give efficient drainage in many cases, but it should be limited to such cases as cannot be operated upon by a posterior retrocolic gastroenterostomy with the anastomosis near the duodenojejunal flexure. (4) Anterior anticolic gastroenterostomy should not be an operation of election, but an operation of expediency or necessity, to give temporary relief, or to meet special abnormal conditions that may contraindicate the posterior attachment. (5) The ideal operation of election must be the posterior retrocolic attachment near the beginning of the jejunum, and at the bottom of the stomach in the pyloric end, thus eliminating the loop. (6) This gives the most efficient drainage, prevents the vicious circle and regurgitant vomiting, leaves

stomach and intestines in nearly normal relation, and is followed by better immediate and ultimate results. (7) The intestinal incision should be made longitudinally, and not less than two inches long, and the stomach incision of corresponding length, preferably in the oblique direction. An elliptical strip of mucosa should be incised from both stomach and intestinal incision. (8) The anastomosis is best made with a continuous suture (Pagenstecher or silk), using a full curved round-pointed needle. The suture should be applied in double layers, the inner to include all the visceral layers, and unite the cut edges of the opening; the outer one-fifth inch away, to include the serous and subserous layers. (9) Enteroenterostomy, or closure or resection of the proximal jejunum or the pylorus is unnecessary. It commits a traumatism and leaves a deformity that may cause immediate and subsequent bad results."

**Clinical Types of Pregnancy Toxemia.**—Dr. J. Clifton Edgar of New York contributed a paper with this title, in which he considered the benign type, subacute type, acute type, fulminant type, toxemic coma without convulsions, acid toxemia simulating hepatic pregnancy toxemia, persistent hyperemesis without clinical symptoms of toxemia, etc. Cases illustrating each type of toxemia were reported.

**Renal Insufficiency.**—Dr. Henry C. Coe of New York contributed a paper on this subject. This referred not only to diminished amount of urine, but to deficient excretion of urea, with or without accompanying albumin and casts. The importance of this subject could not be overestimated, on account of its direct bearing on the prevention of eclampsia. He mentioned the erroneous views formerly held that eclampsia always came suddenly, without warning. Now it was known that danger signals were seldom absent long before the attack, if careful watch was kept over the urine. Diminished urea, not the presence of albumin, was the important point. There were two channels for the excretion of toxins, the kidneys and the intestines. Both must be made use of. The kidneys and bowels should be flushed, and the diet regulated all through pregnancy. One should know the daily amount of urine at frequent intervals, and the amount of urea. One should not wait for general evidences of toxemia, gastric disturbances, pruritus, headache, etc., but anticipate them. Preventive medicine had nowhere more important application than in the case of a pregnant female. Everyone had had occasion to reproach himself for carelessness in this particular. Illustrative cases were cited.

**Pernicious Vomiting of Pregnancy.**—Dr. J. Whitridge Williams of Baltimore, after pointing out the distinction between vomiting of and vomiting in pregnancy, divided the former into three groups, and discussed their nature, etiology and treatment, namely, reflex, neurotic, and toxemic. The reflex vomiting of pregnancy might be due to the presence of abnormalities of the generative tract or ovum, which existed prior to the onset of pregnancy, or were coincident with it. Among such conditions might be mentioned retrodisplacements of the uterus, ovarian tumors, certain forms of endometritis, and abnormalities of the ovum, such as hydatidiform mole, hydramnios, and certain cases of twin pregnancy. The observations of the author and others showed that typical lesions might be found at autopsy in certain cases, and these consisted in the necrosis of the central portions of the liver lobules, and fatty degeneration and necrosis of the secretory cells of the kidney. Such changes could be produced only by the circulation in the blood of some toxic substance, which acted destructively upon the cells in question. The occasional occurrence of jaundice in some cases added confirmation to the existence on an hepatic lesion; while the not infrequent association of peripheral neuritis with the vomiting accentuated the probability of its toxemic origin. The liver lesions were identical with those observed in acute yellow atrophy of the liver, and icterus gravis, though in most of the cases of vomiting no marked diminution in the size of the liver had been noted. As the former affections occurred usually in the second half of pregnancy, and the vomiting in the first half, it seemed probable that the effect of the toxemia varied somewhat with the duration of the pregnancy. At present, we were unacquainted with the exact nature of the toxic substances, though they were supposed to be metabolic in origin, but whether derived from the mother or fetus, or both, was not known. All that was definitely settled at present was that we had to deal with a toxemia, which gave rise to serious lesions in the liver, and later in the kidneys. That the latter were secondary in character was indicated by the fact that the urine did not contain albumin or casts until shortly before death. Associated with these lesions was a striking change in metabolism, manifested by a marked increase in the percentage of the total nitrogen of the urine put out as ammonia, which, instead of being two to five per cent., as normal, might rise to 16, 32, or even 46 per cent. Whether the increased ammonia output was due to the fact that the liver lesions interfered with the normal oxidation of nitrogenous material, so that large amounts escaped conversion into urea, and were therefore excreted in a less highly oxidized form, as ammonia, or whether it represented an attempt to neutralize an acid intoxication, was as yet undetermined. The practical point established was that a marked increase in the percentage of the urinary nitrogen excreted as ammonia indicated the existence of a serious toxemia, which, if allowed to continue, would bring about lesions in the liver and other organs inconsistent with life, and accordingly abortion should be induced as the only hope of saving the patient. It was probable that an ammonia output of ten per cent. represented the danger signal, and as soon as it was reached immediate interference was demanded. In the reflex and neurotic forms of vomiting, the ammonia output remained normal, and accordingly in such cases the treatment should consist in correcting genital lesions, if present, and the employment of mental suggestion and rest cure. There were at least two forms of toxemia of pregnancy, one giving rise to pernicious vomiting, and acute yellow atrophy, and the other to eclampsia. These conclusions as to the nature of the vomiting of pregnancy were based upon a number of imperfectly observed cases in previous years, and seven carefully studied cases occurring during the past two years.

**Eclampsia and Its Treatment.**—Dr. Cyrus A. Kirkley of Toledo, Ohio, said that other toxins than urea might produce eclampsia. Mixed infection was most probable. Renal insufficiency rather than albuminuria was an etiological factor. Although the source of the toxins was unknown, recent research rather pointed to functional disease of the liver. Prophylactic treatment, as a rule, was successful, and this consisted of means to promote elimination through the great emunctories. Venesection in suitable cases, both as a prophylactic and curative measure, stood first in the list of remedies.

**The Treatment of Eclampsia.**—Dr. Franklin S. Newell of Boston, before considering the curative treatment of eclampsia, discussed the prophylactic treatment, because there was little question but that eclampsia was a preventable disease in the great majority of cases, even in those who developed the signs of toxemia. Prophylaxis should be directed to the prevention of any accumulation of waste products at any period of pregnancy, combined with the ordinary hygienic measures to maintain and improve the patient's general condition. The treatment, to be efficient, should have four distinct objects in view: (1) The prevention of further absorption of toxins by the removal of the cause; (2) limitation of damage by the toxins already in the system; (3) elimination of the toxins, and (4) treatment of the patient. These objects were discussed in consecutive order, and at considerable length. As to after-care of the patient, for some days after the acute process had subsided the patient should be kept on a liquid diet. Absolute quiet and freedom from care were

imperative, and free excretion should be maintained. Sedatives and stimulants should be used as indicated.

**Vaginal Cesarean Section, Its Indications, Advantages, and Technique.**—Dr. HENRY D. FRY of Washington, D. C., said that the chief indications for the employment of vaginal cesarean section, and that which had mainly led to its adoption, were the prompt and easy emptying of the uterus in cases of grave eclampsia. Other indications claimed were cancer of the uterus, rigidity of the os, threatened rupture of the uterus, prolapse of the funis, placenta previa, heart disease in the pregnant woman, and hemorrhage from the normally implanted placenta. The writer entertained grave doubts regarding the application of this operation or any other method of rapid dilatation to the treatment of plactent previa. The reduced maternal mortality from this serious complication was largely due to recognizing the value of slow dilatation. One might be tempted to employ it in a vix, but this condition presented the limited field assigned to abdominal cesarean section. He summed up the various indications for this new operation. The advantages of vaginal cesarean section were the rapidity with which the uterus could be emptied. From six to ten minutes was all the time that operators had reported necessary, and as they became more familiar with the technique, it might be further reduced. Few operators had done more than one or two operations. Twenty to thirty minutes should complete the sewing up of the wound. There was little traumatism, and a clean surgical cut to sew up instead of leaving a lacerated surface. In eclampsia the blood resulting from the operation was beneficial, and the patient was returned to bed in the best condition to overcome toxemia.

**The Mortality of Operations, Other Than Strumectomy, in Cases of Exophthalmic Goitre, with Special Reference to Gynecological Operations.**—Dr. BARTON C. HIRST of Philadelphia said that to learn the collective experience of American surgeons with Graves' disease complicating operations, 366 letters were despatched to the members of the National Societies of Surgery and Gynecology. Forty-three surgeons reported sixty-nine cases. This number added to the six collected and reported by Sanderson, made a total of seventy-five. Of this number, thirteen died. In eleven of these fatal cases, the cause of death was expressly stated to be acute thyroidism, with tachycardia to an extreme degree, and eventual heart failure. In one case of appendiceal abscess the patient died of the combined effects of sepsis and thyroidism. In another case of pelvic abscess, the patient died under chloroform before the operation was begun. Excluding these two cases, the mortality from thyroidism was 14.6 per cent., or, including them, 17.3 per cent. The character of the operation seemed to have made little difference in the results. The mortality of the minor operations was 16 per cent.; that of the hysterectomies and myomectomies, 13.3 per cent. It appeared, therefore, that the existence of exophthalmic goitre added about 15 per cent. to the mortality of any operation performed upon the patient. In the first of the author's patients, there had been a distinct goitre and exophthalmos for years, but the tachycardia was moderate. The symptoms in this case were never very alarming, and soon yielded to treatment. It was not known that the second patient had Graves' disease until two days after the operation, when the pulse rose to 180; the eyes protruded, and the throat swelled. He then learned that since girlhood the woman had been subject to such attacks, but lately had been free from them. Although some improvement was shown after hypodermoclysis, purgation and heart stimulants, on the first day that symptoms appeared, a rapid and complete recovery was secured in the next three or four days, apparently in consequence of the administration of suprarenal extract in three-grain doses every four hours.

**Sudden Death During or Immediately After the Termination of Pregnancy or Operation on the Pelvic Organs in Women.**—Dr. EDWARD P. DAVIS of Philadelphia reported three instructive and interesting cases, and presented a table of twenty-five typical cases, selected from 193 papers on the subject consulted, and drew the following conclusions: (1) That sudden death might occur after abortion, labor, or operation, from undemonstrable causes. (2) Death might follow abortion, labor, or operation from the rapid formation of a pulmonary embolus. Examination of cases showed that this happened after so many different procedures that it was impossible to designate any one operation or manipulation which produced it. Pulmonary embolism might develop before the placenta had been delivered, or when delivered by Crede's method; although it was impossible to select any one manipulation which produced this accident. It was not frequent after cesarean operation, nor after the more complicated obstetric operations. Predisposing and probably exciting causes were bronchial infection and abnormal conditions of the blood. In 18,800 women in childbirth, or having operation, thirty cases of immediate pulmonary embolism occurred, with a mortality of 73 1-3 per cent. Diagnosis, respiratory spasm, with continued heart action. Treatment, hypodermatic stimulation, and electric current. Intravenous saline transfusion had not been proven efficient. (3) Primary thrombosis and secondary embolism might cause death after the termination of pregnancy or operation. Causes: Preexisting infection, mechanical violence, altered conditions of blood serum, and lesions in the walls of the vessels. Most important symptom, Mehler's sign, rapid pulse. Temperature curve in these patients fell on the third or fourth day, while the pulse curve rose. Death usually occurred from secondary formation of the pulmonary embolus. Treatment consisted in absolute rest, bandaging of extremities, and in some cases abdominal section with ligation and excision of the veins of the broad ligament. Pulmonary complications developed in 25 per cent. of the cases. Thrombosis was most common in vessels connected with the left iliac vein. There was not conclusive evidence that the entrance of air into the veins was a sufficient cause for death. Gas might form in the vessels from infection. (4) Sudden death occurred in parturient women, and after operation, from reflex nervous shock, without assignable cause; also from disease of the thoracic viscera, from infection of the placental site, and other obscure conditions. Patients having fibroid tumors were especially liable to disease of the heart and vessels.

**What Is the Present Status of Electricity as a Therapeutic Agent in Gynecological Practice?**—Dr. CHAUNCEY D. PALMER of Cincinnati, Ohio, spoke of the importance of this agent, and referred to its evolution. He referred to the value of measuring the current in individual cases, and discussed at length in what classes of gynecological cases electricity was useful. The possibilities of electricity as a therapeutic agent were by no means limited. The object of the paper was an effort to speak of electricity and place it on its proper basis, not to magnify or misrepresent its virtues, nor to depreciate its powers.

**Officers.**—The following officers were elected: *President*, Dr. R. B. Maury, Memphis, Tennessee; *First Vice-President*, Dr. Howard A. Kelly, Baltimore, Maryland; *Second Vice-President*, Dr. Reuben Peterson, Ann Arbor, Michigan; *Secretary*, Dr. J. Riddle Goffe, New York City; *Treasurer*, Dr. J. Montgomery Baldy, Philadelphia, Pennsylvania.

Hot Springs, Virginia, was selected as the place for holding the next annual meeting.

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**Ovarian Cyst; Sarcomatous Degeneration.**—Lorrain reports an interesting case. The patient exhibited the clinical symptoms characteristic of ovarian cyst with a twisted pedicle. When the abdomen was opened a dermoid cyst of the ovary with sarcomatous degeneration was discovered. A perforation of the cyst was noted. Its wall showed here and there epidermis, an enormous tuft of hair, and black vegetations, which histological examination proved to be sarcomatous tissue, stained with melanin.—*La Presse Médicale.*

### Philadelphia Pediatric Society.

At a stated meeting held June 13, Dr. Edwin E. Graham exhibited "A Case of Congenital Heart-disease in an Infant of Eight and a Half Months." The patient presented, in addition to cyanosis of the extremities and the lips, a systolic murmur, best heard at the apex of the heart. The condition was believed to consist in a perforate ventricular septum, possibly with a patulous ductus arteriosus. Drs. G. M. Astley and C. F. Judson exhibited "A Case of Recovery from Ulcerative Endocarditis." The patient was a boy about six years old, who presented symptoms of rheumatic polyarthritis to which subsequently were superadded heart-murmurs with a hectic type of temperature and sweating. A diplococcus developed on culture of the blood. Varied treatment was employed, including intravenous injections of a solution of colloidal silver, but without apparent effect. Recovery, however, eventually took place, and the child exhibited merely a soft systolic murmur at the apex of the heart. Drs. T. Turner and J. H. McKee exhibited "A Case of Interlobar Empyema." The patient was a child about seven years old, in whom following an attack of croupus pneumonia symptoms of some abnormal intrathoracic conditions persisted. Puncture disclosing the presence of pus excision of a rib, was practiced, and an accumulation in the cleft between the lobes of the left lung was evacuated. Drs. J. H. Jopson and J. E. Talley reported "A Case of Interlobar Empyema Following Pneumonia." In this case also, puncture disclosed the presence of pus not containing pulmonary tissue, and other evidences of lung-destruction, so that the presence of an empyema was diagnosticated. Accordingly, a portion of a rib was resected, the accumulation evacuated and drainage provided for. The result was entirely satisfactory and recovery was complete. Dr. Horace H. Jenks read "A Note on a Series of Cases of Stomatitis." These occurred in the Children's Hospital, and were characterized by multiple ulceration, usually in three situations, most commonly each cheek and the lower lip, in some instances with the presence of Klebs-Loeffler bacilli and in one or two requiring excision and cauterization with pure nitric acid. The condition presented certain resemblances to aphthous and ulcerative stomatitis, from which, however, it presents certain features of differentiation.

### Philadelphia County Medical Society.

At a stated meeting held June 14, Dr. Wm. L. Rodman demonstrated a young woman from whom a large goiter had been removed with perfect success. The enlargement extended deep behind the sternum and it was, therefore, not so obtrusive as it would otherwise have been. Dr. Rodman demonstrated also a man from whom a large calculus had been removed by means of suprapubic cystotomy. Rupture of the bladder occurred after the introduction of eight ounces of fluid, but fortunately the escape took place into the prevesical space, and no harm resulted, as incision was made without delay. Dr. Rodman reported a case of cancer of the cecum in which it was found impossible to remove the growth after the abdomen had been opened. Accordingly enteroanastomosis was established by the posterior route, and the subsequent improvement was extremely gratifying. Dr. Rodman reported additionally a case of perforated gastric ulcer in which classical symptoms had at no time been present. Operation, however, was promptly undertaken on the development of symptoms of perforation, the margins of the opening in the stomach being sutured, and recovery took place. Dr. Rodman demonstrated a case of ulcer of the stomach in which gastroenterostomy by the posterior route was performed. Ulcers were found at the pylorus, and the operation was followed by eminently satisfactory results. Dr. Rodman finally demonstrated a case of carcinoma of the stomach in which gastroenterostomy by the posterior method was performed to the great advantage of the patient.

Dr. T. Turner Thomas presented a communication entitled "Fractures of the Head of the Radius; Report of Two Cases: An Experimental Study; Preliminary Communication." He contended that fractures of the head of the radius are probably more common than is generally recognized. The injury is usually, if not always, inflicted by a fall upon the palm of the hand, held in such a manner as to receive the weight of the body, and thus driving the external condyle of the humerus upon the head of the radius. The fracture may be oblique or transverse. In addition to pain and swelling, the only other symptom may be impaired mobility, crepitus often being wanting in consequence of impaction of the fragments or from the action of the obturator ligament. The lesion may not be disclosed in skiagrams made even by expert operators. In the way of treatment the parts should be immobilized for two or three weeks, and then passive movement cautiously be begun.

Dr. Moses Behrend read a paper entitled "Perineal Prostatectomy Performed with the Aid of Young's Tractor; Report of a Case." The patient was a man, 75 years old, who had for many years complained of difficulty in micturition. The operation was performed without serious difficulty, and the result was altogether satisfactory.

Dr. W. Wayne Babcock read a paper entitled "Cervical Rib with Resulting Gangrene of the Fingers." The patient was a man who was compelled to incline his head to one side to relieve the pressure and pain superinduced by a cervical rib. The circulation in the upper extremity was greatly impaired in consequence of the relations of the subclavian artery to the supernumerary rib, the scalenus anticus muscle and the first dorsal rib. The fingers were pale, especially in cold weather, and the radial pulse was not palpable, and eventually gangrene occurred in the fingers. The abnormal formation was exposed by operation and removed, and the previous symptoms disappeared.

### St. Louis Medical Society.

At the stated meeting of this society Mr. Willard Bartlett read a paper on "The Value of Getting Certain Patients Up Very Early After Laparotomy," in which he laid stress on the fact that he referred to certain cases only in which there were definite indications for placing patients on their feet or in a chair within twenty-four or forty-eight hours after opening the belly. The majority of his patients remained in bed ten to fourteen days after the ordeal. He said the main danger in allowing them to be up very early seemed to be postoperative hernia; this was shown to be the result of a combination of four factors which were largely under control, viz., a wound improperly made, improper union of a wound, increased intraabdominal pressure and suppuration. The possibility of detaching an embolus from a thrombus formed in large pelvic or other veins, was to be dreaded late rather than early in convalescence. The author had allowed patients to assume the erect posture during the days immediately following abdominal section, for a number of reasons—because of great age or irremovable malignancy of the abdominal viscera, to facilitate abdominal drainage, to aid respiration and improve the circulation in the lungs, to help the appetite, to stop vomiting, to obviate the use of the catheter, and to assist the patients in evacuating the bowels. When such heroic treatment was undertaken, the abdominal wall was supported as well as possible by adhesive straps and a binder, though chief reliance was placed on the sutures, nonabsorbable material being used to support catgut temporarily in benign cases, and nonabsorbable sutures being buried in malignant cases. No hernias had followed the practice, though some of the patients had been operated on one and two years ago.

**A Whistle For the Wounded.**—A surgeon in the Japanese Red Cross service has invented a whistle which emits a very loud sound with a slight expenditure of breath. It is for the use of soldiers when they are wounded and desire to attract attention.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending June 24, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 769 | 25 |
| Diphtheria and Croup | 207 | 24 |
| Scarlet Fever | 104 | 9 |
| Smallpox | ..... | ..... |
| Chickenpox | 115 | ..... |
| Tuberculosis | 462 | 148 |
| Typhoid Fever | 50 | 6 |
| Cerebrospinal Meningitis | 42 | 34 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | ..... |
| Totals | 1,749 | 246 |

**Boils and Carbuncles.**—R. F. Rand says that small boils often can be aborted in their incipiency by introducing with a needle or sharp probe a drop or two of pure carbolic acid. If a definite pus cavity has formed, simple incision, when good gaping of the wound edges follows, is quite sufficient for most small boils and a few larger ones. As a rule, if a small gauze drain is inserted there will be a free exit for the discharge and in a week, more or less, good granulations form and healing is uninterrupted. The tendency to reinoculation of adjacent hair follicles can be prevented and the comfort of the patient promoted by washing the skin with alcohol and applying hot antiseptic compresses of boracic acid or weak bichloride solutions. Large boils can be emptied more completely, and better drainage is secured, if a small oval piece of skin is excised. The best method of treatment for carbuncles is still unsettled. Excision has been advocated, but is certainly heroic if not impracticable in all but small carbuncles. It seems better to excise the central part of the mass of infiltrated tissue and to supplement this by multiple incisions in the larger carbuncles. Then the application of hot antiseptic compresses will soften the tissues and encourage the separation of sloughs.—*Yale Medical Journal.*

**The Art of Suturing.**—As Professor Mikulicz, the distinguished German surgeon, aptly remarks, "whoever has an opportunity of watching a surgeon operate can generally judge at first glance from his manner of suturing, the degree of perfection which his technique has attained." It is here that the dexterity of the surgeon most distinctly manifests itself. In spite of the numerous ingenious devices for facilitating the insertion of sutures, none of them surpasses the hand. The surgeon who has learned to apply stitches accurately and rapidly will often be able to shorten materially the period of operation, and thereby greatly diminish the risk of shock, and especially is this necessary in operative work upon the gastrointestinal tract. Mikulicz points out with justice that in the development of the purely scientific part of surgery there is danger of forgetting what might be termed the mechanics of the art. Nowadays there is scarcely any organ which may not require suture, and the successful treatment of wounds of the heart well exemplifies the importance of this subject.—*Indian Medical Record.*

**Acute Glaucoma.**—B. F. Church suggests to the practitioner upon diagnosing a case of acute glaucoma, the application of hot compresses over the eyes, renewed frequently for from fifteen to thirty minutes; the instillation of several drops of a solution containing eserine salicylate, one grain; cocaine, muriate, ten grains; and distilled water, one drachm. This is to be repeated every hour till the pupil contracts, with the exhibition of morphine to relieve pain and produce sleep. A full hot bath to induce free perspiration, the patient being immediately placed in bed, is an excellent preliminary to this treatment, but an immediate and active treatment of the underlying and predisposing general systemic condition is of the greatest importance to supplement and assist the local applications.—*California State Journal of Medicine.*

**To Remove Rust from Instruments.**—The instruments are placed over night in a saturated solution of stannous chloride, which causes the spots to disappear by reduction. The articles are then rinsed in water, laid in a hot solution of soda soap, and dried. It is well to rub them with absolute alcohol and prepared chalk. Another convenient method for removing rust is to lay the instruments in kerosene. Paraffin oil is the best preservative against rust, and the most convenient way of applying it without getting an unnecessarily thick coating is as follows: One part of the oil is dissolved in 200 parts of benzine, and the objects, after being thoroughly dried and warm, are plunged into the solution. Instruments with joints, as scissors or needle-holders, are worked in the fluid, so as to cause it to penetrate into all crevices, and the benzine is then allowed to evaporate in a dry room.—*Pharmaceutisches Zentralblatt.*

**Sterilization of Knives.**—H. A. Royster, as the result of experiments and of correspondence with a large number of operators, has reached the following conclusions: (1) Knives can be safely sterilized by chemical and mechanical means without the use of heat in any form. (2) The majority of American surgeons are using carbolic acid, or alcohol, or both. (3) Immersion in ninety-five per cent. alcohol has the least, and boiling the most effect in dulling the edge of a knife.—*Annals of Gynecology and Pediatry.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ending June 24, 1905:

| | | Cases | Deaths |
|---|---|---|---|
| **SMALLPOX—UNITED STATES.** | | | |
| California, Los Angeles | June 3–10 | 1 | .. |
| Florida, Jacksonville | June 10–17 | 1 | .. |
| Illinois, Chicago | June 10–17 | 15 | .. |
| Danville | June 8–15 | 3 | .. |
| Indiana, South Bend | June 10–17 | 7 | 1 |
| Louisiana, New Orleans | June 10–17 | 2 | .. |
| Massachusetts, Lowell | June 10–17 | 1 | .. |
| Michigan, Grand Rapids | June 18–25 | 29 | 5 |
| Missouri, St. Louis | June 10–17 | 4 | 1 |
| Nebraska, South Omaha | June 3–10 | 6 | .. |
| Ohio, Toledo | June 3–10 | 9 | .. |
| Pennsylvania, York | June 10–17 | 3 | .. |
| Tennessee, Memphis | June 10–17 | 1 | .. |
| Wisconsin, La Crosse | June 10–17 | 4 | .. |
| Milwaukee | June 3–10 | 3 | .. |
| **SMALLPOX—FOREIGN.** | | | |
| Africa, Cape Town | May 6–13 | 3 | .. |
| Brazil, Bahia | Apr. 27–May 13 | 16 | 1 |
| Rio Janeiro | May 14–28 | 15 | 6 |
| Ceylon, Colombo | May 6–13 | 1 | 1 |
| Denmark, Copenhagen | May 20–June 3 | 2 | .. |
| Great Britain, Bristol | May 27–June 3 | 1 | .. |
| London | May 27–June 3 | 1 | .. |
| New Castle on Tyne | May 27–June 3 | 2 | .. |
| New Shields | May 27–June 3 | 2 | .. |
| India, Bombay | May 8–15 | .. | 34 |
| Calcutta | May 6–13 | .. | 5 |
| Karachi | May 7–14 | 1 | 1 |
| Italy, Catania | May 27–June 8 | 52 | 10 |
| Lecce Province | May 18–25 | 9 | .. |
| Palermo | May 20–27 | 2 | 2 |
| Mexico, City of Mexico | Apr. 8–June 3 | 65 | 35 |
| Russia, Moscow | May 13–27 | 45 | 12 |
| Odessa | May 6–27 | 45 | 8 |
| St. Petersburg | May 13–27 | 19 | 1 |
| West Indies, Grenada | May 23–28 | 2 | .. |
| **YELLOW FEVER.** | | | |
| Brazil, Rio de Janeiro | May 14–28 | 74 | 24 |
| Ecuador, Guayaquil | May 16–23 | .. | 2 |
| Honduras, Puerto Cortez | May 25–June 6 | 8 | 4 |
| Mexico, Coatzacoalcos | May 4–10 | 3 | .. |
| Tierra Blanca | June 4–10 | 2 | 1 |
| Panama, Colon | Jan. 23–June 11 | 27 | 7 |
| Panama | Jan. 1–June 10 | 78 | 25 |
| **CHOLERA.** | | | |
| India, Calcutta | May 6–13 | .. | 31 |
| **PLAGUE—INSULAR.** | | | |
| Hawaii, Waipahu | June 20 | .. | 1 |
| Philippine Islands, Cebu | Apr. 9–May 2 | 2 | 2 |
| Manila | Apr. 9–May 6 | 2 | 1 |
| **PLAGUE—FOREIGN.** | | | |
| Africa, East London | May 6–13 | 8 | 4 |
| Mousa | May 6–13 | 1 | 1 |
| Brazil, Sao Paulo | Apr. 30–May 7 | .. | 1 |
| India, Bombay | May 9–16 | .. | 659 |
| Calcutta | May 6–13 | .. | 324 |
| Karachi | May 7–14 | 158 | 142 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 2.
Whole No. 1809.

New York, July 8, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### THE DETERMINATION OF INTESTINAL FUNCTIONS BY A TEST-REGIMEN.

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It is the general trend of internal medicine to detect functional disturbances and to determine their degree when physical changes are still wanting. To accomplish this end, the organ suspected of performing its functions inadequately is subjected to a test as to its efficacy, that is, the organ is caused to execute a definite amount of work and conforming to the manner in which it acquits itself of the task imposed upon it, the extent of its functional deficiency may be recognized.

The progress which has been made in gastrology is mostly due to the introduction of the functional testing methods. They consist in the main in the ingestion of known amounts of certain drugs or of food stuffs; the withdrawal, after a definite period, of the gastric contents; the chemical and microscopical examination of the latter, or of the urine or saliva, as to certain factors. These diagnostic methods are so simple and so readily executed that they enjoy great popularity among practitioners.

It is evident that if we have a well-defined—although empirically accepted—standard of comparison, which would enable us to recognize functional disturbance, and, for that matter, incipient organic disease of intestines and adjacent organs, enterology would soon make as rapid strides as its sister science. However, we encounter great difficulties in devising such a standard of comparison. Wishing to determine, for instance, the secretory activity of the stomach, we have to take into consideration the secretion of but the one organ. The secretory function of the intestines, on the other hand, cannot be learned per se, and, clinically, we will be always compelled to consider it together with that of the liver and pancreas. Again, the determination of gastric secretory activity demands the ingestion of but one simple test-meal or test-breakfast which is withdrawn by the stomach-tube from one to three hours afterwards, while the secretory function of the intestines and adnexa can only be ascertained in a rather approximate way, after ingestion of a series of test-meals, after a lapse of a number of days and without employing any artificial means for the removal of the intestinal contents. The changes which a test-breakfast lodging in the stomach for one hour can undergo during this period are well-defined and more or less limited under all conditions; additional, unforeseen alterations hardly ever ensue in the test-contents of any stomach. On the other hand, there is practically no limit of change of the ingesta of mixed character when they are lodged in the intestinal tract, and the interaction of secretions and disintegration-products is so manifold that it is almost impossible to conceive a rational standard of comparison.

It is, therefore, somewhat preposterous to speak of "normal feces." Were we able to obtain them we would have our logical standard of comparison. Furthermore, a standardized test-regimen is by no means productive of "standard" or "normal" feces. Two persons, for instance, may be affected with a similar functional intestinal disorder. To both is given the same test-regimen. The one assimilates the specific food better than the other. The natural consequence of this will be that the first excretes a smaller amount of feces than the latter, that these feces exhibit a different consistency, that they traverse the intestinal canal in widely different periods, and that they are at variance in composition, not alone quantitatively but qualitatively as well. Again, the reverse may be the case if a test-regimen of a different nature is ordered, *i. e.* when the individual who could not well assimilate the first series of test-meals is able, and the other in whom assimilation was good, is unable to anabolize the new test-food. Apart from the discrepancy in assimilative properties, both individuals may be subject to the self-same physiological disturbance, which, however, may escape detection or confirmation as the feces of both patients differ so widely.

Instead of "normal feces" we may, however, speak of "test-feces." This provides a less narrow and more rational standpoint for the clinician, because he is not hindered by certain limitations which the conception of "normal feces" undoubtedly presupposes. "*Test feces" I consider those intestinal contents irrespective of amount and consistency which are discharged between thirty and forty-eight hours after ingestion of known quantities of the food habitually consumed by an individual.*

Of course, the "test feces" derived from the food best suited for an individual, although reflecting the assimilative capacity of the latter, do not offer a readily adaptable standard of comparison as we need it in every day work. An absolute standard such as the one which we possess in comparing gastric function, we will presumably never obtain. At its best, a standard from which to determine intestinal function can serve for general orientation only; the study of the details in the individual instances demands tedious laboratory investigation.

After all, the practitioner wants very simple methods, even at the cost of accuracy. In devising a test-diet we must hence be more or less arbitrary and are compelled to disregard to a large degree the individual demands. Such a test-regimen should exhibit all classes of foodstuffs, in amounts properly to maintain the metabolic processes, and in that form calling forth least disturbance in the majority of persons submitting to the test.

The pioneer-work in simplifying coprological methods and in creating a basis for the examination of intestinal function has been done by Adolf Schmidt, of Dresden, partly alone, partly in conjunction with Julius Strasburger, of Bonn. It was and still is Schmidt's endeavor to elevate enterology to

the plane of gastrology and to simplify the testing-methods that they may be performed in routine examination. In my own work I have closely followed Schmidt's recommendations excepting such modifications which I found necessary to make. In the following I shall briefly allude to the test-regimen, the technique of examination of the "test feces" and the significance of the findings.

**The Test-Regimen.**—The test-diet, as stated before, gives results which can serve for general orientation only. It should fulfill the following requirements: (*a*)—It must be sufficient to keep the organism in metabolic equilibrium and the bowels in physiological distension. (*b*) It must neither be too bland nor irritating to any degree. (*c*) It must contain the three groups of foodstuffs in proper proportion and admixture. (*d*) It must be uniformly prepared and in plain style. (*e*) It must contain normal amounts of salts. (*f*) It must be ingested in proper amounts and only at those periods of the day when the patient is accustomed to take his meals. (*g*) It must be continued for two consecutive days.

Schmidt recommends a test-diet to be ingested for three or more days, the daily constituents of which are, 1,500 cc. of milk, 100 grams of zwieback, 2 eggs, 50 grams of butter, 125 grams of beef, 190 grams of potatoes and 80 grams of oatmeal. This diet exhibits daily about 102 grams of albumin, 111 grams of fat, and 191 grams of carbohydrates, hence 2,234 total calories. It is taken in five portions, at breakfast, second breakfast, dinner, afternoon, and supper. It is not stated how much, if any, additional water is allowed during the twenty-four hours. The amount of ingesta is the same for all persons submitting to the test.

The following objections may be raised against this test-regimen: (*a*) The unusually large amount of milk. There is little doubt that many healthy individuals and a majority of those affected with intestinal disease cannot digest large quantities of milk as recommended in Schmidt's test-diet. In some obstipation ensues, in others diarrhea. The resulting feces are abnormal in most instances. They are of little assistance in the recognition of intestinal disturbance, and, certainly, cannot be considered "normal feces," as which they are stamped by Schmidt. (*b*) Oatmeal is not well-borne by a great number of people suffering from gastric hypersecretion, amylolytic insufficiency, and intestinal hyperfermentation. Oatmeal being an unaccustomed food to these persons, and with difficulty digestible, it should not be incorporated in the test-regimen. (*c*) The caloric value of the nutriment may exceed the needs of certain individuals. It cannot be expected that the feces of a person who ingests twenty-five per cent. more than his organism demands, or is able to digest and assimilate, should reflect his normal intestinal function. The same amount of test-ingesta for all individuals submitting to the diagnostic procedure—irrespective of their weight and systemic needs—is rather illogical. The amount of test-ingesta should be adjusted to the demands and habits of each individual. (*d*) Five meals a day, the custom in Germany, would be an unusual institution in this country. It would call forth, to say the least, unusual intestinal conditions which in turn would be productive of rather abnormal feces. The intestines when tested for their functional activity must not be overburdened by large amounts of ingesta nor be unduly stimulated by the frequent introduction of nutritive material. The test-meal should conform to the habits of the individual, and should, therefore, be administered in three daily portions in the vast majority of instances. (*e*) The amount of water which may or should be taken with the test-regimen in addition to the liquids ordered must at least be known to the investigator. Water is not an inert liquid. It tends to regulate the osmotic conditions in the intestines and is of inestimable help in dissolving the ingesta and in the elaboration of the nutritive material.

Water, taken warm, is a cleansing agent, taken cold, it tends to increase intestinal peristalsis. Imbibed in large amounts, both warm and cold water is not without influence upon the condition and composition of the feces. Not partaken of at all, its absence will also be reflected in the intestinal discharges. The large amount of milk as advocated in the test-diet of Schmidt probably furnishes sufficient water in many cases.

To overcome the apparent deficiencies and to make its application more practicable, I have devised the following modification of Schmidt's test-diet:

The amount of total calories for each kilogram of bodyweight during the twenty-four hours, when at rest = 30. Of these calories 35 per cent. should be generated by carbohydrates, 45 per cent. by fats, and 20 per cent. by proteids. The amount of liquid (water) for each kilogram of bodyweight during the twenty-four hours = 35 c.c. An individual weighing seventy kilograms for the purpose of obtaining test-feces, should, therefore, receive per day an amount of food sufficient to yield 2,100 calories and about two liters and a half of liquid (water). Of these 2,100 calories, 35 per cent., that is 735, should be generated by carbohydrates, 45 per cent., that is 945, by fat, and 20 per cent., that is 420, by proteids. The test-regimen for a person weighing seventy kilograms would be constituted thus:

| *Breakfast.* | Albumin grams. | Fat. grams. | Carbo-hydr. grams. | Calories. approximately. |
|---|---|---|---|---|
| Cup of coffee..... | | | | |
| 20 c.c. of milk..... | 0.7 | 0.8 | 0.98 | 36 |
| 10 grams of sugar..... | | | 5. | |
| 3 eggs ..... | 19. | 18. | | 245 |
| 75 grams of wheaten toast.. | 5.25 | 0.38 | 36.75 | 183 |
| 15 grams of butter ..... | | 12.75 | | 119 |
| *Lunch.* | | | | |
| 200 grams of beefsteak medium fat; very rare—add to this, | 42. | 11. | | 266 |
| 20 grams of butter,..... | | | | |
| Mashed patatoes; | | 17. | | 158 |
| 100 grams of potatoes..... | 2. | 0.2 | 21. | 100 |
| 50 grams of milk..... | 1.75 | 2. | 2.45 | 35 |
| 1 yolk, ..... | 1. | | 5. | 50 |
| 30 grams of rice (boiled in water). When cooked add | 1.85 | 0.3 | 23.5 | 111 |
| 50 c.c. milk ..... | 1.75 | 2. | 2.45 | 35 |
| Cup of tea, ..... | | | | |
| 20 c.c. of milk ..... | 0.7 | 0.8 | 0.98 | 36 |
| 10 grams of sugar ..... | | | 5. | |
| *Supper.* | | | | |
| Cup of tea ..... | | | | |
| 20 c.c. of milk ..... | 0.7 | 0.8 | 0.98 | 36 |
| 10 grams of sugar ..... | | | 5. | |
| 3 eggs ..... | 19. | 18. | | 245 |
| 100 grams of wheaten toast, | 7. | 0.5 | 52.5 | 259 |
| 15 grams of butter..... | | 12.75 | | 119 |
| 30 grams of rice (boiled in water). When cooked add | 1.85 | 0.3 | 23.5 | 111 |
| 50 c.c. of milk..... | 1.75 | 2. | 2.45 | 35 |

This diet offers sufficient variety, and I have not as yet met any patient who has objected to take it for the short period of two days. In addition to the liquids specified in the dietary, the patient has to imbibe about one liter and a half of water daily. Schmidt recommends a test-regimen for three days, during which time he orders the feces to be accumulated and saved for the final examination. I find by practical experience that subsistence for two days on the diet as outlined before gives "test-feces," which serve our purpose as well as the so-called

"normal-feces." Besides, and this is an important point, the patient submits more readily to a two days' than to a three days' test-diet. Again, for obvious reasons, it is easier to accumulate the intestinal discharges from the thirtieth to the forty-eighth hour after beginning of the test-regimen than to save the entire evacuations for three consecutive days.

Some experimenters are in the habit of giving to the patient a coloring-substance at the beginning and the end of the test-diet. This will color the test-feces so that they may not be mistaken with other feces which might be excreted during the time of the investigation. These colors disturb the microscopical examination very much, and it is therefore better to try to do without them. By selecting a portion of the *uniform* feces which are discharged between the thirtieth and forty-eighth hours after starting the test-diet we are certain to obtain proper "test-feces" in the great majority of instances. Evacuation of the intestines by catharsis may be secured before the test-regimen is administered.

**The Examination of the "Test-Feces" in Routine Practice.**—The "test-feces" are all those intestinal excrements which are discharged after thirty hours from the beginning of the test-regimen. They must be obtained free from urine, as otherwise ammoniacal decomposition will ensue rapidly. It is best if urination and defecation occur into two separate vessels. Preserve jars with air-tight covers are well adapted as receptacles for the feces. The fresher the feces, the more trustworthy the results obtained by their examination. Preservatives must not be added to the test feces under any circumstances. If not analyzed at once, they should be kept in a cool place, well covered, until the investigator is ready to proceed with the examination. However, even if kept cool, it is not advisable to preserve the test-feces longer than twenty-four hours, as secondary decomposition processes, preventing recognition of the enteric function, will inevitably supervene. Again, if the clinician recognizes the fact that he may perform an examination of the "test-feces" sufficient for all practical purposes in about the same space of time in which he can accomplish a satisfactory uranalysis or an examination of the stomach contents, he will not put it off, but will try to proceed with their examination at once after he has received them.

A. Physicochemical examination.

Determine:—

*Color.* This is yellowish-brown in most cases.

*Odor.* Due to skatol from albumen decomposition. This is normal. If decidedly fetid, it is caused by an excess of fatty acids.

*Consistence.* Mostly formed. Unformed evacuations are not uncommon, and may be perfectly physiological. If hard, firm nodules, rapid absorption of water; if watery dicharges, insufficient absorption of water and non-tolerance of large amounts of starchy material.

*Reaction.* Mostly neutral, rarely directly alkaline. It is acid in the presence of pronounced fecal fermentation, especially when the evacuations are watery. The reaction is determined by placing a strip of red, as well as of blue, litmus paper *upon* a portion of the feces, previously reduced to a homogenous, thin paste by the addition of distilled water.

*Albumin.* Absent in the healthy condition of the intestines. Test for it by acidifying portion of test-feces with acetic acid, then make watery extract, filter repeatedly, and examine filtrate for various proteid substances.

*Pepton.* Absent in health. Examine for it by boiling watery fecal extract and filtering while hot. When cooled off, apply ferrocyanide of potash—acetic acid test for albumin. If positive, remove albumin by saturating with ammonium sulphate. Filter and examine filtrate for pepton by biuret reaction. If this pepton test is utilized, the aforementioned albumin test need not be applied, as it also reveals the presence of albumin.

*Hydrobilirubin.* Present normally. Examine by sublimate test. Some of the prepared homogenous fecal paste (quite watery) is placed in a small porcelain evaporating dish and mixed with some concentrated $HgCl_2$ solution, which has previously been put into the former. The mixture is left standing over night. In the presence of hydrobilirubin, the mixture attains a red color. The more recent and less decomposed the feces, the more pronounced the red color. In the presence of unconverted biliary pigment — bilirubin — we discover various-sized green-colored fecal particles.

*Fermentation test.* The test as described by Schmidt is as yet unsuited for every-day work. Besides, the results obtained by it are by no means of definite significance. Pathological fecal fermentation may be recognized without taking recourse to the fermentation test. Such abnormal fecal fermentation may be diagnosed when the intestinal evacuations appear frothy, when they possess the odor of butyric acid and exhibit an acid reaction. If the test could be executed without the assistance of an incubator and in less than twenty-four hours' time, it would probably be more frequently employed and prove of greater practical value.

B. Macroscopical examination.

The macroscopical examination of the "test-feces" is in many respects the most important. The clinician versed in fecal analysis will often recognize the intestinal insufficiency by their mere macroscopical study. The chemical examination of the "test-feces" will always remain of secondary importance, and their microscopical examination completes or confirms the macroscopical findings, but no more.

Sieving the feces by running a current of water through them when they are on a specially constructed sieve is a very good procedure when searching for biliary calculi, but for the macroscopical study of the feces, Schmidt's method, described in the following, is a much more rational one. The "test-feces" are well mixed, and a small portion (the size of a walnut) is placed in a glass mortar of about 350 c.c. capacity. Distilled water is slowly added to the feces contained in the mortar, which, by means of the glass pestle, are mashed as fine as possible (until of fluid consistence). The grinding must be carefully done until the fecal particles do not adhere together any longer. After this, the contents of the mortar are placed on a glass plate in the thinnest possible layer, and the macroscopical examination may be made.

If intestinal digestion is normal, the "test-feces" thus treated exhibit to the naked eye nothing but minute brownish articles:—cell-membranes of wheat and rice, elastic fiber, and connective tissue.

When abnormal conditions prevail, the following substances may be distinguished:

*Mucus* in any, even the smallest, amount. Pounding in the mortar does not always comminute the mucus shreds. Large plugs or cylinders of mucus are always readily recognizable, although the mucus of the colon when admixed with large amounts of fatty substances may lose some of its physical characteristics, attaining pronounced coloration and toughness. If in doubt as to the nature of the suspected floccule, resort must be taken to the microscope.

*Shreds of mucous membrane.* This points to membranous enteritis.

*Intestinal concretions and biliary calculi.* These are easily identified when the feces are comminuted or when they are spread upon the glass plate.

*Triple phosphates,* when occurring in great transparent masses. They occur sometimes in ammoniacal stools, and may be identified by the microscope.

*Débris of tendons and connective tissue.* These result from the ingested beefsteak, and are of pathological significance only when they appear as larger fibers and in considerable quantity. Schmidt opines that they are thus indicative of a gastric disorder. The threadlike appearance of the débris permits their discrimination from the mucous bands. If in doubt, add a drop of acetic acid to the fiber and place under microscope—if connective tissue, fibrous structure disappears; if mucus, it is brought into view.

*Débris of muscle tissue.* Small brownish rods. Recognized on account of their muscle structure when examined by the microscope. According to Schmidt, they point to an intestinal disturbance.

*Débris of potatoes.* Potatoes partaken of cold, as in the form of potato salad, always reappear in the feces in large, partly undigested amounts. In the form in which they are prescribed in the test-regimen they are not frequently macroscopically demonstrable in the feces. They may occur as small round or oval bodies, resembling mucus floccules or mucous clusters (frog-spawn), the latter not uncommon in mucous colic. The starch granules of the potato débris are colored blue by iodine, and have to be thus identified microscopically.

C. Microscopical examination.

The greatest value of the microscopical examination of the "test-feces" consists in the corroboration of the macroscopical findings. It is quickly executed if Schmidt's method is employed. A small particle of the finely subdivided feces of watery consistence is placed on each end and in the center of a glass slide. The first particle is at once spread in as thin a layer as possible with a cover glass, which remains *in situ;* the second fecal spot is treated with a droplet of acetic acid (30 per cent.), heated for a few seconds over the alcohol lamp, and covered with a cover glass; to the third fecal particle is added a small drop of Lugol's solution before the cover glass is applied.

The "test-feces," in the absence of functional disturbances, usually evince the following:

*First (native) Preparation.*—Heterogenous mass, consisting of granules, bacteria, etc., the exact nature of which is not discernible. Among the larger elements, we may distinguish connective tissue, elastic fibers, fragments of muscle fibre, cell membranes of wheat and rice, some unchanged starch granules, yellow calcium salts, uncolored soaps, mucus cells, epithelium from the alimentary tract, and cholesterin. All these elements occur in small amounts when the intestinal tract and its adnexa functionate properly. Appearing in large amounts, excepting probably the cholesterin, and in a less disintegrated form, they point to a more or less pronounced functional disturbance.

*Second Preparation* (treated with acetic acid).—This serves for the estimation of the entire fatty contents. Heating over the spirit lamp causes melting of all fatty substances. When cooled off, small flakes of fatty acids are seen throughout the entire field. Soapflakelets and the greater part of the lime salts have disappeared. Heated again, the preparation shows droplets instead of fatty acid masses if the slide is examined when still warm.

*Third Preparation.*—Rendered brown in appearance by the addition of Lugol's solution. A few unchanged starch granules appear blackish-blue; most starch granules are partly converted, and appear purplish. There are occasionally some isolated bluish discolored bodies, apparently not starch granules, to be distinguished.

In the presence of pathological conditions, we may find in the—

*First Preparation.*—Large amounts of muscle fibers, elastic fibers, connective tissue, fat droplets, fatty acid, and soap needles, large masses of cell membranes, and vegetable cells containing well-defined starch granules, puss corpuscles, a greatly increased number of epithelial cells, much cholesterin, greatly augmented quantities of oxalate, carbonate, and phosphate of lime, triple phosphates, and parasites and their ova.

*Second Preparation* (treated with acetic acid).—Very large amounts of fatty acid flakes, which greatly preponderate over all other elements in the microscopic field.

*Third Preparation* (treated with Lugol's solution).—Blue-colored starch granules, occurring free or within vegetable cells, yellow-colored yeast cells and various blue or purplish vegetable parasites.

56 East Seventy-Sixth Street.

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## HISTORY AND WORK OF THE BEDFORD SANITARIUM FOR CONSUMPTIVES.*

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The causes apart from the purely humane ones that led to the founding of the Country Sanitarium for Consumptives of the Montefiore Home were threefold: First, the large number of consumptives that were being taken care of in the parent institution to the exclusion of other types of chronic invalids; second, the long waiting list of consumptives; third, the belief that better results would be obtained by caring for these cases in the country, with more abundant provision for sunlight and air and outdoor life than it was possible to obtain for them in the city. The initial fund was one of $50,000, contributed in equal shares by Mr. Jacob H. Schiff and Mr. Lyman G. Bloomingdale. After investigation of various sites during a period of two years, on June 5, 1897, a farm of 136 acres, with farmhouse and barn, were acquired at Bedford Station, Westchester County, by a committee of which Mr. Lyman G. Bloomingdale was chairman, and after suitable alterations were made, fifteen patients were accommodated during the eight weeks ending November 1, 1897. This was the modest beginning from which the present large institution, capable of accommodating 167 patients, has developed.

Bedford Station is situated on the Harlem River Division of the New York Central Railroad, about forty miles from New York, and twelve miles northeast of Ossining. It should not be confounded, as is very often the case, with Bedford Park, situated on the same railway, but within the limits of the Greater City of New York. The country is of charming, gently rolling character, the hills being the foothills of the Berkshires. The institution is on an elevation overlooking the village three-quarters of a mile distant, faces southeast, and is about 400 feet above sea level. Within the first year from the opening a pavilion designed to accommodate twenty-four patients was added, through the generosity of Mr. and Mrs. Leonard Lewisohn, who contributed $10,000 for that purpose. During the first year there was no resident physician. The whole

*Read at the First Annual Meeting of the National Association for the Study and Prevention of Tuberculosis, Washington, D. C., May 9, 1905.

number of patients, fifty-one for the entire year, "just shifted for themselves," as so many others of a higher social level do when they are sent away from home to get well from the climate alone. When a patient had an hemoptysis, a messenger had to be sent three miles over a country road, to Mt. Kisco, to get a physician. Proper supervision under such circumstances was an utter impossibility, and the directors, appreciating this fact, in September, 1898, installed a salaried resident physician-superintendent.

My own connection with the work in a consulting capacity dates from early in the year 1899. At that time the sputum was being sent for examination to the city, for there was neither microscope nor laboratory. Both defects were promptly remedied, and improved methods of keeping histories and of recording and charting clinical data were introduced. In July of that year the institution became one of the Official United States Weather Bureau Stations, and records of maximum and minimum temperatures, and of rain and snow precipitation, have been continuously kept since that time.

Pressure for admission was so great, and the enthusiasm of the directors so much stimulated by the results of their experiment, that it was determined to build an institution capable of accommodating 160 patients. Originally a number of laymen favored the cottage plan, after the pattern of the Adirondack Cottage Sanitarium of Dr. Trudeau. I am glad that I was able to prevail upon the gentlemen to give up this idea. The pavilion plan was ultimately adopted, more or less in the style of the Massachusetts State Hospital for Tuberculosis, at Rutland, giving the institution a great wealth of sunlight and air, with ease of ventilation, with much less cost than the cottage plan would have entailed, besides provision for a much larger number of patients at greatly reduced rates of administration, much readier and more accurate supervision of the patients, and finally adding to their happiness by permitting their closer association and union into a family—a union in keeping with their previous habits and instincts. The new buildings were dedicated in May, 1901, and it was very appropriate that Vice-President Roosevelt should have taken part in the exercises, not only because the antituberculosis campaign was at that time assuming national proportions, but for the more personal reason that he had, as Governor of the State of New York, kept his promise of signing a bill for a State hospital for incipient tuberculosis, and had done even more than he promised when he worked for the measure to save it from death in a legislative committee. He was thus instrumental in putting New York second in the column of those States providing sanatoria for the consumptive poor. The character of the institution being non-sectarian—recognizing neither a religious nor a scientific distinction between a Jewish tuberculosis and a Christian tuberculosis—it was also appropriate that Bishop Potter should have been present to speak a word of thanks and of encouragement. Oscar S. Strauss, ex-Minister to Turkey, voiced the appreciation of the charitable public on the successful completion of so large an undertaking, and bespoke for it the further sympathy and support of the well-to-do.

The new buildings were erected under the supervision of Buchman and Fox, architects, and present an unusually bright and cheerful appearance. They are all two stories in height, and consist of a central administration building, flanked on each side by two wings for male and female patients respectively, and are united on the northern aspect by a continuous glass covered corridor; their southern ends terminate in covered solaria and uncovered piazzas for the outdoor rest cure. In the basement are hydropathic department, drug store, morgue, power plant, carpenter shop, and store rooms for clothing and for crockery. In the rear, running at right angles to the corridor, are the power house, kitchen, laundry, and employees' dining room. We have our own plant for steam, electric light, and ice making.

The lower floor of one wing on each division, male and female, is broken up into separate rooms, arranged on each side of a central corridor. These accommodate one or two patients each and permit the isolation of advanced, complicated, and fever cases, and of those who are dying of their disease. This arrangement not only takes the place of the usual infirmary of some other sanatoria, but if need be permits the gradual hardening of the sensitive newcomer before admission to the wards, where, during the winter, the temperature often drops to 40 degrees. All the other floors are practically long wards. They are flooded with sunlight and air, and I am very fond of saying to the house staff when I get out, on a dark winter's day, that I envy the patients, for they are getting more air and sunlight for nothing at Bedford than I can get for a high price on Madison Avenue, New York City.

Water for the institution is obtained from an artesian well sunk over 400 feet, and easily furnishing 30,000 gallons per day. The sewage is disposed of in a series of sand filter beds after sedimentation in a series of septic tanks, according to the plan and method of the Bacterial Sewage Purification Company of this city. After the opening of the new building, the original ones were converted into a Synagogue and additional sleeping quarters for the help. The accessory buildings consist of a barn and dairy, a hennery, chief farmer's house, three tents on platforms, and the Blumenthal Pavilion or summer house for women.

The house staff consists of four medical officers, three graded and salaried, one unsalaried, but in the line of promotion in case of a vacancy. Dr. L. Rosenberg has been house physician and superintendent the past two years. Weekly visits are paid by me as consulting physician during the entire year, except when on my vacation, when the work devolves upon my adjunct, Dr. G. Mannheimer. The laryngological work is supervised by Drs. Toeplitz, Freudenthal, and Danziger in rotation. In case of need, the services of any member of the medical board of the Montefiore Home or of his adjunct may be claimed; cases for operation, unless it be a minor one, are transferred to the city institution. There are usually about ten orderlies and nurses employed,—the total staff of employes, medical and non-medical, aggregating about forty-eight. Every patient on his admission receives for his instruction and guidance a list of rules for consumptives printed in convenient form on heavy cardboard in English, German, or Jargon. The patient has his choice of language, which simply, though not elegantly, nor yet with perfect grammar, tries to make clear to him the nature and hopefulness of his illness and the influences that work for and against his recovery. He also receives a bottle with metal screw cap for his expectoration. Expectorating on floor or grounds is punished by instant dismissal. The sputum is emptied by patients into a large metal pail, where it is mixed with sawdust by orderlies, emptied twice daily into a special furnace, and burned. I regard this as the ideal method of sputum disposal. The pails are afterwards scalded in hot water and returned to their places on each floor. The sawdust which we get from a mill in a neigh-

boring village, costs us about $12 per annum. Three generous meals a day are served for all up-patients in the common dining room. Half-way between these meals and on retiring, milk and bread are served to any one wishing them. Shower baths are given daily to large numbers of patients, of such temperature and duration as insures thorough reaction, the latter being controlled by a nurse or a member of the house staff in charge. In some cases a preliminary course of spongings is necessary. Patients who do not take the showers must take a cleansing tub bath once a week. The temperature of patients is taken at least twice daily in the rectum. When this reaches 100 degrees plus, the patient must remain in bed until the normal has been maintained for several successive days. Continuous fever is treated by inunction with soluble silver, various coal-tar antipyretics, spongings, and the partial pack (Stammumschlag). Certain antisera were used hypodermically in a few cases once or twice daily for some weeks, but had no appreciable or unequivocal effect on the fever, and were open to the objection of causing severe urticaria. In a few cases the fever yielded immediately to quinine, when they were found to be cases of pulmonary tuberculosis complicated by plasmodial infection, an interesting combination of which I have seen four cases, two at Bedford, one in New York City, and one in the Adirondacks. A combination of eucalyptus, sulphur, and carbon, used by inhalation, as recommended by Dannelius in the *Berliner klinische Wochenschrift*, did not give results in the few cases in which it was tried that justified its extended use. Certain concentrated foods also had a limited trial. Sanatoria are naturally the proving ground of therapeutic research in pulmonary tuberculosis, for it is only where a large number of cases can be observed together that chance influences can be eliminated, either so far as improvement or retrogression is concerned, but this very fact makes these institutions peculiarly the object of faithful attention by pharmaceutical houses. It is, of course, possible to be ultra-conservative and yet a certain amount of conservatism in their management is absolutely necessary, as many of them would not only be swamped with new remedies, but their reputations would severely suffer. In the trial of any new remedy, whether in the nature of a drug, a serum, or a food product, it would appear preferable in most cases to select for trial such patients as have derived all the benefit attainable from the usual hygienic, dietetic, atmospheric, and hydropathic measures, and whose condition has become stationary under the sanatorium physician's eye. This is a severe test, I will admit, which at times may be departed from, but its conclusions at least are not misleading in attributing undue virtues to the thing tried. Treatment in the main, therefore, has been by aërotherapy, hyperalimentation, and hydrotherapy.

*Diagnostic Tuberculin Injections.*—In about forty-five cases in the past six years diagnostic tuberculin injections were used. In my judgment, such use of tuberculin is justified and is indicated in cases of suspected tuberculosis of the lung, in which the physical signs are negative, or, if present, of doubtful interpretation, in which there is no sputum, or in which repeated examination of the sputum does not show the presence of tubercle bacilli. Sanatoria for consumptives are a favorable field for the observation of these and other types. They often harbor patients in whom the bacteriological proof of tuberculosis is lacking or who may be suffering from emphysema, asthma, bronchitis, etc. The percentage of patients in whom bacilli have been found varies in different sanatoria, but in general it is not very high. In a series of 500 cases tabulated at Bedford a few years ago, 62 per cent. were positive bacteriologically. For comparison, I may say that the average in number of German institutions investigated by Pickert about the same time (*Ztschr. f. Tub. u. Heil*, 1902) showed only 45 7/10 per cent. of the patients positive, while at the Hanseatic Sanatorium Glueckauf, it was only 6 5/10 per cent. I expect at some future time to make a detailed report of my forty-five cases of diagnostic injections. It has been claimed, of course, that occasionally bacilli appear in the sputum after small diagnostic injections when they have been absent before. This is certainly infrequent in my experience; and when it does occur, not necessarily attributable to the injection. The same thing happens with every form of treatment, and with no treatment at all. We sometimes find bacilli and sometimes not, and in most cases their occurrence appears to be a part of the normal evolution of the disease. Some additional light might be thrown on this subject, if in a large number of negative cases sputum examinations were made daily for some weeks before, during, and after the diagnostic tuberculin injections, and the results compared with a large number of similar cases watched in the same way, during the same period, but without the injections. At Bedford, if the sputum on admission proves negative, it is re-examined every week or ten days. Even in positive cases the sputum is re-examined at stated intervals. Mustaches and beards are trimmed, as a rule, sometimes entirely removed. In a few cases we have struck a snag when a patient has regarded this appendage with a sort of religious fervor.

*Urine.*—The urine of every patient is examined on admission, the same as in a general hospital, including diazo reaction, and diabetics are excluded. A series of successive, positive diazos in our experience justifies an unfavorable prognosis, but in most cases seen at Bedford that conclusion could be reached by the other evidence alone; on the other hand, the absence of a diazo reaction does not justify a favorable prognosis. I believe that occasionally diazo reactions are not obtained because a half per cent. *nitrate* of soda solution is used in place of the *nitrite*, the druggist's nitrite having in part been changed while in stock by oxidation. The sticks of glassy looking nitrite then have a coating of snowy white nitrate on them—this latter should not be used in the preparation of the solution.

*Occupation.*—Non-febrile and convalescent cases are encouraged to assist in various light duties about the institution—bed making, waiting on table, driving the horses, getting the mail, and the like. During the spring, summer, and autumn about twenty-five patients put in a few hours a day in farm, garden, and orchard work.* The produce and supplies raised have been far beyond the needs of the institution, and the prize pumpkins, cabbages, radishes, and ears of corn would have done credit to a county fair. The value of such a régime to the patients themselves is simply inestimable. The outdoor life it encourages, the training in a useful and healthful occupation, the stimulus that comes with something accomplished, the reduction of the hours of loafing and brooding, all tend to the betterment of the patient, both physical and moral. A few years ago some of the boys were organized into a street cleaning brigade, given a distinctive sash to wear to develop an esprit de corps and, armed with long spiked sticks à la Central Park workman, they marched about the grounds with a wheelbarrow, under the

*Not during the past two years.

leadership of a foreman, stabbing and gathering such waste material as inevitably collects on the grounds. Similarly the women formed a sewing class and gathered at stated intervals in the solarium to ply the needle. The influence of this work on the temperature and general condition of the patient must be watched; even taking part in an entertainment may prove injurious. I have records of four cases in which the temperature was from one to three degrees higher on that evening than on the evenings immediately preceding and succeeding such effort.

*Duration of Stay.*—The complaint is frequently made that patients do not remain long enough in the sanatoria to arrest the disease. In some cases this is undoubtedly true. At Bedford the average stay for the first year was two months and twenty-five days, in the second year six months and twelve days, and the past or seventh year six months and ten days. But there is another side to the picture. Patients may also stay too long. It is a fair question whether it is reasonable to keep a patient more than one year, or eighteen months, if his condition has long been stationary, and there is, therefore, no outlook for further improvement. Cases of this kind not only occupy a bed to the exclusion of perhaps two patients a year, at six months each, who might have profited more than the chronic occupant, but the chronic occupant quite frequently becomes a source of mischief in the institution by his violation of its rules. Some of the worst offenders along this line were three cases that had been in the institution two years and two months, two years and six months, and five years and six months, respectively, and they were accordingly dismissed.

*Relapses and Vacant Lot Scheme.*—Partly because patients leave too early, partly because of the advanced stage of their disease, and their return to unsanitary surroundings and mode of life, Bedford, like other institutions, has had to face the question of relapses and readmission of former cases. An attempt has been made to control the situation in part by the passage of a rule denying any patient re-admission within a year who had left without the consent of the medical superintendent. An experiment will be tried this spring on a small scale of providing discharged men with a few hours' work daily, raising garden truck on vacant lots in The Bronx. A committee consisting of a few medical men, philanthropists, and real estate agents is just being formed for that purpose. One of the main obstacles, I fear, will be the disinclination to do this kind of work.

*Diagnosis.*—I wish to draw attention to a method of percussion employed by me, both at Bedford and at Mount Sinai Hospital, which often facilitates the recognition of slight dullness in the apices without, of course, giving a clue to the cause of the dullness. I have taught it to a considerable number of men who have worked under me. It is a method of continuous percussion at one point (supraclavicular, clavicular, or infraclavicular) while the patient is making one or two inspirations or expirations. The part, in place of being struck once, twice, or three times and then compared with the corresponding point on the other side is struck in rapid succession as much as twenty-five or thirty times while the patient is breathing in and out. The amplitude of the percussion stroke must necessarily be small and the force unvaryingly even, but both of these conditions can be fulfilled after some practice. The resultant series of sounds is wave-like in character in its rise and fall, and reminds me of nothing so much as the waves due to musical nodes produced by piano-tuners when tuning an instrument. The same method is repeated on the other side. A comparison of the two aural "pictures" produced in this way permits an easier recognition of slight changes, an easier comparison of the two sides, and an estimate of the aëration of the apices, or as often happens in old healed lesions non-aëration of this part of the lung. A somewhat similar method is employed in mapping the excursions of the diaphragm. You get an auditory "picture" that I would like to compare with the retinal picture produced by certain revolving toys of children, and perhaps the cinematograph and vitascope.

The growth of the institution from its small beginning is well illustrated by the figures of the last annual report. There were admitted during the year ending November the 1st, 1904, 244 new patients, the daily average number was 158, the highest number on any single day was 166, and the total number treated was 401. In 1902 in reply to an inquiry from a State officer as to where our army of cases comes from, our secretary, Mr. Ettinger, prepared a list, according to streets, of cases admitted during that year. Of course, the down town East Side gave the vast majority, 175 patients out of 247 during that year coming from below Fourteenth street and east of the Bowery, equivalent to 70 per cent. Thus Clinton Street had nine, Madison and Monroe, seven each; Delancey, Eldridge, and Essex, six each, and so on. Our patients pay us nothing, but every effort is made before admission to ascertain the applicant's claim to charity. A good idea of the great expense of running such an institution can be gained by the fact that $1,000 donated by a charitable lady for extra eggs that I might order, did not suffice to give one extra egg per day per patient for that year. It is not surprising, under these circumstances, that we were $38,000 short a year ago, and $22,000 short this year.

*Results.*—I have said but very little about the results obtained by this large outlay of money, thought, and labor. There is no generally accepted or perfect standard among medical men by which results at different institutions can be compared. We have tried to be conservative, and have classed as "apparently cured" those in whom fever, cough, and expectoration have ceased, who have improved in appearance, strength, and weight, and in whom râles could not be discovered, but who still had slight dullness or dullness and retraction at the site of disease; to this must be added the ability to do work for some weeks in the institution without evidence of evil effect. Cases were classified as "disease arrested," in which there were still cough and expectoration in reduced amount, and moist râles at the site of disease, but for months no fever or other evidence of extension or activity of the tubercular focus. These two types together made up about 17 per cent. of the 225 cases discharged last year. In addition over 54 per cent. were improved in various ways. If we estimate results by gains in weight alone (which, of course, is not entirely fair) our last year's record shows 78 2/10 per cent. out of 225 patients with gains to their credit. Our highest gain was 51 pounds.

I have neglected to say earlier in my paper that no dry dusting or sweeping is allowed in the institution—all cleaning is done with damp cloths.

And now, in conclusion, I would say that the profession generally can aid in the work of the institution, and of all similar ones in two ways: First, by the promptest possible recognition of the disease, often unrecognized by a too implicit faith in the negative sputum examination, or much less frequently an almost criminal neglect to examine the

sputum at all. Secondly, by the prompt recommendation of sanatorium care for those unable immediately to devote themselves to the problem of getting well in the way pointed out by science and philanthropy to be the only way. With these two conditions met, the tendency to make morgues out of sanatoria will, I believe, grow less and less. True, there will still remain in individual cases the problem of persuading an incipient case that he is sick enough to drop work, and in some cases all urging will be fruitless, especially if there is no cough—which, for the layman, is the *sine qua non* of pulmonary tuberculosis. But at least advantage should be taken of an initial hemoptysis, because it is a powerful lever to move the patient in the direction desired for his good, and (perhaps entirely on this account) because early hemoptysis cases are of better prognosis. I have often said to such patients that the hemoptysis is really a fortunate accident, a blessing in disguise. To hide the truth from the patient under these circumstances is to lose valuable time, and in all probability to excite his resentment when later he learns the truth. I have had pathetic complaints from people in regard to this deception and the injury done them by it.

## GASTRIC ULCER IN CHILDREN.*

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Ulcer of the stomach occurs at all ages; in infants, in the unborn fetus, and in octogenarians, but its infrequency during childhood makes the study of this and other cases of value to us.

On Tuesday, April 11, 1905, I was called to see a girl of 8 years who was evidently seriously ill. She lay with legs drawn up slightly, was breathing hard but not coughing, was extremely anemic, and had a cold skin bathed in clammy perspiration. The pulse was 100 and very weak, rectal temperature 98°. Her appearance was that of one dying from pneumonia. Physical examination revealed nothing wrong in the chest. We then paid more attention to the statement of the mother that all the child complained of was her stomach. The epigastrium was hard and tender to any pressure, and the abdomen was also distended, but not markedly so. The history was that the child had always been delicate, but never really ill except when she had measles four years ago; that the paleness had been noticeable since the holidays, and she complained much of headache, had dark rings under the eyes, etc.

On March 13 she left school because of headache and seborrhea of the scalp. She was treated at the Cornell Clinic by Dr. Wm. Shannon, who has kindly sent me additional history. Her appetite was good and bowels regular.

March 23.—Tongue heavily coated. Hands swollen one day this week.

April 10.—Monday, complains of pain in the stomach, with feeling of weakness. Anorexia. Vomited yesterday. Lips dry, tongue heavily coated. Pallor marked.

April 11.—I saw her in collapse as narrated above, and at 3 A. M. the next morning, after two hours of delirium, she died.

At 8 A. M. she was embalmed. At 1 o'clock, with the aid of Dr. Huey, I opened the abdomen sufficiently to permit removal of the stomach. The abdominal cavity contained a good deal of blood as well as embalming fluid, and when the stomach was withdrawn two perforated ulcers were found upon the posterior surface, about two inches from the pylorus on the lesser curvature. From one of these the blood must have come. Each perforation was about an eighth of an inch in diameter. There was no inflammatory action about them.

A review of the literature shows gastric ulcer to be fairly common, especially between the ages of 20 and 30, but rare in children. Rokitansky, for example, says he never saw a case under 14 years. Collin collected 279 cases of duodenal ulcer with a few gastric ulcers, 42 of which were under 10 years; 17 in the first year. Thirty-two thousand and fifty-two autopsies (made in Germany) showed 1,522 ulcers or cicatrices, *i. e.* 5 per cent. of those dying from all causes.

Fenwick, in 1897, collected 19 cases of ulcer in children and infants, to which I add others and my own. The following is a list of the published cases of gastric ulcer in children:

1. Author's case as described.

2. Dreschfeld: Girl, 14 years of age. Chlorosis. Severe dorsal pain and severe epigastric pain after eating, increased by walking. After a few months, hematemesis, melena, and death.

3. Northrup: Female, 1 year old. One month of diarrhea and vomiting, the latter brownish. Temperature 102° to 103°. Pulse 140 to 150. Death from exhaustion. Stomach contained many small ulcers and a large one that had perforated; necrotic not inflammatory.

4. Cheyne and Wilbe: Boy, 13 years of age. Thought to be fulminating appendicitis. Further operation showed a perforation of the anterior wall of the stomach, the size of a small slate pencil.

5. Keays: Girl, 16 years of age. Died before medical aid was secured. At the necropsy there was found a perforated ulcer on the anterior wall near the cardia and another on the posterior wall directly opposite. Was well until perforation occurred.

6. Malinoski: Girl, 10 years of age. Died of diphtheria and ulcer of stomach.

7. Wertheimer: Girl, 10 years old. Recovery.

8. Cade: Two months old. A single perforating round ulcer on the posterior wall near the pylorus. There was a large cavity behind the stomach with adhesions to the transverse colon.

9. Mackay: Female, aged 17 years. Perforation, operation four hours later, subdiaphragmatic abscess, but recovery.

10. Barker: Male, aged 10 years. Three or four days ill, collapsed and died in two hours. Autopsy showed four ulcerated areas in the stomach, two of which had perforated.

11. Billard, 1829: Aged 15 days. Ulcer penetrated to the peritoneum.

12. Billard: Aged 5 days. Died of hemorrhage from the stomach. The "ulcer was blackened as though it had been burnt."

13. Busch, 1836: Male, aged 7 days. Ulcer the size of a pfennig piece.

14. Buzzard: Female, aged 9 years. Discomfort after food for a short time. Perforation, death.

15. Rehn, 1874: Aged 21 months. Died of tuberculosis. Two ulcers in the stomach.

16. Binz, 1865: Female, 11 days old, with ulcer in center of lesser curvature.

17. Goodhardt, 1881: Infant, died of hemaemtesis 30 hours after birth. There was an ulcer one-eighth of an inch in diameter on the lesser curvature of the stomach.

18. Barlow, 1887: Female, aged 21 months, died of general tuberculosis. There were three ulcers nearly through the walls.

19. Colgan, 1892: Female, aged 2½ years. Gave no symptoms until 12 hours before death. Had a high fever and died in convulsions. An ulcer had perforated at the lower border of the fundus.

*Read before the Pediatric Section of the New York Academy of Medicine, May 11, 1905.

20. Fenwick, 1897: Female, aged 13 years, died of typhoid fever. Stomach and entire small intestine full of ulcers. Anterior wall of stomach adherent to the liver.

21. Fenwick, 1897: Female, aged 12 years, died from burns of arms and legs. There was an ulcer of the stomach the size of a sixpence.

22. Fenwick, 1897: Male, 10 years old. Right side pneumonia. Autopsy showed two ulcers of the stomach, one an inch in diameter, the other half an inch in diameter. The stomach was full of blood from an eroded blood vessel on the floor of one of the ulcers.

23. Fenwick, 1897: Female, 20 months old, died of noma and varicella. Two small ulcers were found near the pylorus.

24. Reimer, 1876: Female, 3½ years old. Indigestion two years. After measles had pain in the abdomen, constant vomiting, hematemesis, death from exhaustion. Ulcer near pylorus, whose base was pancreas. A branch of the pancreatic artery had been eroded, causing the hemorrhage.

25. Gunz, 1862: Male, aged 5 years, died of scarlet fever. He had an ulcer of the stomach, the base of which was adherent to the transverse colon.

26. Eröss, 1879: Female, aged 12 years, died of tuberculosis. She had nausea after meals, but never vomiting or hermatemesis. There were three gastric ulcers on the posterior wall, two of them small and one large. The latter, 2½ cm. in diameter, was completely perforated.

27. Rufz, 1843: Female, aged 13 years. Had "moderate dyspepsia" for several months. Died of perforation and peritonitis.

28. Chvostek, 1883: Male, aged 18 years at death. When 4 years of age he had epigastric pains after meals and continued to have such until death, 14 years later. He was greatly emaciated, looking like a boy of 10 years. Stomach enormously distended. One ulcer was 3 cm. in diameter, another near the pylorus, 2½ cm. in diameter, with thick edges and a base formed by the head of the pancreas to which the stomach adhered. The contracted pylorus would admit the tip of the little finger.

29. Leith, 1895: Female, aged 10 years, was eleven weeks ill with pneumonia, pericarditis, left pyo-pneumothorax, etc. A gastric ulcer had perforated the diaphragm and the stomach had become adherent to the spleen, from which there was a pus track to the lung. A bacterial culture produced pure staphylococcus pyogenes aureus.

30. Bechtold, 1904: Female, aged 5½ years, ill five months. Then had a sudden attack diagnosed as peritonitis due to appendicitis. An incision over the appendix liberated pus and other fluid, but the appendix was not diseased. At the autopsy, 48 hours later, the perforation was found in the greater curvature of the stomach.

31. Von Eiselberg, 1905: Female, aged 12 years, who suffered a year with pain and vomiting of blood. The pylorus had been adherent to the small intestine. There was great dilatation of the stomach. The pylorus did not admit the little finger. Gastroenterostomy was done, recovery was prompt, and the child was well three years later.

32. Fischer, 1900: Female, aged 9 years. For a long time had bloody vomiting and tarry stools. Chlorotic; lost 16 pounds in 6 months. Stomach greatly distended and tender. Chemical examination after test meal showed hyperchlorhydria. Later bulimia developed, followed by persistent vomiting. After prolonged medicinal and dietetic treatment she recovered.

33. Fischer, 1900: Female, aged 14 years, ill for long period. Vomited blood three years ago and suffered from anorexia, with distress after eating, and vomiting. The stomach contents showed an excess of HCL. There was chlorosis, emaciation, constipation, and headache. The blood showed marked polynuclear leucocytosis with diminished hemoglobin. She improved on fluid diet, bismuth, magnesia, and resorcin.

34. Bennett: Female, aged 16. For 18 months had pain after food, was relieved by vomiting. Sudden acute pain in epigastrium, followed by faintness. Operation two weeks later. Rigid abdomen, acute pain, distention. Respiration short and labored. Twelve ounces of pus drawn from chest without relief of abdominal symptoms. Ulcer perforated anterior wall of stomach. Patient left the hospital well.

35. Anderson: Girl, aged 16. Indigestion for three weeks. Intense abdominal pain above navel half an hour after hearty meal. Operation 21 hours after perforation. Died five weeks later of double pneumonia. Stomach was found soundly healed.

Why and how does an ulcer develop in the stomach? In the newly born the sudden change in the circulation may produce venous congestion which is followed by necrosis.

Hemorrhagic infiltration was the explanation of Rindfleish; embolism was the starting point according to Virchow. This etiology was generally accepted for many years. Arteriosclerosis will not answer as a cause in childhood, though it might explain some cases past middle life.

Sidney Martin gives bacterial necrosis a prominent place, and explains the frequency of ulcers near the pylorus by the absence of acid secreting glands there, the acid being a germ destroyer.

Poor food, bad air, mechanical pressure, etc., predispose in adults. Syphilis, typhoid fever, burns, and tuberculosis are also listed. Holt observed ulcer of the stomach in 5 cases among 119 autopsies upon children dead of tuberculosis. In none was the ulcer the cause of death. This frequency is nearly that obtaining in adults for all causes.

The site of the ulcer is usually in the lesser curvature and posteriorly. The analysis by Welch of 793 cases showed 36.8 per cent. lesser curvature, 29.6 greater curvature, 12 pylorus, 8.7 anterior wall, 6.3 cardia, 3.7 fundus, and 3.4 on the anterior curvature. Of those that perforate, the majority are on the anterior wall.

Some one has said that the symptoms may be absent singly or collectively, or may be latent. It must be true, as many ulcers are found unexpectedly at autopsy, and by contrast some die of gastric perforation with no premonitory symptoms or with illness of only a few hours. Infants give signs only of indigestion or gastric catarrh, with possibly hematemesis, or slightly streaked vomitus. A few have melena, dark pitchy stools caused by the hematin from the hemoglobin being reduced to iron sulphid. Rufz's case complained of "moderate dyspepsia" for several months. My case complained of nothing referable to the stomach until three days before death. Chvostek's boy suffered epigastric pains after meals for 14 years.

In Colgan's case, the patient, 22 years old, was apparently well until perforation occurred. Thus are extremes illustrated.

Anemia is extreme in prolonged cases, probably because of the disease; perhaps, as some claim, the anemia or chlorosis leads to ulcer. I believe in the former hypothesis.

A characteristic symptom in adults is a localized gnawing or boring pain in the epigastrium, which may also be felt in the back at about the ninth or tenth vertebra. The area is about the size of a silver

dollar, and is near the seat of ulceration. Pyrosis, heartburn, or water brash may appear. Food increases the pain, and vomiting relieves it by removing that which irritated the raw surface. Discomfort is increased by much sugar, much acid, highly seasoned, or very hot food. In the very young the symptoms are those of ordinary gastric catarrh. In a few instances an unusually hearty meal preceding perforation was doubtless its immediate cause. Vomiting is not always accompanied by blood, and rarely contains bile. The older writers always claimed that in gastric ulcer there is an excess of hydrochloric acid. Howard's records at the Johns Hopkins Hospital are more definite. Free hydrochloric acid was found in 82 per cent. of cases, but hyperchlorhydria in only 17.6 per cent. Free HCl is absent in 92 per cent. of cancer cases. However this diagnostic point is not needed in children.

Constipation is the rule. If hemorrhage occur into the stomach there is a peculiar feeling of distention and evidence of the same. If the hemorrhage be without, into the abdominal cavity, there is great pallor, a cold, clammy skin, a small, quick compressible pulse, a complete picture of collapse.

The medical treatment should be simple, but varied. Keep the patient in bed for bodily rest. Give nourishment so far as possible by the rectum, that the stomach may rest from digestive action and peristalsis. If food is given by mouth, it should be peptonized milk or milk with a cereal that will not admit of much firm curd. As the acids are greatly in excess, we give alkalies freely to neutralize them. Calcined magnesia is the best, to which may be added bismuth and cerum oxalate. Jacobi adds carbonate of lime to overcome the laxative effect of magnesia. An attempt may be made to heal the ulcer by giving silver nitrate in solution, or to those old enough to take it, in a pill with opium. Jellies and junket can be given the convalescent, and buttermilk, zoolak, or koumyss may be used throughout.

The prognosis does not depend upon age. Three-quarters of those ill recover upon proper treatment, some in a few months, others continue for long periods, as the boy in whom the ulcer existed fourteen years. According to Cruveilhier, "Simple ulcer of the stomach tends essentially to a cure;" "on the other hand, however, gastric ulcer may dispose to tuberculosis" (Dreschfeld). Hematemesis happens at all ages, but rarely causes death except as a factor in producing exhaustion. When there is erosion of a large artery enough blood may be lost to cause collapse. Infants die in this manner, but older children have perforation. Perforation in acute ulcers is usually sudden in symptomatology and resulting death. In chronic cases there may be inflammatory adhesions with neighboring organs as appears in the cases cited; two had pancreas as a base, one liver, one spleen, one diaphragm, and one colon.

Hour-glass contraction and other scar deformities are not mentioned in any child case thus far reported.

Operation on ulcer has been performed on hundreds of patients. For instance, Moynihan (1905) operated 153 times for chronic ulcer with but 2 deaths. His cases of perforation proved to be very different, viz., 22 operations with 63.6 per cent. of recoveries. The number of successful operations in childhood hardly admits of percentage rating. The only one in our list that recovered was 17 years old, so getting to young adult age.

In 1896 Weir and Foote gave the mortality for operation on perforations as 39.18 per cent., but technique is improving, so now Keen gives the mortality as 16.66 per cent. if the operation be done within 12 hours.

A summary of this subject will be made clear by the following Gastric Ulcer Percentage Table:

5 per cent. of all persons dying have gastric ulcer.
20 per cent. of all these have more than one ulcer.
40 per cent. occur in males, 60 per cent. in females.
75 per cent. are cured, judging by scars found.
18 per cent. last one year or less.
46.5 per cent. last from one to six years.
3 or 4 per cent. die from hemorrhage.
13 to 6.5 per cent. perforate fatally.
5 per cent. die from exhaustion.
50 per cent. have hematemesis.
40 per cent. of hemaglobin is lost from the blood.
20 per cent. of the red cells are lacking.
22 per cent. of cases are latent as to symptoms.
35 per cent. die without operation.
39 per cent. was the operative mortality for perforation prior to 1896. (Weir and Foote.)
16.6 per cent. is the mortality for perforation operations now if done within 12 hours. (Keen.)
1.3 per cent. is the operative mortality on chronic cases. (Moynihan.)

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## SURGICAL ASPECTS OF GALLSTONE DISEASE.*

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Our knowledge of the pathology, and in consequence our ability to treat that complex phenomenon, gallstones, has of late years increased enormously. Only very recently have we begun truly to appreciate the rôle that inflammation—infection—plays in the production of gallstone diseases. For these diseases are most manifold. No longer are we content to make a diagnosis simply of gallstones. If we would accord our patient rational treatment, we must determine the location of the stone or stones in the biliary tract; we must determine the degree of inflammation present and its location; we must determine whether there is partial or complete obstruction to the flow of bile, before we can decide whether medical or surgical treatment is to be instituted.

* Read by invitation before the Eastern Medical Association.

Moreover, to the knowledge of pathology gained from thousands of operations on the biliary tract we owe the advance made in the rational treatment of gallstones. Nowhere in the whole range of surgery is it more true that "qui bene diagnoscit, bene curat." The prognosis varies greatly with the character of the inflammation and the location of the stones. There is hardly an easier abdominal operation than the removal of stones from the distended gall-bladder, hardly a more difficult one than the removal of those same stones from the common duct. The natural deduction would be to operate before the stones have entered the duct. Is this possible? In very many cases it is; provided, of course, we can obtain the consent of the patient. We know that the stones are in almost every instance formed in the gall-bladder; that they lie latent there for months or years, and that they do not leave the gall-bladder except after one or more attacks of inflammation, and often not even then.

The ideal method of treating this class of cases is to treat them medically during a few attacks. If one or more small stones are passed, followed by relief of the pain, then an operation is *not* indicated, because nature, by expelling all the stones present, may bring about a cure. If, on the other hand, one or more severe attacks of colic are not accompanied by the passage of any stones per anum, then an operation is indicated, and indicated long before there has ever been any jaundice.

But let us look at the pathological side of the question. In doing so we shall attempt to reply to two questions: (1) How can we recognize the different forms of cholelithiasis? (2) When is an operation indicated? The simplest method of classification is the following: (1) Stones in gall-bladder without obstruction of the cystic duct. (2) Stones in gall-bladder with transitory obstruction of cystic duct. (3) Inflammation of gall-bladder, cholecystitis, empyema. (4) Acute obstruction of common duct. (5) Chronic obstruction of common duct.

In all cases, except where there is obstruction of the common duct, jaundice is generally absent. And even where there is obstruction to the common duct, jaundice is not always present. In 80 per cent. of gallstone attacks there is no jaundice. The finding of stones in the stools is rare, because only in exceptional cases do the stones leave the gall-bladder during an attack. In chronic obstruction of the common duct the icterus is often very slight, and on superficial examination it may be overlooked. Indeed, there may be a large stone in the common duct, and yet there may be no icterus at all. This we see frequently at operations. On the other hand, there may be slight transitory icterus due to an inflammatory swelling of the mucous membrane of the duct, which prevents the bile from flowing past the stone. When the inflammation subsides, the bile can again flow into the duodenum, and the icterus disappears. With this condition there is often fever of the malarial type, and often chills at the time of the icterus. There may be fever without icterus or colics.

In cases of chronic obstruction of the common duct, it is important to ascertain if the obstruction is due to tumor or to stone. If due to stone, the gall-bladder is generally shrunken, not palpable, the icterus moderate and varying, the stool at times brown, at times gray, the colic of varying degrees of severity, the spleen generally enlarged, and the fever intermittent. If, on the other hand, the obstruction is due to cancer, the gall-bladder is enlarged, often palpable, the icterus is continuous and progressive, the stools are constantly gray, and there is generally an absence of colics, of enlargement of the spleen, and of fever. The puzzling cases are those in which there is a stone in the common duct at the site of the cancer.

That jaundice and gallstones go together is a popular but wrong belief, though an old one; in most cases of gallstone disease there is no jaundice. Jaundice is generally due to an inflammation of the gall-bladder, which spreads to the common duct. Only in the fewest cases is it due to an obstructing stone in the duct.

As above mentioned, most stones have their origin in the gall-bladder. Many stones, even several hundred, may remain in the gall-bladder a long time without causing any symptoms. Common as gallstones are, in 95 per cent. of the cases they cause very mild symptoms or none at all. Stones will produce no symptoms if the cystic duct is patent, if there is no inflammation in the gall-bladder, no adhesions, and if there are no changes in the wall of the gall-bladder. Stones may even be present in the ducts for a long time and cause no symptoms. There must be another element besides the presence of the stones to call forth symptoms. This other element, in the great majority of cases, is an inflammatory process in the gall-bladder itself. Only in the fewest cases is there obstruction of the cystic duct by a stone without a preceding or a concomitant inflammation. The colic is to be attributed to the stretching of the wall of the gall-bladder by the contained bile and inflammatory products, and not to the passage of a stone. The inflammatory process may force the stone into the cystic duct, where it may become impacted. Often, however, the stones do not leave the bladder. The mucous membrane of that viscus swells around the stone or stones, and the cystic duct may, by this inflammatory swelling, become completely occluded. The old theory that the colics only begin when the stones enter the cystic duct has been given up. In the great majority of cases the cause for the colic is the inflammation of the gall-bladder. This inflammation is either of hematogenous origin, or due to an infection from the gut, through the ducts to the gall-bladder. This explains how stones can remain for months or years without causing any symptoms, and how then severe symptoms suddenly develop. The result of an inflammation is a loosening of the mucous membrane of the gall-bladder and of the cystic duct, followed by a transudation of serous or bloody fluid into the gall-bladder. The bladder becomes distended, the nerve endings in its walls are stretched, and thus the well-known gallstone colic is produced. The more violent the inflammation, the quicker the bladder is distended and the greater the pain. A similar colic may be produced in a patient on whom cholecystostomy has been performed, if we inject salt solution into the gall-bladder.

The character and intensity of the inflammation depend on the number and the virulence of the infecting microorganisms. They may produce a serous, a seropurulent, a purulent, or a gangrenous cholecystitis. The inflammation may spread to the peritoneum, liver, and pancreas. Adhesions are formed, even a peritonitis may develop, without any perforation of the bladder. We observe similar phenomena in appendicitis, where no perforation has taken place.

If bile can pass it, a stone may remain in the common duct for months or years without causing any symptoms. The stone may slowly increase in size, without the patient having any knowledge of its presence. Suddenly, there is an attack of colic, jaundice or fever, or all three combined. One or two things has happened. Either an inflammation has taken place in the biliary passages, or there is an obstruction of the narrower portion of the duct near the duodenum. If the stone can pass the narrow

papilla, it will enter the gut, and, unless more stones are present, the symptoms will subside.

It is possible for a cholecystitis to be followed by a *restitutio ad integrum*. The bladder contracts on its contents and drives the bile and the exuded fluid through the ducts, washing the stone or stones into the gut. The ducts then being open, there is free drainage, and the inflammation may subside, leaving the patient practically cured of his cholecystitis and of his cholelithiasis. But in most cases this result is not attained. Even after repeated colics there are many stones remaining in the bladder, and the cystic duct may remain partly or completely occluded. A cystitis remains, or at least a hydrops of the gall-bladder, which is only too prone, at the slightest infection, to become the seat of a new inflammation.

If the cystic duct remains patent, the stones may, after the inflammation has subsided, remain quiet in the gall-bladder; and there may or there may not be a recurrence of the inflammation. As a rule, however, it does recur, and recurs only too frequently. The gall-bladder, like the appendix, when once it has been inflamed, is very prone to relapses. If we remember that the mucous membrane after a severe inflammation is never quite normal, that the constant presence of stones acts as a constant irritant, we need not be surprised that a cholecystitis so often recurs, but rather that it does not recur in every case. In place of the colic there may be a constant nagging pain referred to the back or to the stomach. Sometimes after an attack the general condition of the patient improves markedly, and yet the serous inflammation in the gall-bladder may be slowly becoming purulent, to burst out suddenly into the picture of a gangrenous cholecystitis, or even of a peritonitis. Here also we see a striking analogy to disease of that other abdominal organ, the appendix.

A local peritonitis with the formation of adhesions often develops around an acutely inflamed gall-bladder. The adhesions to the stomach, omentum, and gut, may produce serious symptoms, long after the acute inflammation has subsided. There may be stenosis of the pylorus, or kinking of the duodenum, with resulting dilatation of the stomach, and its long train of symptoms. Adhesions to omentum and colon may produce partial or complete intestinal obstruction. Moreover, the adhesions *per se* may cause such severe pain that an operation is imperative. At such an operation, frequently no stones are found at all, simply a chronic inflammation of the gall-bladder with adhesions. The adhesions may cause a kinking of the cystic duct, which produces overdistention of the bladder, and this in turn calls forth severe colic, which is often attributed to the presence of stones. The proper treatment in these cases is the removal of the gall-bladder; then there can be no recurrence.

Empyema of the gall-bladder may result in perforation through the abdominal wall, into the gut or into the peritoneal cavity. In any of these events spontaneous cure may result, just as it may in cases of appendicitis. However, the spontaneous cure in both diseases is the exception, and to wait for it is often to invite disaster. Stones may remain in the bladder or ducts in spite of perforation, and a new inflammation may be set up at any time.

Rarely do we find jaundice associated with inflammations of the gall-bladder. As jaundice only results when there is an obstruction to the flow of bile from the common duct, and as this obstruction takes place in only a small number of cases, we see that in the majority of our cases of cholecystitis and of cholelithiasis we have no right to expect jaundice to be present.

Kehr gives the following positive indications for operation:

1. Acute seropurulent cystitis and pericystitis.
2. Adhesions resulting from a pericystitis, if symptoms are present (pain, pyloric or duodenal stenosis, ileus, etc.).
3. Chronic obstruction of common duct.
4. Chronic obstruction of cystic duct.
5. All cases that begin mildly but are progressive, do not improve under treatment, and which incapacitate the patient from enjoying life or attending to his affairs.
6. Purulent cholangitis and liver abscess.
7. Perforation of gall-bladder and peritonitis.
8. Gallstone morphinism.

By an early operation we save our patient much pain and the dangers of suppuration, cancer, and peritonitis. And how much easier and less dangerous is an operation on the gall-bladder than one on the common duct? A cholecystectomy done early is not much more dangerous than an appendicitis operation in the interval. The danger of cancer developing in the presence of gallstones is real. According to Loebker, cancer of the biliary tract was present in 10 per cent. of his gallstone cases. In 162 operations for gallstones, Czerny found cancer 30 times, almost 20 per cent.

Stone in the common duct is so dangerous, not only on account of the difficulty of removing it, but also because the inflammation spreads from the duct to the smaller biliary capillaries. We then frequently are confronted by the picture of a cholangitis, with its terrible sequelæ. Obstruction of the common duct by a stone regularly leads to enlargement of the liver, which is regularly absent in case the stone is in the gall-bladder or cystic duct.

In rare instances, where there have been colics present before operation, no stones are found. The gall-bladder is found distended with turbid bile, and its mucous membrane is inflamed. These are cases of cholecystitis not due to cholelithiasis, but to an infection pure and simple, probably from the gut.

v. Winiwarter holds that the diagnosis of gallstones is an indication for operation, while Kraus, of Carlsbad, waits for a vital indication before advising operation. Does not the truth lie midway between these two extremes? Surely an operation for gallstones should not be an ultimum refugium. Some cases, *e. g.* seropurulent cholecystitis and empyema of the gall-bladder, are to be operated on as soon as the diagnosis is made. Other cases, *e. g.* those of repeated jaundice with passage of stones, can be treated for some time without operation. To give our patients the benefit of rational treatment, we must do more than diagnose the presence of gallstones. We must diagnose the location of the stones and the degree of inflammation present, and then we are in a position to decide whether or not an operation is indicated. Moreover, we must individualize, we must treat the patient and not the disease, always keeping in mind, however, that early operation in these cases is almost as free from danger as it is in appendicitis. If we would operate in every case in which we could make the diagnosis of gallstones, we would often operate unnecessarily. On the other hand, if we waited for a vital indication, *i.e.*, until the patient's life is endangered by the disease, before operating, then very often the patient would die after the operation; not as a result of the operation, but as a result of the delay in operating. Here, again, the analogy to appendicitis is striking. If in cases of appendicitis we do not delay operation too long, the overwhelming majority of our cases recover. The same is true of cholelithiasis. Unfortunately, however, the laity is not yet fully aware of the fact that

in these cases also early operation gives such brilliant results.

In many cases delay in operating is far more dangerous than operating. I need only allude again to the difference between removing stones from the gall-bladder and from the common duct. And yet we know that in the early stages of the disease the stones are almost always in the gall-bladder, and rarely in the ducts. The mortality after operations in the former class of cases is about 2 per cent., in the latter class about 20 per cent. Moreover, if septic or pyemic conditions supervene, or if cancer develops, the case is almost certainly hopeless. If we wait until complications require operations on the stomach, intestine, pancreas, or peritoneum, the operative mortality rises to almost 50 per cent.

Riedel's statistics prove conclusively that the danger of infection of the biliary passages is increased enormously as soon as one or more stones are lodged in the common duct. According to the same authority, and there are few more capable of judging, an operation should be performed after the first attack of colic without jaundice, provided no stones were passed. If, with the attack, there is jaundice and one or more stones are passed, then no operation is indicated.

The writer firmly believes that it is as wrong to wait for jaundice before advising operation for gallstones as it is to wait for peritonitis before advising operation for appendicitis. The worst time to operate for gallstones is when jaundice has developed; the worst time to operate for appendicitis is when peritonitis has developed. If we are sure the icterus is inflammatory, an operation is indicated. If the icterus is due to stone, it is dangerous to operate. But how often are we unable to say whether we have to deal with the one or with the other pathological condition? If the jaundice is due to the presence of a stone in the common duct, we wait. Not only is it a difficult and tedious procedure to remove such a stone, but there is also the added danger of shock, besides the great danger of hemorrhage due to the impairment of the coagulability of the blood. It is therefore much better to operate before any stones get into the common duct, before jaundice develops, before adhesions to surrounding organs have formed, before a cholangitis or a cancer has developed.

Choice of Operation.—The whole trend of modern progressive surgery is towards the removal not only of the gallstones, but also of the diseased organ in which they develop, the gall-bladder. Primary cholecystectomy is to-day the operation of choice in the large majority of cases of gallstones. The reasons for this are manifold: (1) The mortality is very small, lower even than after cholecystostomy. (2) The wound heals much more rapidly. (3) There is no danger of recurrence, either of the cholecystitis, or of the formation of new stones. (4) No secondary operations are necessary.

Naturally, stones in the common or hepatic ducts should be removed at the same time with the gall-bladder, and if necessary, drainage instituted either through the stump of the cystic or through the common or hepatic duct.

Even in empyema of the gall-bladder, where that viscus is enormously distended with pus, a primary cholecystectomy can be rapidly performed. The writer has in several cases removed such a gall-bladder in less than half an hour, and in one case in less than fifteen minutes. And further, the mortality after the complete removal of such gall-bladders is much lower than after simple incision and drainage. Naturally, if we operate before a severe infection has taken place, and before stones have traveled down into the common duct, our results will be still more satisfactory.

Only five years ago our operative mortality in cases of acute appendicitis was almost 20 per cent. To-day it is considerably less than 10 per cent. And why? Because the profession, as well as the patients, have come to realize the enormous advantage of early operation.

May we not hope that the time is not far distant when doctor and patient will be convinced that it is quite as important to operate for gallstones while the disease is still limited to the gall-bladder as it is to operate for appendicitis before the disease has spread beyond the appendix? When we have arrived at that happy stage, then, and not till then, will the results of gallstone operations be as brilliant as are those for appendicitis to-day.

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## OBSERVATIONS ON A NEW METHOD OF ELICITING THE EXTENSOR PLANTAR REFLEX, AND ITS SPINAL LOCALIZATION.

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The present paper is written mainly to submit to other neurologists for experimentation a new method of eliciting the extensor response of the great toe, namely, by stroking the upper and inner surface of the thigh.

The reverse plantar reflex first described by Babinski in 1896 is now generally acknowledged by clinicians as one of the most valuable aids in determining the presence of involvement of the pyramidal tracts. More recent interest has been given to the reflex by Oppenheim and Gordon's describing their methods of eliciting the same phenomenon.

H. Oppenheim (Medical Record, Vol. 65, No. 1, p. 8) called attention to a reflex which occupies a position close to that of Babinski. Normally by stroking the inner surface of the leg from above downward with either the thumb or the handle of the percussion hammer, or, by pinching the inner surface of the leg there is produced either no reflex or a flexion of the toes. Under pathological conditions, *i. e.* in affections of the pyramidal tracts instead of a plantar flexion of the toes a dorsal flexion of the toes and foot is observed. This reflex differs from Babinski's not alone in the point from which the reflex is brought about, but in that not only the extensor longus hallucis, but also as constantly the tibialis anticus, the extensor communis digitorum, and the peronei participate in the movement. In the Babinski phenomenon, by stroking the sole of the foot only the extensors of the toes are made to participate. Oppenheim claims there are not a few cases in which the estimation of the toe reflex, according to Babinski, is uncertain and in such cases his reflex may prove decisive.

A. Gordon (*American Medicine*, Vol. III, No. 23, p. 971) under the heading, "A New Paradoxic Flexor Reflex, Its Diagnostic Value," describes another method of obtaining the same extensor response of the great toe. By grasping firmly and deeply the calf muscles, so deeply as to carry the pressure to the flexor muscles of the deep layer, he found that the great toe or all of the toes could be brought into the position of extension in many cases where the pyramidal tracts were involved. In other cases than those in which the pyramidal tract was involved the reflex was invariably absent.

I have found recently in a number of cases of in-

volvement of the pyramidal tract on one side that the same extension of the great toe can be elicited by stroking the inner side of the front of the thigh with the handle of the percussion hammer. The response to the irritation was at times confined to the extension of the great toe, at times to extension of all the toes, and, occasionally, when the Oppenheim and Gordon reflexes were absent, but the Babinski present, the stroking of the thigh gave definite and extreme extension of the great toe. Normally, on stroking the inside of the thigh either there is no response in the toes or they undergo (plantar) flexion.

In one case of hemiplegia in which the lesion occurred in infancy, the patient had grown to womanhood and was admited to the obstetrical ward, carrying an eight months child. She walked with a hemiplegic gait, but had gained considerable control

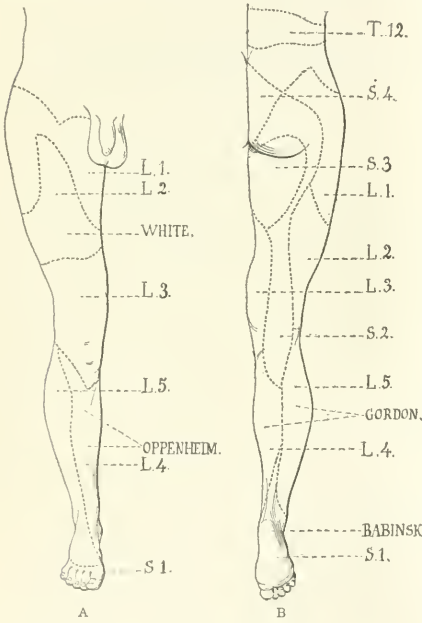


Diagram of skin areas of the leg and thigh corresponding to the different spinal segments; A, anterior, B, posterior aspect.
(From Osler's Practice of Medicine. D. Appleton & Co.)

over her leg muscles. Her arm was of little use and was the seat of contractures. At first the extensor reflex of the great toe could be elicited beautifully in all four ways, but toward the end of her confinement her legs became so swollen from edema that the Oppenheim and Gordon responses disappeared, but the irritation of the sole of the foot and front of the thigh still gave very definite extensor movement of the great toe. In all of these reflexes the readiness of response is greatly increased by coaxing, *e. g.* the Oppenheim reflex can often be obtained after several times producing extension of the toe by plantar irritation.

I have not had the opportunity to try this reflex on a sufficient number of pathological cases to prove its value, but wish to offer it for trial in other clinics. If the different diagrams of the segmental distribution of the sensory nerves to the skin of the parts primarily irritated to produce this curious phenomenon be examined, it will be seen that they involve at least four segments of the cord, viz., from the second lumbar in the thigh to the first sacral on the sole of the foot. The one thing common to all the reflexes is the extension of the great toe, which appears to be also the specific feature. This extension is governed by the contraction of the extensor longus hallucis. This muscle is represented according to Starr in the anterior horn of the fifth lumbar segment. Now one thing is certain that no matter where the irritation is applied it must in some way reach the anterior horn cells in the fifth lumbar segment that governs this muscle. I have reproduced here the diagram from Osler's "Practice of Medicine," modified from Head's diagrams as an indication of the skin distribution of the several segments. Most of the other diagrams conform more or less to this one. In this it will be seen that the sole of the foot is represented in the first sacral segment; the skin over the inner surface of the tibia (Oppenheim) in the fourth lumbar segment; that on the back of the leg (Gordon) in the fourth and fifth lumbar segments; that on the inner side of the front of the thigh in the first and second lumbar segments. (I think it possible from results in stroking the calf that the Gordon reflex may be a skin reflex.) From this rather wide distribution in the spinal cord it is evidently possible to reach the anterior horn cells of the fifth lumbar segment. Such an ending for branches of the neurones conducting centripetal impulses is indeed possible if we accept the histological pictures of our Golgi and Marchi preparations. In the former, both ascending and descending limbs of primary sensory neurones are found embracing several segments, and in the latter degeneration in the posterior columns, both above and below the level of the severed posterior root, is found.

The combination of these reflexes if they have been correctly interpreted, furnishes an interesting clinical demonstration of the anatomical and pathological findings.

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## NÆVUS PILOSUS PIGMENTOSUS AND OTHER SKIN LESIONS TREATED WITH LIQUID AIR.*

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THINKING that it might be of some interest to the profession at large, and especially so to the dermatologist, it has occurred to me that a report of ten or twelve cases of various skin lesions treated with liquid air would not be inopportune. These clinical experiments and observations were made by me, with the assistance of the house surgeon (Dr. Mook) at the New York Skin and Cancer Hospital, in the clinic of Dr. George Henry Fox. During the past year so many nævi, especially the hairy mole variety, have come under my observation, that it was determined to make again some scientific attempt to remove these unsightly blemishes; and if they could not be wholly eradicated, to try, at least, to improve the appearance of the patients suffering therefrom. We have run the gamut, as have most other dermatologists, in an attempt to find a cure for this strange congenital condition, which is almost as great a bugbear to the dermatologist as cleft palate is to the surgeon. Electrolysis, caustics (carbolic, nitric, and trichloracetic acids), injections of alcohol, excision, etc., etc., have all been used; some sporadic cures have been effected in mild cases with each of the above mentioned remedies, but nothing that has gone

* Cases shown before the New York Dermatological and Genito-Urinary Society.

before seems to compare to or approximate the treatment under consideration.

Being greatly interested in similar experiments going on elsewhere, it was decided to put a certain number of selected cases under this plan of treatment, and through the courtesy of Dr. A. C. White, an afternoon's supply of liquid air was obtained once a week. For the benefit of those who may not have read the various scientific articles on liquid air, of several years ago, I will quote briefly, telling what it is, and some of its physical characteristics.

Liquid air is the common air we breathe, very much reduced in temperature. It liquifies at 312° F. below zero. We can readily understand how cold it must be, when we are told that it is about 400° colder than the ordinary atmosphere air. The composition of the normal air is 77 parts of nitrogen to 23 of oxygen, with a small quantity of carbon dioxide. Practically the same proportion exists when the gases are liquified. To the eye, the liquid seems to be boiling, giving off fumes similar to those of nitric acid. It is slightly opalescent in color, and to the touch it feels very cold and dry, giving a sensation of tingling. It evaporates rapidly, consequently it can be kept but a short time. We have been unable to keep it at the hospital more than two days. Its method of transportation seems to be a great stumbling block, as it will explode if corked up tightly; therefore a small hole is always left in the stopper, from which evaporation goes on. It is transported, at the present time, in a glass bulb; within the larger bulb is a smaller one; the intervening space between the two is a vacuum. This is called a "Dewar" bulb.

The method of application is either by the spray or swab, and the latter method was used on all the patients whose histories are given. A long white pine or orangewood stick, with a piece of absorbent cotton twisted around the end, is all that is necessary. A small, firm pledget of cotton, grasped in a volsellum forceps can be used if preferred. This is dipped in the liquid until the cotton is thoroughly saturated, the excess being allowed to drop off before it is applied.

The applications were made once each week, this being frequent enough in my opinion; and it subsequently proved to be sufficient in some of the cases, a longer interval was necessary, on account of the inflammation set up. The amount of pressure exerted at each application has given us some food for thought, and is one of the important points connected with the treatment. It varies, of course, with the amount of reaction desired by the surgeon.

For convenience of description, I will divide it into three arbitrary degrees, light, medium, and hard pressure. Light pressure causes a slight reaction and inflammation, all that is needed in some instances (erythematous lupus, for example). Medium pressure will cause a superficial slough; this medium pressure is the kind called for in the hairy mole. Hard pressure will cause a deep slough (sometimes used on an epithelioma).

The degree of reaction desired is left entirely to the operator, and "just how hard to press" is acquired only by observation and practice. The process is one of freezing; it renders the tissues extremely hard, so hard, in fact, that when tapped lightly with the reverse end of the stick, a sound is produced as if a pine board had been struck.

The pathological condition produced is of two kinds: a light application produces an anemia, followed very soon by a localized congestion; if medium or hard pressure is exerted on the tissues, an obliterating endarteritis is brought about with a consequent slough.

A certain amount of scarring has followed in most of these cases; however, the results have been extremely satisfactory, and a cosmetic effect has been produced far superior to the original lesion. Very little, if any, scarring takes place if the treatments are made infrequently and over a long period of time, provided the first degree of pressure is used; this naturally is the happiest result that can be obtained, as regards both the patient and the surgeon.

The liquid acts as a local anesthetic, and therefore causes no pain; the only sensation is one of slight tingling and burning. During the evaporation of liquid air, the nitrogen is given off much more quickly than the oxygen; consequently, after a few moments, the liquid is rich in oxygen; this has suggested the question as to whether the almost pure oxygen does not have some beneficial influence on the tissues. I must say that the liquid air has a marvelously fine effect on some of the chronic skin lesions, and the investigations at the Hospital will be continued by Dr. J. Francis Aitkin and myself.

Case I.—Nævus Pilosus Pigmentosis. A. F., boy, aged 11. The lesion was situated on the left upper eyelid, extending slightly beyond the outer canthus. It was brown, very hairy, darkly pigmented, resembling greatly the skin of a mouse; 1½ inches long, ½ inch wide, and with edges sharply circumscribed. About 12 applications of liquid air were made. Some edema of the eyelid and a rather profuse amount of lacrymation followed the applications. The hair began to disappear after the fourth treatment; ulceration commenced and a scab formed. Healing took place under the scab, leaving a clean and practically normal skin.

Case II.—Nævus Pilosus Pigmentosus. E. E., girl, aged 5. The lesion was situated on the left cheek, just to one side of the left angle of the mouth; about the size of a twenty-five cent piece; deeply pigmented, covered with hair, mouse-skin variety. Liquid air was applied about six times; a great deal of inflammation followed the last treatment, but the case progressed favorably; there was some slight scarring, but a fine result.

Case III.—Nævus Pilosus Pigmentosus. A. F., girl, aged 16. The lesion was situated on the right side of the nose; ¾ inch long, ½ inch wide; covered with long brown hair, mouse-skin variety. Seven applications were made; the hair entirely disappeared and nearly all the pigmentation; there remained a healthy scar, very slightly pigmented at one point; good result.

Case IV.—Nævus Pilosus Pigmentosus. R. K., girl, aged 6. The lesion was situated on the right temple just beyond the outer canthus of the right eye, pigmented as in the above cases. Three applications of liquid air resulted in a cure. There was a smooth white scar, hardly noticeable, except on close inspection.

Case V.—Nævus Pilosus Pigmentosus. C. R., woman, aged 24. The lesion was situated on the lower part of the left cheek, just to one side of the left angle of the mouth; pigmented and covered with thick reddish brown hairs; same kind as in the above cases; size of a twenty-five cent piece. Five applications of the liquid were made. The lesion healed with the exception of a small spot in the center, which still contains some hairs. The result bids fair to be as good as in the other cases. The patient is still under treatment.

Case VI.—Nævus Vasculosus (strawberry mark). S. R., girl, aged 12. The lesion was situated on the nose; it was the size of a large bean. This patient received five treatments and seemed to be improving when she disappeared, not having returned to the hospital after the last application was made.

Case VII.—Nævus Vasculosus (strawberry mark). M. R., woman, aged 35. The lesion was situated on the right temple, very close to the ear; size irregular, about 1¼ inches by ¾ inch. About six applications have been made at intervals of two weeks on account of the inflammation set up; quite a marked improvement up to the present time. Case still under treatment.

Case VIII.—Epithelioma. M. T., woman, aged 46. The growth was situated on the right side of the nose about ½ inch from the inner canthus of the eye; size of a large pea or bean; edges slightly raised; waxy indurated border; base red and scaly. Had been treated with ointments for a long time. Two treatments; first application caused a slight redness; second application caused the formation of a small crust, which subsequently fell off, leaving a smooth white scar.

Case IX.—Epithelioma. S. O., woman, aged 57. The growth was situated on the lower lip, near the angle of the mouth; it started as a small papule three years ago; became crusted and the crust fell off several times in succession, the lesion growing larger in the meanwhile. In September, 1904, it was about the size of a ten-cent piece, and very much indurated. Had received twenty *x*-ray exposures, resulting in a supposed cure, but a relapse occurred in September, 1905. One application of liquid air on September 26. Result, cure.

Case X.—Lupus erythematosus. S. C., woman, aged 45. Duration of disease 2½ years. There were lesions on both cheeks near the ears, and a small one on the forehead. Liquid air was applied on the right cheek only; other treatment on the left side. The lesion on the right cheek healed rapidly with three or four applications of liquid air.

Case XI.—Lupus erythematosus. R. A., woman, aged 30. A patch of this disease, about the size of a silver dollar, was situated on left cheek, high up. The patient has had three treatments with marked improvement; is still under treatment.

There does not seem to be any doubt about the beneficial effect of liquid air in cases of epithelioma, lupus, and nævus pilosus pigmentosus. In cases of nævus vasculosus, there is slight improvement; insufficient experience, as yet, prevents a more definite statement.

56 East Twenty-fifth Street.

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**Why We Are Sometimes Obliged to Reoperate in Gallstone Cases.**—James E. Moore declares that the various conditions which require a second operation are fistula, stones that have been overlooked at the first operation, adhesions, cholecystitis, and the reformation of stones. Since it has been the custom to attach the gall-bladder to the peritoneum, biliary fistulæ have been rare. As a rule, when fistula remains now, it is due to obstruction of a duct by a stone or stricture. The larger number of secondary operations are for the removal of stones which were left at the first operation. No gallstone operation is complete without a thorough examination of the cystic, common, and hepatic ducts. A finger should explore the gall-bladder. A thumb and finger should then palpate the whole course of the ducts from the peritoneal side. Probes are fallible. As a rule, after removal of the stones, adhesions disappear. Certain gall-bladders become inflamed, and require an operation even after the stones have been removed. The writer does not believe that the view that recurrence of stones rarely if ever occurs, is rational. There can be nothing to hinder the entrance of bacteria into the gall-bladder a second time. Stones recur in the kidney and bladder, and it seems as probable that they may recur in the gall-bladder.—*Northwestern Lancet.*

**A New Radical Operation for Large Femoral Hernias.**—Polya says that none of the methods occluding the femoral thus far in use is very effectual in cases in which the canal is very large. He describes a procedure in which the hernial orifice is plugged with the proximal stump of the sartorius muscle, which is cut across for this purpose. The steps of the operation are as follows: A T-shaped or L-shaped incision is made over the hernial site and the skin flaps are dissected back. The saphenous vein is tied off and cut away, the sac is tied off as high as possible and the stump buried. The sheath of the sartorius is then incised from the middle of the anterior superior spine of the ilium to the middle of the thigh. The muscle is cut across and the proximal stump is drawn through an opening in its posterior sheath and stuffed into the femoral canal as deeply as possible. It is then sutured to the pectorical fascia, and to the ligaments of Cowper, Gimbernot and Poupart. The burial of the muscle is completed by several heavy sutures passing through Poupart's ligament, the sartorius stump and the pectorical fascia. A wide flap of fascia lota is dissected up and reflected over the femoral ring and is sutured to the neighboring structures so as completely to cover the site of operation. Finally the skin incision is closed. The author has treated two cases by this method, one with prompt recovery, and at the autopsy of the second patient, who died of erysipelas some time later, it was found that firm healing of all the layers had occurred so that peritoneal protrusion was impossible. He recommends the method only for severe cases, however.—*Zentralblatt für Chirurgie.*

**Organized Water as a Food.**—John Uri Lloyd first discusses molecular water, which in both crystal and colloid tissues is capable of expulsion by dessication. He then suggests that water may be combined in an untold number of liquid organic structures that are as yet invisible, uncrystallizable, and beyond the reach of our senses as organized bodies. He declares that water supports life, governs life, nourishes life, feeds all structures, and constitutes the larger share of all organic tissues. It seems strange that it should be viewed as a carrier of something else only. The writer further suggests that the vitalized water of organized water-bearing foods, and the combined water of such foods as carbohydrates and fats, are the foundations of the real foods for tissues, affiliating other materials, such as nitrogen, carbon, and hydrogen, which are subject to the dominating agent, water. Organic structures may, some time, be defined as products of the migration of the water molecule. It may be that a closer inquiry into the water molecule, the vitalized or easily vitalized water molecule and its many shadings will open up a field for the construction of more rational food products.—*Pacific Medical Journal.*

**An Unusual Wound of the Diaphragm.**—Muscatello presented to the Medicochirurgical Society of Parma a patient who had recovered from a very unusual wound. He had received a knife thrust in the side, corresponding with the lower margin of the ninth rib on the right, in the anterior axillary line, and the omentum had become prolapsed. The knife had made a large wound in the eighth costal space, had severed the ninth cartilage, and cut the diaphragm to the extent of 9 centimeters. The rib had evidently diverted the knife from its course, so that the penetration had been slight, and the viscera had not been wounded. The omentum was resected, and the wound closed with thirteen sutures. The diaphragm was sutured through the pleural surface. The literature contains 27 cases of transpleural suture of the diaphragm.—*La Riforma Medicc.*

**Gangrenous Prolapsed Hemorrhoids.**—Baracz is in favor of immediate radical operation in this condition. The bowels are cleared with castor oil and the sphincter is well dilated under deep anesthesia. The gangrenous hemorrhoids are clamped as far as possible from the necrotic area, and destroyed with the actual cautery. The bowels are opened on the sixth or seventd day.—*Zentralblatt f. Chirurgie.*

MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

THOMAS L. STEDMAN, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, July 8, 1905.

## "CARBONACIDEMIA."

THE past few decades have been enriched by many discoveries dealing with the extraneous causes of disease, while the study of the internal factors has unfortunately suffered in its development. During the seventies and early eighties, physiology had begun to exert a favorable influence on both pathology and therapeutics, but then the advances made in the study of the various pathogenic microorganisms occupied the attention to such an extent that it became difficult for investigators in opposing lines of thought to gain even a hearing. And now the pendulum has been swinging back again, and physiological pathology—if we may call it thus—is again being cultivated. One result of this will undoubtedly be that the production of fads will be stimulated, for it will be an easy matter to attribute this or that obscure complaint to the presence in the body of some substance less easy of demonstration than a bacterium or plasmodium.

We have heard a great deal lately about autointoxications of various kinds, due to the retention in the system of the weaker acids in abnormal amounts. Renewed interest has been generated in the uric acid theory by the recent publications of Haig, the absorption of toxic products other than bacterial from the intestinal canal is occupying the attention of numerous investigators, and now we are finally being made acquainted with the fact that an excess of carbonic acid in the tissues may be an important factor in the etiology of many diseased conditions. An interesting contribution to this subject has recently been made by Lahmann of Dresden, who designates this abnormal retention as "carbonacidemia," or "carbonacidosis." In order to appreciate his theory it will be necessary to review certain facts in respiratory physiology. It is a matter of common observation that on awakening in the morning, respiration becomes accelerated and deepened, with a corresponding increase in the amount of carbonic acid gas eliminated. During the course of the forenoon, the latter becomes reduced until at the time of the mid-day meal a renewed acceleration takes place, to be followed in the afternoon by a second decline and a somewhat slighter rise after the evening meal. If, therefore, the excretion of $CO_2$ is increased during the morning hours and remains stationary in spite of the ordinary muscular and cerebral activity, or, in fact, is diminished, this furnishes strong ground for the belief that during the night there occurs a retention of carbonic acid in the blood and in the tissues. To this phenomenon, Lahmann applies the term physiological nocturnal carbonacidemia.

The sodium content of the body is the important neutralizing agent for the acids in the system, and the excretion of these, particularly uric acid, is entirely dependent upon the amount of sodium which remains uncombined with $CO_2$. An abnormal quantity of the latter therefore means a reduction of the sodium in the blood and a consequent interference with the excretion of uric acid. As the $CO_2$ is mostly gotten rid of during early morning hours, it will be seen that a greater poportion of free alkalies is available for the uric acid and allied substances, so that in this manner the increased excretion of uric acid which has been found to occur during the early morning is apparently accounted for. The physiological retention of carbonic acid in the system has thus the effect of causing a retention of uric and other autotoxic weak acids. Furthermore, the abnormally high $CO_2$ in the tissues affects the various nerve centers and a narcotic effect is produced by this less oxygenated blood. But before this becomes manifest, that is, during the early morning, when the $CO_2$ excretion is at the minimum, the slower heart action of the earlier parts of the night has already brought about a diminished arterial pressure, with a consequent lessening of the peripheral circulation and a compensatory filling of the internal organs. Among the other effects of this saturation with $CO_2$ is a vasomotor constriction of the peripheral capillary vessels, and here the writer thinks that a transition from a physiological to a pathological condition is readily possible. It is interesting to read how he accounts for the production of many ailments by assuming that they are due at least in part to circulatory states brought about by this oversaturation of the blood with carbonic acid. Women are especially prone to these disturbances, because they present normally a less active $CO_2$ excretion, and in the treatment of these disturbances in women who are languid and apparently weak no attention should be paid to these characteristics. On the contrary, instead of being pampered and cuddled, active exercise is the best means to overcome this false fatigue, and a rest cure should always be alternated with periods of activity.

The field which is opened up by this theory is very extensive and can be made to include almost all the internal diseases which are not known to be due to bacterial, parasitic, or other toxic causes. If we apply it to treatment, the main indication appears to consist in means for stimulating the respiratory center, so that the excess of carbonic acid may be gotten rid of through the medium of the lungs. Lahmann claims that in many hydriatic procedures the good results are as much due to reflex stimulation of the respiratory center as to any direct effect on the vasomotor system. The most satisfactory means of obtaining the desired end he has found to be the open-air bath, and in the large number of cases in which he has applied it the results have always been well marked and permanent. It is also advisable in most instances to supplement this by appropriate treatment with alkalies.

If further observations bear out the facts cited in Dr. Lahmann's pamphlet, an important advance in therapeutics will doubtless have been gained. It is curious to note, however, the sudden appearance of the carbon theory of gout and other diseases. In an article in the MEDICAL RECORD of June 17, Francis Hare argued plausibly in favor of "hyperpyremia," as he calls the hypothetical accumulations of carbonaceous material in the blood; and at the

conclusion of a paper on the use of formic acid in the treatment of rheumatic conditions, in the following issue, Couch asserts that one of the most prolific causes of disease is the presence of carbonic acid in the blood—the "carbonacidemia" of Lahmann.

## THE THERAPEUTIC VALUE OF COLORS.

A STUDY of the effects of color upon the minds of those diseased, as well as of those in health, would open up a very interesting field. That color effects may be therapeutically beneficial or otherwise, does not seem to be appreciated by either the medical man or the artist. When we are seeking for methods that will prove helpful in diseases, we should take advantage of anything which promises even a small measure of success, more especially when it can be so readily applied in connection with other means to aid, to maintain, or restore the sanitary equilibrium of man.

The impressions that different colored furnishings make upon persons, if studied and utilized, might be of value in many conditions, especially in disturbed mental states. The sensation that one experiences upon entering a room, which is largely due to the blending of colors used in the decorations, is perhaps unconsciously felt, but yet it often makes itself apparent in determining the mental condition of the visitor. It is not alone the sanctity of place which affords a peaceful sense of repose on entering the cathedral or church. The effect of the harmonizing lights from the stained glass windows influences largely in this feeling of repose of body and mind. Then the exhilaration experienced when viewing the panorama of a landscape in autumn when the variegated colored foliage is in evidence, the restful gray at the close of day, and the gorgeous display of color effects at sunset, are always in evidence.

Colors symbolize the emotions, and these are depressing or uplifting. Black represents death, sorrow, the close of day, night, and the tomb. These last are dark and still, while death is the going out of the light of life. Red is the symbol of joy in all oriental countries, and has been so from prehistoric times. We have the red at sunrise, the birth of day and the reappearance of life. The young and healthy are of ruddy complexions, while the perfected fruit is often red. Yellow belongs to the autumn of life—"the seer and yellow" to the sunset, or close of day or life. White symbolizes innocence and purity.

Red may appear to one a violent color, therefore, a disturbing one; while to another, it may prove soothing. Yellow, or yellow and green, white and gald, pale blue and silver, will be colors which appeal to some. The decoration of interiors of dwellings, offices, and public places, such as churches, theaters, lyceums, etc., should be made a careful study for its various color effects not only upon the individual but upon the masses. How much the somber coloring used in decorating the dining room influences digestion as against the cheerful blending of color effects should be studied and determined. Iodosyncrasies of those who are to occupy residences, or in the case of invalids who must remain in one room for a long time, probably for weeks or months, should be carefully studied in selecting the colors for decorations. In nervous and mental conditions the judicious choice of color effects in decorations will doubtless prove highly beneficial. It would be interesting to learn the results of experiments made along these lines.

## TUMOR GROWTH IN ITS REFERENCE TO THE CAUSATION OF DISEASE.

DR. JOHN CHIENE publishes in the *Edinburgh Medical Journal* for June his introductory lecture to the class of operative surgery in the University of Edinburgh, April, 1905. The lecture deals with the causation of disease with special reference to tumor growth. Referring to the reproductive action inherent in the human cell, Dr. Chiene quotes what he said on that subject in 1896. "Our bodies are made up of these cells, and there is going on within us the double process of nutrition and reproduction, which is in every particular the prototype of the processes of nutrition and reproduction as we see them in the higher animals and in man, with all the physical forces in full play, so closely associated with these two great manifestations of life. In each cell we have, possibly, the father side (the paternal), with its outcomes, strength, courage, endurance, self-reliance; and the mother side (the maternal) with its outcomes, tenderness, gentleness, unselfishness, and self-sacrifice." The terms "maternal" and "paternal," thinks the writer, may be modified probably after puberty, as to the acquirements of the individual from surroundings and from himself by two important organs, the testicle and ovary; in their essence, however, they are derived from our ancestors. Thus Dr. Chiene argues that if the ancestral —maternal and paternal—elements can be modified by the testicle and ovary, we are justified in assuming that we may modify the maternal and paternal by therapeutic means. In a few words, if the maternal and paternal elements become unbalanced, producing disease, cannot the balance be restored, and may not the hidden functions of the reproductive cells be of use to us in an attempt to explain the causation of disease?

With regard to the causation of tumor growth, the writer postulates that in the consideration of the life history of anything living we must consider (1) its tissues, (2) its surroundings, and (3) its adaptation to these surroundings. According to Dr. Chiene a tumor starts because of a want of balance in the two elements (paternal and maternal) in the cell, and it continues growing because that want of balance is present in the surrounding cells, or in the fluid by which the cells are bathed, that is, in the cell food. The abnormal agent acts when the two elements in the tissues have lost their balance.

Early uncontrolled maternity is, in the opinion of the writer, the essence of malignant tumor, and the cells of a person predisposed to tumor growth have the maternal element in a marked degree. Dr. Chiene thinks that too many investigators are spending their time in searching for the "abnormal agent" when they might be better employed in devoting their energies to the study of the question: Why is the cell fertile to an abnormal agent?

## THE DIAGNOSTIC VALUE AND THE THERAPEUTIC EFFECTS OF LUMBAR PUNCTURE.

LITTLE precise knowledge exists concerning the degree of pressure under which the cerebrospinal fluid is contained within the membranes and cavities of the brain and cord, both during health and in conditions of disease. Likewise the indications for and the limitations of lumbar puncture, both as a diagnostic procedure and as a therapeutic measure, have not

been as yet clearly defined. A means to this desired end is afforded by a simple and ingenious instrument devised by Dr. Frank C. Eve (*Lancet*, April 22, 1905). It consists of a lumbar puncture needle with a detachable handle, and adapted on the one hand to a vertical graduated glass tube and on the other to an exit tube closed by means of a spring clip. The apparatus is sterilized by boiling just before being used. The patient lies on one side with the knees drawn up and the back arched, the head and spinal column being approximately horizontal. After the skin has been carefully cleansed, the needle is introduced at the level of the iliac crests one-half inch below and external to the spinous process of a vertebra. The pressure can be read off as the cerebrospinal fluid runs up the manometer tubing. By clamping the manometer tube and removing the clamp of the exit tube fluid can be obtained for study. From an ounce to an ounce and a half of fluid can be permitted to escape for the relief of pressure. As a result of observations made in some 50 clinical cases with the instrument described Eve believes that the therapeutic effects of lumbar puncture are often greater than is generally believed. The good effects are to be attributed to the relief of excessive tension, irrigation of the brain by fresh fluid secreted in place of that withdrawn, temporary cerebral hyperemia resulting from dilatation of the blood vessels to take the place of the fluid withdrawn until a new supply is secreted, or, conversely, arrest of cerebral anemia due to excessive intracranial pressure and a substantial change of cerebral environment, of which nature may sometimes be able to take advantage. From a diagnostic standpoint the withdrawal of pink fluid is indicative of cerebral hemorrhage, fracture of the skull with injury to the dura mater, or severe superficial cerebral laceration with rupture of the pia mater. The development of a faint spider's web clot after the fluid has stood for several hours points strongly to meningitis. Cytological, bacteriological, and inoculation studies may afford important diagnostic aid. Occlusion of the cerebral from the spinal cavities from the presence of a tumor or of hydrocephalus may be recognized from failure to obtain fluid. Lumbar puncture may be justifiable in cases of cerebral hemorrhage when the pressure is high, provided the reduction in pressure be made slowly to one-half and not too soon after the occurrence of the bleeding. The treatment should not be employed without the use of a manometer. Experience in one case suggested the possible existence of a disease in the cerebrospinal cavity analogous to glaucoma in the ocular cavity, that is a disease of high pressure due to obstructed outflow of secretion. Surprisingly good results were obtained from lumbar puncture in cases of fracture at the base of the skull, cerebral concussion, post-traumatic cerebral disturbance, cerebral thrombosis, severe chorea, uremic coma and optic neuritis, anomalous ataxia, and tuberculous meningitis.

### Cerebrospinal Meningitis in Europe.

Cerebrospinal meningitis has been as prevalent in certain parts of Europe during the past few months as in New York. In Germany cases have occurred in all parts, while in Silesia an epidemic of the disease has been raging. The *Edinburgh Medical Journal* of June, referring to the matter editorially, notes that the Prussian authorities have distributed information and advice in regard to the disease amongst the medical profession and the general public. The editorial in question also advances the opinion that in Great Britain its presence may be expected at any time in an epidemic form, and suggests that the English Local Government Board adopt the same action as it adopted with such marked success when there was a threatened invasion of cholera, and more recently of plague, namely, sending circulars of advice to local authorities. It may be hoped that the New York Commission will unravel some of the many unknown features of cerebrospinal meningitis, for at present there is no disease concerning which less is known, and consequently the means of prevention and treatment are unsatisfactory in the extreme. Until something more is learned of the disease, circulars of advice are of little more value than blank paper.

## News of the Week.

**Lodge Practice in California.**—In obedience to a resolution that was passed by the judicial council of the California State Medical Society at its recent meeting, the Secretary of the Society has sent a circular letter to the various societies in affiliation, asking an expression of opinion in regard to lodge practice. An almost immediate result has been the passage by several of the societies, of resolutions to amend their by-laws in such manner as to exclude from membership all physicians who are "guilty" of engaging in lodge practice. In a few instances it has been forbidden also to make life insurance examinations for less than $5 each. Some of the societies, however, long ago refused membership to lodge doctors.

**The Pure Food Movement.**—An organization known as the National Food Manufacturers' Association, with headquarters in Chicago, has been formed for the purpose of protecting "the legitimate manufacturers of food and food products and the consumer against adulterated, fraudulent, and unwholesome food." Dr. Harvey W. Wiley, chief of the Bureau of Chemistry, has gone to Europe under instructions from Secretary Wilson to make an exhaustive investigation of methods of preparing and preserving food products for shipment to America. He will visit all of the leading cities of Europe which have an export food trade with the United States and will be gone until the middle of September. The policy is to have a more rigid inspection of foods. Upon his return laboratories will be established in Boston, Philadelphia, New Orleans, and Chicago. At present the only inspection laboratories are in New York, San Francisco, and Washington.

**A Circular of Instruction Regarding Mosquito Extermination.**—A four-page circular setting forth the causes and prevention of mosquito incubation, which has been prepared by Dr. A. H. Doty, Health Officer of the Port of New York, has been issued by the Board of Health. A copy will be mailed to every family on Staten Island in the hope that they will learn from it the simple means of preventing mosquito propagation. The circular explains in detail the great variety of places where mosquitos may hatch. A paragraph is devoted to the methods of proper draining and the economical use of crude oil.

**Laying of Corner Stone of Michael Reese Hospital.**—The corner stone of the new building being erected by the Michael Reese Hospital will be laid on July 4 by Herman F. Hahn, chairman of the Hospital Committee. An address will be delivered by Governor Deneen. This new hospital, which will cost approximately $500,000, will be completed next May. It is to be six stories high, and equipped with the most approved heating, lighting, and ventilation systems. There will be accommodations for 240 beds,

including 60 private rooms. There are to be three operation rooms, and special provisions for isolating patients in the surgical, medical, gynecological, and maternity departments. The children's building, for both pay and charity patients, will be separate from the main buildings, and will have an entrance from the outside.

**A Fatal Impulse.**—An indigent Hebrew who had been treated at one of the city hospitals recently complained that while there the word "Fakir" was branded on his chest. On investigation it appeared that he was being treated for neuralgic pains in the chest with the thermocautery, and that while one interne was making the application, another doctor entered the room and remarked that the man was a fakir. In response to an unconscious impulse, as he alleges, the manipulator of the cautery traced the letters in question on the man's skin, an act for which he was summarily dismissed from his position on the house staff. According to one newspaper account of this affair, the thermocautery is an instrument by means of which particles of benzine are injected under the skin and ignited by an electric spark.

**A State Society for Colored Physicians in Virginia.**—At a meeting of colored physicians in Richmond on June 26, a State medical association, to be known as the Old Dominion Medical and Surgical Society was organized. The following officers were elected: *President,* Dr. Charles R. Alexander, Petersburg; *Vice-Presidents,* Drs. W. E. Atkins, Hampton, R. J. Boland, Roanoke, and Albert Johnson, Alexandria; *Journalist,* Dr. E. R. Jefferson, Richmond; *Recording Secretary,* Dr. A. W. G. Farrar, Richmond; *Corresponding Secretary,* Dr. H. L. Harris, Richmond; *Treasurer,* Dr. R. E. Jones, Richmond.

**Public Health Matters in Chicago.**—The hospital population in Chicago (1,798) was lower on July 1 than at any time since last November. The only disquieting feature in this indicator of the state of the public health is an increase of the typhoid fever contingent, unusual at this season of the year and due, probably, to the poor quality of the public water supply during the past two months. Excepting smallpox, all the other contagious and infectious diseases show a decrease in the number of cases reported—diphtheria most marked, 28 cases during the week, as against 36 the week before. There were 18 cases of smallpox discovered, as against 15 during the week of June 17.

**Decrease of Typhoid Fever in Philadelphia.**—For the week ending July 1, 82 new cases of typhoid fever were reported, as compared with 146 cases for the preceding week. The majority again occurred in wards receiving their water supply directly from the Delaware River. Not a single case was reported from the Twenty-first and Twenty-second Wards, both of which are supplied with filtered water.

**A New Superintendent for Bellevue Hospital.**—Eighteen candidates appeared to take the civil service examination held for the purpose of selecting a new general superintendent for Bellevue Hospital. The Municipal Civil Service Commission will send the list of applicants who received the highest rating to the Board of Trustees of Bellevue and Allied Hospitals, and the trustees will select a new superintendent from the lot. The salary is $6,000 a year.

**Site for City Sanatorium.**—Health Commissioner Darlington has secured permission from the local authorities for the location of the city's sanatorium for tuberculous patients in the towns of Greenville and Mount Hope, Orange County. Options have been secured on several thousand acres of land and the establishment of the sanatorium now seems certain.

**Lower Death-rate in Philadelphia.**—For the week ended July 1 there were reported to the Philadelphia Bureau of Health 441 deaths, as compared with 451 during the preceding week, and 533 during the corresponding week of the previous year. One hundred and forty-eight of the number occurred in children under the age of five years.

**The Medical Society of the State of California** has been incorporated for the purpose, as stated in the articles of incorporation, of unifying the interests of the physicians and surgeons of the State and to establish and maintain free clinics and dispensaries for the treatment of the sick poor. The Board of Directors is composed of the following physicians: Drs. A. G. Dardarff, George G. Gere, W. A. Harvey, H. W. Hunsaker, and C. P. Higgins.

**Bequests to Hospital.**—By the will of the late John L. Devereux of Philadelphia, the Polyclinic Hospital, the Episcopal Hospital, and the Home for Crippled Children have each received $3,562.

**Yellow Fever at the Isthmus.**—The cabled reports from Panama show that during the month of May there were six deaths from yellow fever, and during the month of June ten more. Only six of these were canal employees, though the working force on the Isthmus numbers nearly 10,000.

**A Guillotine Experiment.**—At a recent public execution at Orleans, the doctor in attendance seized the prisoner's head as it fell in the basket and shouted the man's name in the ear, whereupon, it is said, the eyes opened slowly and then closed. The same response was elicited a second time, but a third call was without effect. The incident, if authentic, affords an interesting demonstration of the persistence of reflex nervous excitability.

**$17,000 for War Against Mosquitos.**—The Board of Estimates has made an appropriation of $17,000 to enable the Health Board to prosecute its campaign against the mosquitos on Staten Island.

**Kansas University to Give Medical Course.**—Beginning September 6, 1905, the University of Kansas will give, for the first time, a full course leading to the degree of M.D.

**Wayne County (Mich.) Medical Society.**—At the recent meeting of this society, held in Detroit, the following officers were elected: *President,* Dr. S. H. Knight; *Vice-President,* Dr. E. J. Kendall; *Secretary and Treasurer,* Fred Thompson.

**Dr. Edward H. Shields** has been elected professor of skin and venereal diseases at the Miami Medical College, Cincinnati.

**Dr. Samuel Iglauer** has been elected associate professor of laryngology to the Ohio Medical College, Cincinnati.

**Chicago Emergency Hospital.**—This new hospital was opened on June 27. It is located at 309 Fifth Avenue. The surgeon-in-chief is Dr. Richard M. Fletcher.

**Jenner Medical College Commencement Exercises.**—This college also held its graduation exercises, and 15 degrees were given. Dr. Stuart Johnstone delivered the address, and Dr. John D. MacKellar was class valedictorian.

**New Free Clinic for Tuberculosis.**—A free clinic for tuberculosis patients has been established at the Cincinnati Polyclinic by the local branch of the National Antituberculosis Society. Drs. B. F. Lyle, J. H. Schröder, and Iliff will be in charge.

**Obituary Notes.**—Dr. William Leavitt Jackson of Roxbury, Mass., died at Nanheim, Germany, on June 22, at the age of 52 years. He was born in Gardner, Me., and was graduated from the Harvard Medical School in 1876.

Dr. W. C. Barnes of Marion, Ind., died June 20, of apoplexy, at the age of 58 years. He was born near Jalapa, Ind., and was graduated from the Medical College of Indiana in the class of 1874.

Dr. Richard M. Fletcher died June 10 at his home in Madison, Ala., at the age of 74 years. He was graduated from the Medical Department of the University of Pennsylvania in 1854. He was a surgeon in the Confederate army during the civil war.

Dr. John B. Enright of Louisville, died on June 20. He was born in Kentucky, and was graduated from the Medical Department of the University of Louisville in 1885. He was for a number of years demonstrator and then professor of anatomy in the Kentucky School of Medicine.

Dr. Daniel P. Neihart died at his home in Nebraska City, Neb., on June 18, at the age of 83 years. He was born in Germany, and received his degree of M.D. at Heidelberg in 1850.

Dr. Charles E. Francis, formerly one of the leading dentists of this city, but retired for the last four years, died July 2 in Stamford, Conn. He was born in Hartford in 1827. He was one of the founders of the New York Dental College, and was for many years president of the Dental Society of New York.

## Correspondence.

### OUR LONDON LETTER.

(From Our Special Correspondent.)

ARMY REPORT—HOSPITAL SUNDAY—IMMUNE AREAS—ANTIS—FEEBLE-MINDED—ECTOPIC GESTATION—THYROID-LIKE STRUCTURES—DEFORMED FETUS—PRIMARY CANCER OF FALLOPIAN TUBES—ABDOMINAL TUBERCULOSIS IN CHILDHOOD—OBITUARIES.

London, June 16, 1905.

The Report of the Army Medical Department for the year 1903 was issued on Saturday. The admissions to hospital during that year represented a ratio of 758.1 per 1,000 of the strength, and the deaths 7.13 on a strength (including detached men not shown in the returns received) of 263,888. In 1902, the ratios were 751.9 and 7.52, and for the decennial period, 1893 to 1902, the corresponding ratios were 927.4 and 8.57. It is stated that these ratios compare favorably with other armies, and the death rate is not considered excessive.

Hospital Sunday is fixed for the 25th, and almost all the preparations are made. There is much hope of a better collection than last year, and general expressions that the London public requires considerable stimulation in this work.

We have had some important statements made of late respecting the immunity which Barbados enjoys from malaria. It is said that the anopheles is not found in the island. Sir P. Manson says an analogous local immunity is found in the Pacific Islands, where elephantiasis and filarial diseases prevail, but malaria in several of the islands is unknown. As it is hardly likely that the anopheles has never visited Barbados, it has been suggested that some agent which destroys it may be the cause of the immunity, and Mr. Kenrick Gibbons, a many years' resident, says there is a tiny fish which swarms in all the ponds and pools and is appropriately called "millions," which lives largely on the larvæ of mosquitos. But then, how is it the fish has not also exterminated the other mosquitos found in Barbados?

The various "antis" that flourish among us seem to have one common characteristic—they are mostly anti-truth. One scarcely knows how otherwise to account for the statements circulated. Among those lately sent to sensational papers is the assertion attributed to a "surgeon in the German army," that in 1888 when he was on duty at Strasburg there were over 2,000 cases of smallpox in one house." Our anti-vacs should explain how this staggering statement is to be reconciled with the official returns for 1888 of 184 cases in the whole German empire.

Dr. A. F. Fredgold, Research Scholar of the County Council, gave evidence before the Commission on the Feeble-Minded. He thought it theoretically correct to say that all patients suffering from mental defect in any degree should be subject to permanent detention, but, practically, he doubted the possibility of applying compulsory detention to the mildest grade of feeble-mindedness, though much might be done in the way of supervision.

The variations that have been observed in tubal gestation have often provoked comment. It has been followed by a pregnancy in the opposite tube, has been repeated on the same side, has occurred simultaneously in both tubes, in one tube and the uterus, and in a tubal stump after operation. Mr. Doran reported a case at the Obstetrical Society which had twice been under his care in hospital, with clinical evidence of tubal pregnancy first on the right side and a year later on the left. On account of increasing swelling, pain, and hemorrhage laparotomy was performed, and clots, with both tubes and the right ovary, were removed. The patient was phthisical and died thirteen months later. Mr. Doran said he had had three cases in which normal pregnancy had followed removal of a pregnant tube. The question might be asked whether it would be justifiable to remove the opposite tube when operating for tubal gestation, as a second abnormal pregnancy is evidently possible.

Dr. Boxall mentioned a case in which normal pregnancy and delivery occurred a year after removal of a ruptured tubal pregnancy.

Dr. H. R. Spencer said he had operated on three cases of bilateral tubal pregnancy, and in two others had observed uterine pregnancy after tubal.

Mrs. Scharleib mentioned a case of ectopic gestation operated on in July last and said the patient was now five months pregnant.

Lieut.-Col. Sturmer said the case which he lately reported to the Society, in which at the time of operation the opposite tube was red and swollen, but was not removed, ectopic pregnancy again occurred. He thought it would have been better to have removed both tubes.

In his reply, Mr. Doran remarked that the evidence supported the view that after removal of a tubal gestation if pregnancy occurred, it was usually normal, so that it was not justifiable to remove the other tube.

Dr. Russell Andrews related a case of ruptured interstitial pregnancy. The period was only six days overdue and the gestation cavity in the left corner only just admitted the point of his thumb. The uterus was removed by supravaginal amputation, both ovaries being left. He raised the question, whether in such cases, with so early rupture, the uterus might not be left, merely excising the affected corner and suturing the raw surfaces.

Mr. C. Singer exhibited a case of extreme ectopia vesicæ and absence of the colon in a full-time fetus which lived fourteen days.

Dr. Hamilton Bell reported two cases of multilocular cysts removed by operation, in which thyroid-like structures were formed. Having mentioned various possible explanations he accepted that of colloid degeneration of an ordinary cystic adenoma of the ovary. Dr. Williamson agreed that the appearance was brought about by pressure exerted by the colloid contents in the smaller loculi upon the columnar epithelium of an ovarian adenoma. But he thought it further possible that some cases were of a teratomatous origin.

Dr. Cullingworth exhibited and described specimens of primary carcinoma of both fallopian tubes from a woman of 41. The diagnosis was rather obscure, and after a month in bed without benefit operation was agreed to, as there had been such suffering for two years. On a preliminary enema being given, a pint of bright blood passed by the rectum, and under anesthesia a small fistulous opening was found four inches from the anus. On opening the abdomen malignant disease was seen to affect both tubes. No extension to other parts was felt. No ascites. The patient died suddenly eighty-four hours after operation. It was suggested that the cancer developed in an old hydrosalpinx.

Dr. Branson has read a paper at the Medico-Chi. on abdominal tuberculosis in childhood, founded on forty cases at the East London Hospital. An unaccountable loss of weight with irregularity of the bowels calls for careful examination under an anesthetic. Hard enlarged mesenteric glands and the tuberculin test are the only means of distinguishing the disease from simple gastroenteritis in an early stage. Later the diagnosis has to be made from cirrhosis of the liver and diffuse peritoneal sarcoma, both of which are rare in children. Palpation must be relied on to differentiate tuberculous peritonitis from simple gastroenteritis, the large glands in the latter disease being soft and impalpable. In six out of eleven fatal cases the disease was limited to the abdomen, and more frequent early operation was suggested.

Dr. Carr said the disease was practically unknown in the first year of life, and later improper feeding was concerned, although less milk was given, throwing doubt on its supposed origin from milk. He attributed some influence to the crawling habit of this period of life. Tuberculosis of the glands is not uncommon without intestinal infection.

Prognosis was better in acute ascitic cases, which he thought due sometimes to blood infection.

Dr. Sydney Phillips admitted tuberculosis of the peritoneum without primary intestinal infection. Parietal adhesions in these cases were not the only cause of intestinal obstruction. He had not seen ascitic fluid speedily absorbed, and the results of operation were favorable.

Mr. S. Paget thought the only surgical procedure should be incision or paracentesis. Attempts to resect the gut or remove the enlarged gland would end in the child's death.

Dr. A. E. Garrod commented on the great preponderance of thoracic over abdominal tuberculosis in infancy. In peritoneal cases the glands had failed to intercept the bacilli.

Mr. J. D. Malcolm remarked on the presence of calcareous glands found in abdominal sections performed on adults.

A number of recent deaths call for notice. Foremost, as one best known to me, the venerable Fred James Gant, F.R.C.S., 1861, M. 1849, for about half a century a prominent surgeon and teacher. He was at the Royal Free Hospital, at which the Woman's Medical School arranged for its clinical work. His "Science and Practice of Surgery," must be well known to you, for three editions were called for, as well as his "Principles of Surgery," which reached a fifth editon. His other surgical works and contributions were numerous. He had served as president of the Medical and vice-president of the Medical-Chirurgical Societies. Of late years he devoted himself to philosophical studies, the extent of which you may judge from some of the books he published, as "The Land of Humanity;" "Our Dead Selves to Higher Things," "Modern Natural Theology," the "Mystery of Suffering," and several other volumes, most of which arrived at successive editions. He passed away on Tuesday, the 6th inst.

Dr. Jas. St. John Gage Parsons died on the 2d inst. He took the membership of the College of Surgeons in 1843, the Fellowship in 1858, and the L.R.C.P. in 1859. He was engaged in the cholera epidemic at Bristol in 1859. The honorary M.D., of Chicago, was conferred on him in 1870. Besides contributions to the medical journals, he published a translation of the Proem of the Gospel of St. John with notes.

Dr. James Murphy, A.M., M.D.(Dub.), a leading surgeon and gynecologist in the North of England, died on the 30th ult., in his 52d year, of pneumonia. He was at work up to the 27th, so his illness was very short. He had been a lecturer in the Durham College since 1878. His last choice being "Medical Jurisprudence." He was surgeon to the Sunderland Infirmary and other hospitals, and contributed various papers on surgery and gynecology to the societies and journals. He was a great favorite with his colleagues and his pupils, a man of sterling character and generally trusted.

Dr. Emanuel May died on the 3d inst., in his 88th year. He took his early diplomas in 1839-40 and became M.D. (Heidelberg), and member of the College of Physicians in 1871. He wrote a work on Diphtheria (1889), and various contributions to the *Lancet*, etc.

Colonel Wm. Owen Wolseley, R.A.M.C., died on the 3d inst. He took the licenses of the Dublin Colleges of Physicians and Surgeons in 1879, and added the D.P.H. of Victoria University in 1893.

Surgeon-General John Warren, late of the army medical staff, died on the 4th inst., aged 70. M.R.C.S., 1856.

## OUR BERLIN LETTER.

(From Our Special Correspondent.)

THE RÖNTGEN CONGRESS—RADIODIAGNOSIS OF INTERNAL DISEASES—DETECTION OF RENAL CALCULI—X-RAY TREATMENT OF CANCER—RÖNTGEN RAYS FROM HIGH TENSION CURRENTS—EMPLOYMENT OF THE CATHODE RAYS—RÖNTGENOGRAMS OF MUMMY BONES.

BERLIN, June 10, 1905.

THE second Röntgen Congress was a great success. Men interested in this subject from nearly all of the countries of the scientific world were gathered together at Berlin, and although no new and striking discovery was announced, nevertheless the work that has been done by the Röntgen ray was thoroughly reviewed up through its most recent developments. The results of such a meeting of the best specialists in this line were most valuable. Although Röntgen himself was not there this fact must be accounted for by his modesty. The ovation that would have been tendered to a man who has made such brilliant progress within a few years in this work, he wished to avoid. In three days nearly ninety papers were read. They were so arranged that two days were devoted to the medical aspect of the question, while one day was given up to the technical side. More elaborate papers introduced a number of special ones according to the plan followed at the Surgeons' Congress.

v. Leyden and later Grunmach discussed the employment of the Röntgen ray in internal medicine. v. Leyden briefly spoke of the great advantages of the use of the Röntgen ray in the diagnosis of the diseases of the heart and large vessels, and of the lungs, and he treated in detail the disease of the vertebræ and of the spinal cord. By his researches he is now able to determine the early stages of spondylitis tuberculosa, spondylarthritis ossificans, as well as the presence of tumors. Fractures and dislocations of the vertebræ were easily seen by means of the Röntgenograms. Also in diseases of the spinal cord certain cases can be diagnosed very early. A fine paper, which met with great applause, was presented by Lenhartz of Hamburg, who described sixty-one cases of gangrene of the lungs that he had studied. These cases, which had been diagnosed by the Röntgen rays, had suffered insuperable difficulties when studied by other methods. He cured in this way 64 per cent., while previously 75 per cent. had died before the employment of the Röntgen ray. One especially interesting case was that which presented four foci. These were diagnosed and operated on one after the other. The case was illustrated by Röntgenograms.

Hennecart of Paris, Balsomoff of Sofia, and Köhler of Wiesbaden, discussed the question of tuberculosis of the lungs. The importance of being able to see the calcified bronchial glands was emphasized. Hennecart, especially, is so positive that a beginning tuberculosis can be detected by this method that he proposes that every pupil, every soldier, and every man who intends to take out a life insurance policy shall be so examined.

Branner, Holzknecht, and Weinberger, all from Vienna, agreed almost perfectly that this method gives a clear diagnosis in cases of diseases of the esophagus, stomach, and intestines, for by its aid the workings of the ingesta mixed with bismuth, can be oberved.

Hoffa of Berlin presented the chief paper dealing with diseases of the bones, and he gave a short sketch of the influence of the Röntgen ray in diseases of the bones and joints. He also recommended the use of the Röntgen ray in the treatment of these troubles by orthopedic apparatus. On this subject the paper read by Ludloff of Breslau was also of the greatest interest. He has found in his researches that in cases of pain in the lower part of the back due to traumatism, there is often a fracture of the fifth lumbar vertebra. Settegast of Berlin, from his work in relation to cases suffering from injuries to the ankles and feet, stated that the ligaments tear before the bones break. As to the question of foreign bodies, the greatest interest was centered upon their localization and upon kidney stones. Drüner of Frankfurt-am-Main demonstrated the position of certain foreign bodies, such as balls in the brain, by means of stereopticon Röntgenograms. Grashey of Munich showed an operating table so constructed that the operation could take place while the Röntgen ray was being used. By applying the compression diaphragm it now seems to be possible to find kidney stones in nearly all cases. Leonard of Philadelphia has been most successful in this line of work, failing to find the stones in only three cases out of three hundred and thirty-four.

Albers-Schönberg of Hamburg, and Sträter of Aachen, demonstrated by a number of Röntgenograms, the appearance of the normal kidney.

The question of the treatment of malignant tumors also came up for discussion, although there has been little advance in this work. Lassar of Berlin did not recommend the Röntgen ray for the treatment of the milder neoplasms, but he did advocate this method in the case of malignant tumors. The large tumors should be treated by other methods because the effect of the Röntgen ray does not extend to a great depth. Unger of Berlin demonstrated sections from a carcinoma of the mamma, which had been subjected to the Röntgen ray, in which the effect of the treatment did not extend deeper than 5 mm. below the surface. He added that up to the present time no absolute cure of cancer by the Röntgen rays has been observed. Schmidt of Berlin showed patients suffering from lupus, psoriasis, lichen ruber, and sycosis, who were cured by the Röntgen ray after all other methods of treatment had failed. Hennecart of Sedan was sure that the Röntgen ray produces sterility in male and female, and he declared that this method is already used by women for criminal purposes. For this reason he recommended the prohibition, by law, of this treatment.

In the technical section Max-Levy of Berlin recommended his protective covering, consisting of soft leather covered by a solution of metal salts, and he demonstrated a figure entirely covered by this tissue. Besides he has constructed a simple and excellent interrupter, which avoids the delay of the ordinary quicksilver interrupter. But the greatest interest centered in his new method of producing Röntgen rays by means of high tension alternating currents without an interrupter or condenser. All complicated apparatus is avoided by this new arrangement. The con-

sumption of the current is very small, and doubtless it will not be long before this method will come into common use. Wichmann of Hamburg demonstrated a new Röntgen tube, which permits only the rays used to pass out while it absorbs the other rays, which are injurious to both physician and patient. This tube also permits the treatment of deeper lying diseases, such as cancer of the uterus, fistulæ, and lupus of the interior of the nose. Robinsohn and Wendorff of Vienna have filled joints with oxygen and by this method have been able to see not only the bones, but also the ligaments, capsules, and cartilages. They demonstrated their beautiful results in a series of Röntgenograms, showing chronic joint diseases, such as tuberculosis, and joint deformities.

Strebel of Munich believes that he has been able to produce a more intense effect by the external cathode rays than by the simple Röntgen rays. These rays cause a very violent inflammation of the skin, and are useful for the treatment of lupus and cancer, which are affected in a far more efficient way by only one application than they are by other rays. Within two or three weeks the hairs fall out without any signs of a new growth. These rays leave very good scars, and thus the cosmetic effects of this treatment are happy. Finally, it is easy to direct them into the vagina and rectum for the treatment of new growths in those locations.

Albers-Schönberg, in experimenting with the bones of an Egyptian mummy 2,500 years old, found that the views of these bones were as satisfactory as those of fresh ones. It is impossible here to describe the Röntgen exhibition in its entirety. It was a most valuable conference, as had been anticipated. The most beautiful views were those of Richter of Munich, who showed pictures of the colon.

## "RESPONSIBILITY IN MENTAL DEFORMITY"—A CRITICISM.

To the Editor of the Medical Record:

Sir:—In an interesting and thought-stimulating article, entitled "Responsibility in Mental Deformity," in the Medical Record of May 27, 1905, Dr. James Weir, Jr., has well called attention to the wrong done certain unfortunates and the social state by classifying together the mentally deformed without disease and the insane whose insanity is due to disease. I have myself often wondered at the failure of the legal and clerical professions and public to recognize such distinction, but have thought it due chiefly to like ignorance displayed in medical writing.

The mind being dependent upon the brain for manifestation, it is evident that disease of the brain may interfere with normal mental activity, but it is not so generally recognized that among a given people mental obliquity in certain individuals, in contrast with the general mental qualities of that people, may be their normal state independent of inflammation, toxicity, syphilis, tumor, or other disease of the brain as an exciting cause. The lion kills, yet we do not attribute this animal's destructive type of mind to disease or even deformity of the brain. So individuals in society sometimes have normally (congenitally) so much of the lion type that they kill on slight provocation, while others whose whole previous behavior had been mild could commit murder only under the impulse of a diseased brain. Of course the brain of the murderous type may also become positively diseased, in which case, as in the lion, the murderous trait is apt to be further exaggerated.

But to our criticism. The author would seem, erroneously I think, to attribute cleptomania to a negative rather than a positive type of mind. To avoid possible misinterpretation I will quote: "Scientists tell us that there was a time in the history of man, when men held all things in common; 'mine and thine were unknown, and immediate possession was the only law. The dwelling, the boat, the spear, the cooking-pot, even the apron of leaves, and the wife, were communal; there was no mine and thine.' Owing to psychical deformity the cleptomaniac reverts to those ancient times; ethically he recognizes no difference between *meum* and *tuum*, and becomes, in this respect, the autotype of his savage ancestor. Modern law declares him insane; modern thought declares him psychically deformed."

Here the theory of evolution is raised, which in its broad meaning can readily be accepted, but we are led to infer that certain steps in that process had been so far accepted by scientists as to constitute science. It is asserted that in primitive man mine and thine were unknown, which may be interpreted as meaning that he had not the sense of property, that such instinct was of later development. Now, I will not pretend to say which of the existing animals were the ancestors of man, those which have or those which have not the sense of property, but it is certain that some presumably low in grade, as the squirrel, have the instinct to lay up, to hoard, strongly developed, while others which may be regarded as of higher grade have it not at all or only moderately developed, as the horse, dog, elephant. Neither am I in position to say that the marriage relation, the pairing instinct, is not of later evolution in man or his animal ancestors, but it is not, at any rate, always manifest in higher animals, as the horse, cow, dog, while it is strong in some lower in the scale, as the dove and fox. Even the races or individuals among men differ in degree in the strength of these two instincts, which possibly may be accounted for by difference of evolution through special environment since the primitive state of man, but which, for all scientists have demonstrated to the contrary as far as I know, may also have been due to some of our ancestors, coming up through those lower animals which possessed the instinct of property or marriage, while others sprang from animals deficient in one or both of these traits. It will not do to attribute the sense of property, the instinct to lay aside, to higher development of the moral sense, to honesty, for that would not account for its absence in the horse and its presence in the beaver. Among men some of the most moral, the most scrupulous in respecting the rights of others, are weak in getting and saving. Now it seems to me that cleptomania is a perverted or exaggerated action of the sense of property, a positive quality, not a negative quality which depends upon either moral turpitude or failure to distinguish between mine and thine. Indeed, some cleptomaniacs have had the sense of justice so strong, have recognized so clearly the rights of others to what belonged to them, that they have made prior arrangement to compensate for any theft which they might commit under the overpowering impulse.

If space permitted, the question might well be raised at this point whether the laws of modern society, which are based largely upon property rights, upon mine and thine in individual and family matters as distinguished from society interests, have not unduly influenced the views of anthropologists, especially in their conception of what may constitute mental qualities of higher or lower, earlier or later evolutionary development, and the part they are to take in the further history of evolution.

One more criticism. It may be inferred from the paper that the author is of opinion that all cases of mental deformity can be corrected if recognized and treated early. I am convinced this is not possible; that, like deformities of the body, some can be corrected possibly entirely or so far that they will not attract attention, but there are some which will persist through life, manifesting at times a "twist in the mind" to such degree as will render them liable to the restraint or punishment by society. But the recognition of the fact that there may be mental deformity independent of disease, that there may be strange types of character making the subject little more responsible than animals, will be better for such unfortunates and for society than to classify them among the insane whose insanity is due to disease.

R. C. Shultz, M.D.

Los Angeles, Cal.

## COCAINE IN OPIUM POISONING.

To the Editor of the Medical Record:

Sir:—Have we a safe and never failing remedy for poisoning by opium or its salts? I am sure we have. The history of one case will explain. Mr. A. B., 63 years old, married, became despondent over family troubles, and sought relief by the laudanum route. He took one ounce and was found in an outhouse about two hours later, with all symptoms of opium poisoning. The usual remedies were used—stomach pump, hypodermics of atropine, strychnine, and permanganate of potassium. The patient continued to sink. Six hours after taking the laudanum his life was despaired of by the attending physicians; the respirations were four to the minute; the pulse was barely perceptible at wrist, weak, and thready; the skin was cold and clammy; the eyes were not responsive to light or touch. This being a good case to test the efficacy of cocaine muriate, I gave at once 1-4 grain hypodermically, and repeated the dose every fifteen minutes. There was improvement from the first dose, and after the third dose consciousness returned, and the patient made a rapid recovery.

The point I wish to impress is this: When called to see a patient suffering from overdose of laudanum, opium, or morphine, the first thing to do is to give cocaine muriate in 1-4 grain doses. One should also use the stomach pump. Cocaine muriate and opium and its alkaloids are directly antagonistic in their action.

P. C. Gaston, M.D.

New Decatur, Ala.

**A Large Family in a Year.**—The Munich *Neueste Nachrichten* is authority for the statement that a certain Frau Hilgen of Trostberg, in Bavaria, has borne no less than six children in one year. She was delivered of triplets in January, 1904, and bore triplets again the following December.

# Progress of Medical Science.

*Boston Medical and Surgical Journal, June 29, 1905.*

**The Frequency, Prognosis and Treatment of Lobar Pneumonia in Infants and Children.**—In 217 personal cases of lobar pneumonia out of 839 cases of all forms of the disease, H. Koplik found the right upper lobe involved in 74, middle lobe in 8, lower lobe in 41, the left upper lobe in 35, and the lower lobe in 58. The prognosis depends on age, severity, kind of infection and complications, generally speaking cases below the tenth year offer the best prognosis. Out of the author's 82 cases extending over a period of four years, the majority of deaths occurred below the age of two and one half years (eight in number). The actual mortality of his cases was 9.7 per cent. The mortality is naturally greatest in winter. Complicating pericarditis is fatal, but above five years a pneumococcus pericarditis, a marked absence of leucocytosis foreshadows an unfavorable result. Otitis, pleurisy, and empyema do not materially influence the prognosis in infants and children if recognized early and properly treated. Treatment calls first of all for the management of the temperature if it is apparently doing harm. Here hydrotherapy is our sheet-anchor. Sponging and cold compresses are the preferable methods of application. The heart should be supported if necessary. Strychnine must be used with caution. The author has not seen much good result from the use of oxygen, but he insists on thorough ventilation—68° F. A sudden rise of temperature calls for examination of the ears. For cough and pain, codeia for older and paregoric younger children, meet all the indications. Calomel will relieve tympanites. Attacks of collapse are best combated by external heat to heart and extremities, with camphor and nitroglycerin internally.

**Acetonuria in Non-Diabetic Surgical Cases.**—Fourteen cases are reported by J. C. Hubbard. From these and cases reported by others, he offers the following conclusions: (1) Acetonuria is of more frequent occurrence than thought for. (2) Its presence without symptoms has no effect on operative treatment or prognosis. (3) Its presence with moderate symptoms is of only slight importance. (4) Its presence with severe symptoms is of the gravest prognostic value. Whether the severity of the symptoms on further study will be found to vary in direct proportion to the amount of acetone or diacetic acid present in the urine, Hubbard is not prepared to state. Several reports mention the use in such cases of bicarbonate of soda, in half dram doses every few hours.

*New York Medical Journal, July 1, 1905.*

**Varicella Gangrenosa.**—C. F. Kiefer reports a case occurring in a girl of sixteen months, who on the second day of the rash developed severe constitutional symptoms, and whose skin presented around several vesicles on the front of the chest and abdomen, the appearance as of a badly infected vaccination sore. Twenty-four hours later, the areas involved were covered with black, spacelated crusts. The condition became progressively worse for four days, the process becoming constantly deeper, until it seemed likely that in one place the abdominal wall would be perforated. The child did well, however, and recovered. The ulcer left at the above area did not heal entirely for four weeks. One application of bromine seemed to have a good effect. The smaller lesions left pitted scars not unlike those of smallpox. The author notes that the slough in the floor of the main ulcer closely resembled in color and appearance the exudate which covers surface wounds infected with the bacillus of diphtheria. To add to this, the child was in the same room with another child recently convalescent from diphtheria. Careful bacteriological examination failed, however, to show the Klebs-Loeffler bacillus. Direct examination of the exudate as well as inoculations, showed only the presence of the streptococcus pyogenes and the staphylococcus pyogenes aureus. No other organisms were isolated.

**The Etiology of Bradycardia.**—J. E. Greiwe reports one case with autopsy findings. The patient showed also evidences of the Stokes-Adams disease. The pulse rate ran from 30 to 38. The pathological findings were marked arteriosclerosis of the coronary arteries, aortic stenosis and insufficiency, pulmonary emphysema and sclerosis of kidneys, spleen, and liver. The heart muscle was not degenerated. The author says one should regard bradycardia not as a disease entirely, but rather as a symptom. He discusses the various theories of cardiac innervation, believing that the intracardiac ganglia have nothing to do with the cardiac evolution, but that they are to be looked upon as nervi nervorum. Clinically, bradycardia occurs most frequently with fatty degeneration of the heart. Next, with marked arteriosclerosis of the coronary arteries. Further, in other condition such as aortic, mitral, or pulmonary stenosis, acute cardiac dilatation and in rare cases of pericarditis, the ultimate conditions may be reduced to this—mechanical interference with the blood supply to the heart muscle, interference with the nutrition of the heart, interference with the metabolism of the heart muscle—hence a slower response, hence a prolongation of the refractory period. Interstitial myocarditis is evidently not an essential condition in the production of the slow pulse. It is one of the results of atheroma of the coronary arteries.

**How Far Shall We Go in Performing Multiple Operations at One Sitting?**—H. A. Royster discusses this question with special reference to gynecological work. He says that when multiple operations are demanded, it is better to do them all at one sitting. The patient is thus spared a second anesthesia and subsequent confinement, and chances for cure are equally good. There are limitations, however, to the number of operations to be done at one sitting, and, perhaps, in a given case there are contraindications which might make one or more of them inexpedient. The chief matter is the amount of time to be consumed. A careful estimate of this should be made beforehand, and, with an eye to the patient's powers of endurance, the definite methods outlined and arranged. In many cases of multiple lesions, the fundamental factor may be overlooked, and the patient, though operated on and recovering, be dismissed unrelieved. A practical lesson from this is the better taking of case-histories and closer physical examinations.

*Medical News, July 1, 1905.*

**Lavage of the Renal Pelves in the Treatment of Bright's Disease.**—The detailed histories of six cases are given by W. Ayres, who also describes the methods he prefers. His conclusions are thus stated: (1) Not enough importance has been given to the probability that a large percentage of cases of chronic nephritis, in whom no discoverable cause for the inflammation can be found, are really due to extension of inflammation from the renal pelves. (2) Lavage of the renal pelves is only applicable in selected cases of nephritis. (3) Lavage of the renal pelves will certainly cure a beginning nephritis that is due to extension of inflammation from the renal pelves. (4) Lavage of the renal pelves in subchronic and chronic parenchymatous nephritis will check the disease and markedly improve the general condition of the patient, in those cases that have not reached the stage known as cirrhotic kidney. (5) Lavage of the renal pelves for nephritis by one who is not properly trained in the technic, cannot possibly improve the condition of the kidney and may do harm.

**Fetal Manifestations of the Toxemia of Pregnancy.**—W. S. Stone records four personal cases. He says that the study of the lesions in the fetus must certainly establish their identity with those now recognized as associated with the effects of the eclamptic poison in the mother, as well as with those of other poisons. No uniform variations from the maternal lesions can be recognized in their distribution although possibly they may be considered in general to be less intense than those in the mother. Marked congestion and hemorrhages may be more uniformly present in the fetus, but no more than is seen in some individual examples in the mother. Cell destruction and necrosis is, however, not so uniformly present, although in certain instances the fetal liver cells have undergone marked changes. The prognosis for the fetus depends more on the duration than the intensity of the disease. The earlier in pregnancy, then, that disease begins, the less chance has the fetus for ultimate survival. In cases of short duration and severe intensity, although signs of asphyxia may be present, the child is frequently born alive. In cases of long duration, although comparatively mild for the mother, fetal death is more apt to occur, or, if born alive, the child is apt subsequently to develop eclampsia and die, presenting at the autopsy changes in the organs. As to the fetus itself being the etiological factor in the disease, it may be said that the following arguments have been advanced: (1) The more frequent occurrence of eclampsia in the later months of pregnancy; (2) its frequent occurrence in twin pregnancy, and (3) the cessation of the symptoms after the death or delivery of the fetus. Such fetal poisons even if small in amount, are harmful because they are delivered directly into the general circulation of the mother. If the latter eliminative functions are below par, trouble may result.

**What Advice Should Be Given to Women with Malpositions of the Uterus?**—C. G. Guild, Jr., says that such advice must depend on the class into which the individual case may fall. He divides all malpositions into (1) operative, (2) non-operative, and (3) questionable. The operative class may be further subdivided into those requiring immediate attention, and those in which it is safe to await for a reasonable time the convenience of the patient. Under the first subdivisions come those cases which may be classed as emergency ones, namely—inversion, incarceration, and irreducible prolapse of the gravid uterus, and adherent gravid retrodisplacements with symptoms of threatened

abortion. In the second subdivision are the complicated retrodisplacements, and hernia of the uterus either through the vagina or through the abdominal wall. In the non-operative class the author would include the uncomplicated retrodisplacements, and reducible hernia of the gravid uterus. The questionable class embraces the congenital type of cases, and retrodisplacements with symptoms relieved by reduction, but where the use of a proper pessary fails to accomplish an anatomical cure, or in young virgins where its use is unjustifiable. The congenital cases being errors in development are each a law unto themselves, and require a most thorough investigation. Where the retrodisplacement is the only abnormality present, the patient is often greatly benefited by an early operation, but where other marked evidences of maldevelopment exist the prognosis is unfavorable.

*American Medicine, July* 1, 1905.

**Rectal Alimentation.**—William Henry Porter reviews the literature on rectal alimentation and calls attention to the fact that owing to the limited amount of food that can be utilized in this manner, it is at best a very poor substitute for the natural method of feeding. It does in a measure relieve the pangs of thirst and hunger that of necessity follow the slow process of starvation which occurs when the stomach and small intestines are thrown out of commission. But so far as Dr. Porter's experience has gone, rectal alimentation has proved most unsatisfactory. He has tried all forms of substances, predigested and otherwise, for rectal alimentation, with but one result, namely, progressive starvation without the more intensely distressing symptoms.

**Two Cases of Korsakoff's Psychosis.**—Ross V. Patterson reports at length two cases which he regards as typical of this disease. He believes that only such cases as exhibit a pretty definite mental symptom-group due to some toxic cause and usually associated with multiple neuritis should be so regarded. Both cases reported were sudden in onset, of alcoholic origin and each exhibited the symptoms of ordinary severe multiple neuritis with marked weakness and inability to walk, disorientation as to time and place, marked fabrications, illusions of identity, hallucinations of sight and hearing, and defective memory with a certain peevishness and childishness of manner. After two months the mental symptoms in one case had improved sufficiently to show little more than feeble memory for recent events, and at the end of four months such improvement in the physical condition as gave promise of a more or less complete recovery from the multiple neuritis. The second patient died of cardiac exhaustion at the end of one month. Neuropathologic findings reported by D. J. McCarthy showed no gross change in the brain or spinal cord. Microscopical examination revealed marked degenerative changes in the anterior horn cells of the cord and throughout the peripheral nerves and muscles (Marchi method), pyknosis in some of the cells of the pyramidal layer taken from the rolandic area, diffuse moderate chromatolysis of the large Betz cells in the brain and a complete diffuse chromatolysis of the anterior horn cells in the cord (Nissl method). No changes were found in the subendymal tissues, neurolgia, blood-vessels, meninges, or by sheath stains in the spinal cord, medulla or brain.

**Some Phases of Tropical Malarial Disease.**—Thomas W. Jackson discusses some of the less common phases of malarial infection from the viewpoint of experience as an army surgeon in Cuba, the United States and the Philippine Islands, having studied 1900 cases in Cuba alone. His observations warrant the conclusions: Elevations of temperature and periodic paroxysms are not always present even in benign tertian infection; gastric and intestinal disturbances are sometimes the only expressions, even in an original case, and blood destruction may continue after objective symptoms disappear unless treatment be active and adequate.

**Surgical Aids in the Treatment of Paralyzed Muscles and Their Deformities.**—S. D. Hopkins asserts the treatment of paralyzed muscles and their deformities all depends upon the stage in which the case is observed. When mechanical means have failed to restore to usefulness, such surgical procedures as tendon transplantation or arthrodesis should be employed. The following precautions, however, should be observed in tendon transplantation: (1) Careful selection of cases. (2) Before muscle grafting is performed the electric reactions should be taken to determine the strength of the muscles to be transplanted. (3) The reinforcing tendon should be as nearly parallel as possible to the one to be reinforced and it should belong to the same muscle group, although this latter precaution is not absolutely necessary. (4) Overextension at the time of suture should be avoided, as subsequently the muscle will lose its contractile power. (5) The tension of the reinforcing muscle should be estimated by pulling upon it until it shows signs of complete resistancy. (6) Silk sutures should be used in the muscles quilted together firmly. (7) Strict asepsis should be observed during the operation.

*The Journal of the American Medical Association, July* 1, 1905.

**The Open Treatment of Burns.**—H. Sneve advocates the open method in the treatment of burns, that is, the disuse of occlusive dressings and reliance on strict cleanliness and perfect drainage for the healing of the injured surfaces. He remarks on the slight amount of pain in cases treated by the open method. When this is present, it is best relieved by morphine, but he advises giving as little of this as possible and none during shock. Another astonishing feature of the open treatment is the favorable character of the cicatrices which are smooth, flexible and skinlike. He says: First, treat the shock. Second control the pain as necessary and keep everything from contact with the burned areas. Third, keep the patient surgically clean. Ordinary surgical principles govern here as elsewhere; bichlorid of mercury, carbolic acid and other strong antiseptics are to be avoided when possible because they are such powerful cell poisons that toxic effects, both general and local, are to be feared; the delicate covering of granulations will not stand escharotic action without interfering with the production of smooth, flexible scars. Fourth, give frequent cold sponge baths to the sound skin with frictions, and keep the room temperature high. Fifth, cut away all blisters, cleanse with salt solution, dry thoroughly, and dust all second degree burns with stearate of zinc, carefully wiping away serous exudate until dry, brown, adherent crusts are formed. Sixth, leave third degree burns exposed without powder and keep surface clean until granulations are ready for skin grafting. Seventh, to maintain and to preserve function, body and limbs should be exercised as much as possible; the eschars of burns to fourth degree should be removed when nature so indicates and amputation should be performed when needed.

**Wandering or Aberrant Uterine Fibromyomata.**—Van Buren Knott gives the histories of two cases of detached or wandering tumors on which he operated, and a brief review of the literature of like cases which he has found rather scanty and unsatisfactory. The mode of their occurrence is explained by him substantially as follows; originating as sub-serous fibromyomata, they grow in the direction of least resistance and frequently become pedunculated. With the elongation and attenuation of the pedicle they acquire an increased range of motion and form "traumatic adhesions" to other abdominal viscera, acquiring a new source of nutrition, sufficient for their needs when that through their pedicle is cut off by rupture or atrophy. A tumor entirely loose in the abdomen, Knott thinks, could not long survive, and such as have been reported, he is inclined to believe, have been detached by the examinations to which the patients had been subjected. With their increased mobility, their interference with the functions of important organs to which they become attached, and their tendency to inflammation, they are more formidable than ordinary uterine fibromyomata. The treatment consists in removal when they are detected unless there are contraindications to operation.

**How to Use Antitoxin in Tetanus.**—J. Rogers says that it has been long known that prophylaxis is more effectual than treatment in tetanus. This means cleansing and thorough disinfection of the wound, and if the bacillus is found, immediate use of antitoxin continued daily for at least two weeks from the time of injury. As only that part of the toxin can be neutralized which is in the blood and tissues outside the nerves, the antitoxin should be injected directly into the veins and into the tissues surrounding the wound. Rogers advises the injection under proper precautions of 10 to 20 c.c. directly into the median basilic vein. Too little is more dangerous than too much. Next, the motor nerves supplying the infected region should be exposed as near the cord as possible, and each injected by a fine hypodermic syringe with five to twenty minims. He would pass a ligature around each nerve (except, perhaps, in case of the obturator) and leave it in place for the purpose of future injections as required. In addition to this blocking of the nerves he would go still further and block the spinal cord itself. If the injection is made into the cauda equina by lumbar puncture, assurance must be had by twitchings, etc., that one or more of the nerves in the cauda are injected. When symptoms are urgent he would inject the cord itself at the level of the sixth or seventh cervical vertebra, taking the risk of even a hemorrhage of the cord as a lesser evil than the spread of the tetanus infection. Local treatment of the wound is left to the last on account of the danger of multiple infection. It is imperative to destroy all the tetanus bacilli in or about the wound and the cleansing and disinfection must be most thorough. In extensive laceration or contused wounds this is impossible, and the only logical recourse is amputation of the member as near to the body as possible. The whole process, including the anesthesia, blocking of the nerves, etc., should be repeated every day

until the symptoms subside. The patient's strength should be kept up by the usual remedies of quiet, nutrition and antispasmodics, of which the best seem to be chloral, morphine and the bromides.

**Appendicitis in Trained Nurses.**—J. N. Hall remarks on the frequent occurrence of appendicitis in the trained nurses at the Denver City and County Hospital where he is a member of the medical staff. Excluding mild non-operative cases, he has records of 18 patients operated on among the pupils of five Denver training schools, the total number of nurses during the time under consideration being 296. Thus 6.08 per cent. were operated on, while a considerable additional number had mild attacks of the disease. Thirteen were operated on at the beginning of an attack and five were interval operations; the average age of the patients was 23½ years, the average duration of training at the time of operation was about 14 months. Every patient recovered with a practically perfect result. While he can only theorize as to the causes of this frequency, he suggests the unaccustomed requirements in many cases of standing and walking, constipation and trauma from action of the psoas muscle in working in the stooping position so often necessitated in the nurse's occupation, as worthy of consideration. The greatest single factor, however, he thinks is, the prompt recogniton of the condition, leading to an early and successful operation. If all cases could be managed as well, he believes the mortality of appendicitis could be practically wiped out.

**Relieving Uremic Hemiplegia by Lowering Intracranial Pressure.**—Robert N. Willson reviews his later experience in relieving intracranial pressure by lumbar puncture and drainage. He reports and analyzes briefly a number of cases thus treated, describes the other treatment employed and discusses the special points involved. He believes the following conclusions, here given in substance, to be warranted by the study of these cases: (1) Various toxins are influential in producing uremic symptoms; the most important of these is probably one originating in an abnormal digestive tract and resembling adrenalin in its physiological action. (2) Resulting from or coinciding with, toxic action, intracranial tension due to accumulated cerebrospinal fluid may and usually does cause most of the classic uremic symptoms and is often the dominant influence. (3) Spinal drainage only, and often does, relieve the symptoms of uremia. (4) Occasionally, however, when intracranial pressure has been relieved the toxin alone may cause the uremic symptoms. (5) Uremic manifestations (other than coma) due to intracranial pressure may be general or localized, including unilateral convulsions, monoplegia, hemiplegia, etc. The toxic influence independent of pressure causes only general manifestations, usually of an irritative and seldom or never of a paralytic nature. (6) Uremic hemiplegia and other uremic paralyses are usually due to direct pressure on or edematous infiltration of cerebral motor centers, and are then relieved by withdrawal of cerebrospinal fluid. (7) The frequent absence of general edema with an excess of intracranial fluid is suggestive. (8) Lumbar drainage should be used as a routine measure together with the other known means of reducing hypertension. (9) The ultimate cause of arterial hypertension of uremia is yet unknown. It seems not impossible that the fluid pressure is due to toxic inflammatory exudate producing intracranial hypertension and favoring a similar condition throughout the system; and that the symptom-complex of uremia is due to such a sequence of causes. Probably uremia cannot occur in the presence of low intravascular and intracerebral tension. (10) It would seem from experimental evidence that the toxic principle of uremia is not found in the cerebrospinal fluid. The experiments of Hughes and Carter in 1803 seemed to show that it may possibly be found in small quantities in the normal blood serum. (11) While lumbar puncture is not infallible or free from slight risk, it should be employed early and repeatedly in uremia if necessary to relieve hypertension; it may be life-saving and will often dissipate uremia for the time being. (12) Transfusion of salt solution is harmful in uremia by increasing hypertension and favoring some of the conditions of uremic seizure.

*The Lancet, June 24, 1905.*

**A Case of Aneurysm Simulating Dyspepsia.**—R. H. Corduer reports the case of a man of thirty-five years, complaining of indigestion. Some pulsation was visible in the epigastric notch which presented a sense of resistance, but no definite tumor. A faint blowing murmur was localized over a portion of the area. An *x*-ray test gave no shadow. The patient died suddenly three weeks after he entered the hospital and the autopsy revealed an aneurysm about the size of a small pear, involving the whole of the celiac axis artery and anterior aortic wall. It had ruptured into the peritoneal cavity. The splenic artery came directly out of the wall of the sac, which was nearly filled with an antimortem clot.

**Ringworm of the Scalp Treated by X-Rays.**—H. G. Adamson commends the use of the *x*-ray. He finds that if the proper precautions are taken, viz., (1) that the length of exposure is not allowed to exceed the limit set by the right use of the pastille; (2) that no area or part of any surface is exposed more than once; and (3) that the part exposed is kept at the proper fixed distance from the anticathode of the tube—there is no danger of permanent baldness or injury to the tissues. At the same time care must be taken that the exposure is sufficiently long or the fall of hair will not be complete and many diseased stumps will be left behind, requiring needling or other treatment afterwards. When a part only of the scalp is being treated, the remainder must be anointed frequently with a mild parasiticide or the falling hairs from the diseased patch will spread the disease elsewhere; this is explained by the fact that cultures of the fungus can be obtained from the depilated hairs showing that it has not been killed by the action of the rays. The "pastille" referred to by the author is a device, made from the paper of the ordinary fluorescent screen, for measuring the proper dosage of the rays. Its mode of use is described in full by the author.

**A Case of Polyarticular "Quiet Effusion."**—The patient of T. B. Jobson was a woman of twenty-four years, who for a year, had had symmetrical effusions of the knee, wrist, and first pharyngeal joint of the hand. There was a distinct family history of rheumatism. The attacks had begun when she was nine years old, and the various joints had been involved at different times. The attacks invariably came on in winter, but regularly subsided with the recurrence of warm weather. The patient was anemic and suffered from indigestion. The heart was sound, but she had had considererable amenorrhea, though its occurrence did not seem to bear any relation to the joint trouble. Regulation of these various functional abnormalities did not prevent the recurrence of the effusions. The author suggests that the condition may be either a neurosis or some form of arthritis, inclining to the former view. No form of treatment seemed to produce any lasting benefit.

*British Medical Journal, June 24, 1905.*

**The Induction of Labor: A Comparison of Some of the Methods, with Notes of Five Recent Cases.**—J. Spencer Sheill cites a short series of cases in which the methods used to stimulate uterine contractions were bougies, drugs—quinine—separation of membranes from the lower uterine segment, plugging, and instrumental dilatation. The writer calls attention to the grave risks of laceration always present when artificial dilatation is practised, more especially when carried to the full degree. In three of his cases when the circular fibers were artificially dilated the body of the uterus vigorously contracted by virtue of the intimate nerve connection between the segments. The writer advocates the use of the branched dilator, and prefers it to the inelastic bag of Champetier de Ribes. He considers it safer not to use it unless the cervix is taken up largely, if not entirely. He states that, working upon past experience, when a case comes under his care which for one reason or another requires induction of labor and great haste is not essential for the safety of the patient, if the os be small, he dilates up to about No. 16 or 18 Kelly's dilators. Three of the largest bougies capable of passing through the os at the same time are inserted into the uterus, and the vagina is tightly plugged with sterilized gauze. If this has not the desired effect in twenty-four hours, he advises a repetition of the treatment. As soon as the cervix is partly taken up, if the uterine contractions are not strong, he uses the Frommer dilator to stimulate them. Should the membranes be accidently ruptured during the use of the dilator, he says he would be tempted to use the hydrostatic dilators, but not until then.

**The Spread of Cancer by the Thoracic Duct.**—Nathan Raw has often observed that malignant disease of the glands of the neck occurs far more often on the left side than on the right. He has also often seen cases of apparently primary cancer in these glands without any evident focus of infection. He reports the case of a man, forty-six years of age, who began to complain of want of appetite, constipation, increase of weakness, and a gradual and steady loss of flesh. Two months before admission to the hospital there developed a hard, inflamed swelling on the left side of the neck; loss of vision in the left eye was noted at the same time. The patient had no active gastric symptoms. Over the splenic area there was some pain and a sense of resistance. Necropsy revealed a cancerous pancreas. The left side of the neck, including all the triangles, was involved in an irregular cancerous growth, evidently originating in the deep part of the subclavian region. Near its termination, the thoracic duct was found to be cancerous. This new growth was a typical glandular carcinoma. It is possible, so the writer states, that a more minute search in all cases of abdominal cancer would point to the more

common spread to other viscera and lymphatic glands by means of the thoracic duct.

**Dilatation of the Gall Bladder Simulating Ovarian Cyst.**—J. Basil Hall reports this case. The patient was seized with acute abdominal pain, vomiting and fever. A swelling in the abdomen which she had noticed for several months had become acutely tender. It extended upwards on the right side from the pelvic brim; it was oviform in shape and apparently cystic. Below the umbilicus the swelling extended to the left of the middle line, forming a second tumor like a small cocoanut. Ovarian cyst with twisted pedicle was the diagnosis, and celiotomy was performed. The left-sided tumor was found to be a cystic left ovary; it was almost gangrenous from twisting of the pedicle. The large mass of the tumor on the right side was a dilated gall bladder reaching to the pelvic brim. Over a pint of purulent fluid was evacuated from it, and a large impacted stone was removed. Recovery was uninterrupted. The symptoms of twisted pedicle had been attributed to the wrong tumor.

**Suspended Respiration Under Chloroform.**—H. Norman Barnett describes the following case: The patient at operation took chloroform badly at first, but later her condition was good, although the face was slightly cyanosed. About twenty minutes after the operation began, after the cervical glands had been removed, the pupils became widely dilated. A few minutes later without further warning respiration ceased. Artificial respiration was begun, nitrate of amyl capsules were used, and a hypodermic of strychnine was given. The pulse slightly improved, but respiration remained suspended. A second hypodermic of strychnine was given, but the radial pulse ceased to be perceptible and the heart could not be heard. Three bags of oxygen were given, artificial respiration being kept up, and the radial pulse again became perceptible and feeble breathing began. In about fifteen minutes the patient had entirely recovered. The writer insists that the anesthetic should be at once suspended if the pupils become widely dilated. He also calls attention to the importance of oxygen in restoring respiration.

*Berliner klinische Wochenschrift, June* 12, 1905.

**The Pathological Anatomy and Path of Infection of Cerebrospinal Meningitis.**—Westenhoeffer, who was sent to Silesia to study the prevailing epidemic of cerebrospinal meningitis, comes to the following conclusions. The portal of entry of the infective agent is the posterior nares, particularly the pharyngeal tonsil. The inflammation of the meninges is always a basilar one in the beginning, and starts in the neighborhood of the hypophysis. It arises by way of the lymphatics. The affection of the meninges as evidence of the involvement of the cranial cavity, is analogous to the inflammation of the mucosa of the accessory cavities of the nasopharynx. The meningitis never, or only very rarely, arises through extension of inflammation from the ethnoidal cells. The disease is essentially one of childhood and all the patients present distinct evidence of the co-called lymphatic diathesis. The disease is transmitted by inhalation, and its prophylaxis is largely to be founded on household hygiene. The meningococcus Weichselbaum-Jaeger is found in most cases, but it has not yet been clearly shown that this is the only exciting agent of the disease. The fact that other cocci are sometimes found either alone or mixed with the meningococcus, does not preclude the possibility that all these bacteria play only a secondary rôle, and that the real causative organism is still unknown.

**Observations on Recent Cases of Cerebrospinal Meningitis.**—Grawitz takes the ground that cases of cerebrospinal meningitis should not be called epidemic cerebrospinal meningitis unless they really give rise to an epidemic, and he proposes as a preferable name for the ordinary sporadic cases the term infectious or contagious meningitis. Of seventeen cases recently sent to the Charlottenburg hospital with the diagnosis of meningitis, on careful study three proved to be only gastrointestinal conditions with cerebral symptoms and four were secondary to various other conditions. Of the ten remaining, only three were of the true sporadic variety, the other seven being tuberculous, and no other cases of the sporadic form were reported in spite of the fact that the patients came from very crowded quarters. Grawitz, therefore, considers it a misnomer to call such isolated cases epidemic, and he emphasizes the necessity for sufficient delay before making a diagnosis.

*Münchener medizinische Wochenschrift, June* 13, 1905.

**The Occurrence of the Spirochæte Pallida in Syphilis.**—Fraenkel, while approaching the subject cautiously, concludes from his own observations and those of others that the spirocheta discovered and first described by Schaudinn and Hoffman is the causative agent of syphilis. His own material comprised freshly excised primary lesions, as well as the juice from swollen glands, condylomata, etc. In six cases of syphilis the spirocheta was found, while in one case of pointed condylomata of nonsyphilitic origin it was absent. The search for the organisms is a difficult and protracted one, which requires an oil immersion lens with the No. 8 eye piece, and even the trained eye cannot continue at it for longer than three to four hours a day. The method used was the one originally recommended, and consists in fixation of the smears for ten minutes, alcohol and staining for sixteen to eighteen hours in Giemsa's solution. The length of the organisms is very variable, and they range from those with four to six turns to others with twelve to fourteen; eight to ten being the commonest number. Their distribution is very irregular and sometimes after hours of fruitless search numerous individuals will suddenly be found in several fields. Usually about a dozen are found in a single preparation, but sometimes smears treated in exactly the same way as their barren companions, will reveal five or six in every field. The organisms were never found in preparations obtained from other than syphilitic lesions.

**The Physiological Significance of the Omentum.**—Heusner reviews the evidence cited by those who ascribe to the omentum a purely protective function, and comes to the conclusion that this view is untenable chiefly because there is no organ in the body designed only for use under pathological conditions. By studying the development of the omentum he endeavors to show that it principally serves in a mechanical way, and that it furnishes a supporting apparatus which provides the stomach with its posterior mesenteric layer, and supplies the lower abdominal organs with a substitute for the lost anterior intestinal mesentery. He then goes on to study the conditions existing in other mammals, and points out that the greatest use is made of omental fixations in those animals that make the most violent movements and possess the heaviest viscera. Phylogenetically, therefore, the omentum is a suspensory organ used for the purposes of fixation, as is clear from its relation to the transverse colon, but the status of the free dependent portion is less evident. Man, however, occupies an intermediate position between the carnivora and herbivora, and it is not strange that his omentum should present reminiscences of his descent from both groups. The fixation of the stomach to the stomach recalls the structure of the ruminants and the animals that walk upright, while the free omental apron is a vestige of the huge omental layer of the animals of prey, that is a rudiment like the vermiform appendix, recalling earlier stages of development.

**Castration for Carcinoma of the Breast.**—Michels cites several cases from the literature in which very good results were obtained by oophorectomy in carcinoma of the breast, and describes three cases of his own in which the measure seemed to have exerted a distinctly beneficial effect. His opinion is that oophorectomy is in many cases of inoperable or recurring cancer of the breast, an excellent palliative measure, which without involving serious danger, relieves suffering and prolongs life. It is at present impossible to indicate exactly what are the indications for the operation, but the most favorable cases are those of patients between forty and forty-seven years old. Earlier than this and after the age of fifty the prospects are not nearly so good, and the operation should not be done after the menopause or the development of internal metastases. A cure is not to be expected from oophorectomy, and this should be explained to the patient's friends. No satisfactory explanation of the manner of action of the procedure has yet been offered.

*Deutsche medizinische Wochenschrift, June* 15, 1905.

**The Effect of Alcohol on the Human Circulation.**—Kochmann says that the literature of this subject is full of contradictions, and that different observers have reached widely differing conclusions. Some consider the action of alcohol on the heart and circulation a favorable one, others, while not denying it all virtue, believe that it could be dispensed with as a medicinal agent, while a third group condemn it utterly, and would banish it from the materia medica. Kochmann's observations were made by means of the Gärtner and Riva Rocci instruments, and by the sphygmograph, after the administration of small quantities either of diluted pure alcohol or of eighteen per cent. port wine. He concludes that given in suitable doses, alcohol produces a rise in blood pressure which is due to a vasoconstriction in the splanchnic area, in spite of simultaneous peripheral dilatation. Animal experiments showed that the heart muscle was better supplied with blood and therefore stimulated to increased activity, but to what extent these results may be transferred to pathological states is undetermined. It is certain, however, that alcohol is entitled to respect as a therapeutic agent, although whether it might be desirable from social considerations to replace it by other drugs, is a question still to be decided.

**Traumatic Diseases of the Upper Esophagus and Their Treatment.**—Glücksmann considers the lodgement of foreign bodies in the esophagus under this title because he says that both physician and patient often forget the possibilities following the extraction of foreign bodies from the eso-

phagus and consider that the matter is terminated when the object has been removed. Infection with rise of temperature mediastinitis, pyemia, etc., not infrequently follow the accident, but are then by the patient's friends nearly always ascribed to the instrumental manipulations of the physician instead of to their true cause, the injuries to the mucous membrane inflicted by the foreign substance itself. The medical attendant should, therefore, always warn the family of this possibility before undertaking any manipulation, in order to save himself from disagreeable consequences. In attempting to locate the foreign body the author says that the patient's sensations are often of value, for if on being asked to point out its position he puts the finger into the mouth, it will always be found above the pharyngeal constrictors, while if he indicates some spot on the outside of the neck, the object, or at least the injury caused by it, will be found lower down. Röntgen ray examination is always of great value, as even if it does not clear up the position of the object swallowed, it reveals any possible thoracic complication such as aneurysm which would forbid esophageal instrumentation. For the actual removal the author counsels the use of as few instruments as possible in order to avoid all needless traumatism. He has perfected for the purpose an esophagoscope with forceps combined, and provided with a distensible water cushion, so that after the object has been found and seized, the walls of the esophagus may be separated ahead of it during withdrawal so as to avoid all scratching of the mucous membrane.

*French and Italian Journals.*

**Chronic Appendicitis.**—Comby, after referring to the communication of Siredey on this subject, reports a most interesting observation. His patient was a young man twenty-five years old, who had been perfectly well up to the age of twenty-one. At this time he began to lose weight and spirits. He suffered from symptoms of dyspepsia which pointed to some disturbance of the stomach. Even his disposition changed and he was considered a neurasthenic. One time during an attack of indigestion, Comby examined him and found a painful spot over McBurney's point. The crisis subsided but a history of analagous paroxysmal phenomena was obtained. Comby concluded that the case was one of chronic appendicitis and the patient underwent an operation. The appendix was very much altered. The patient has gradually regained his health.—*Gazette des Hôpitaux Civils et Militaires, May* 30, 1905.

**Injections of Isotonic Sea Water in Eighteen Cases of Tuberculosis.**—Chauffard has reported the results obtained by Robert-Simon and René Quinton in the treatment of tuberculosis by subcutaneous injections of isotonic sea water. These investigators have treated by this method eighteen cases of tuberculosis, three of which were unsuccessful. One of these was the pulmonary type, the other two being ganglionic. Rapid improvement which took place was first noted in the general condition. The injection of sea water stimulated the appetite, cured insomnia, imparted strength, and diminished cough, expectoration, and night sweats. Physical signs also underwent a great improvement. Not only was there in some cases a partial return to normal of respiratory rhythm, but in others it was complete. In one pulmonary cases of the third degree, there was an absolute drying up of a cavity. This condition was reached in a relative degree in two other cases, with suppression in one of daily bloody sputa. This condition has now lasted for two months. Finally, weight has increased in a regular manner, often at a most astonishing rate. For these fifteen patients whose condition has been improved the mean duration of the treatment has been sixty days. The treatment has consisted of injections every three or four days of from 50 to 300 c.c. of isotonic sea water sterilized by cold. —*Le Bulletin Médical,* June 7, 1905.

**The Treatment of Syphilitic Coryza of the New-Born.**—Laurens believes that not even the common ureteral syringe should be used in these cases, nor should any antiseptic solution be employed on account of the danger of intoxication. Any injection into the nasal fossæ is dangerous in the new-born, because of the risk of the purulent mucus penetrating the eustachian tube; and in addition, the dropping of liquid into the larynx can cause a glottic spasm with all of its consequences. It is not well to use cocaine. Laurens treats these cases by hydrogen dioxide which he introduces into the nose by a drop bottle, three or four times a day. He uses four or five drops of the dioxide to about four times its volume of water. This method is excellent for breaking up the crusts and for bringing about antisepsis of the nasal fossæ. These instillations of the dioxide ought to alternate with others in which oil or sterilized vaseline is used. He warns against the introduction of probes into the nose of the new-born for cleansing purposes, on account of the great difficulty of keeping the child's head quiet. In order to lessen the nasal obstruction and to facilitate nursing, it is well five minutes before feeding, to instil into each fossa from three to five drops of a ten thousandth solution of adrenalin hydrochlorate. This brings about a vasoconstriction of the mucosa, and will establish for the time respiratory permeability. If this method fails, the child should be fed by a spoon, or if it is necessary, by an esophageal catheter.—*Revue Française de Médecine et de Chirurgie,* June 5, 1905.

**Uterine Metastasis in a Case of Cancer of the Stomach Which Appeared in the Course of Pregnancy Necessitating the Cesarean Operation.**—Couvelaire relates this case. The patient, a woman thirty-five years of age, pregnant two months and a half, presented herself at the clinic on account of uncontrollable vomiting. For several months she had suffered from dyspeptic troubles, which had increased with pregnancy. A diagnosis of gastric neoplasm was made. Treatment met with improvement for a time, but at the seventh month the patient's condition was becoming rapidly worse. Extreme ascites developed. The lower extremities were markedly edematous. Labor had not begun three hundred days after the end of the last menstruation. On the next day, Pinard in his examination, found to his surprise that the vagina which had up to that time been elastic, was transformed into a rigid canal, and the cervix was an indurated ring. Cesarean section was practised. Although a living infant was extracted, it died at once. The neoplastic infiltration of the lower segment had extended high enough to indicate Porro's operation. In spite of intervention, however, the patient died two months afterwards. Autopsy revealed the presence of a neoplasm of the stomach, of the large intestine, and of the uterus. The gastric cancer had not ulcerated. All of these malignant growths were found to be of the same histological type.—*La Tribune Médicale,* June 3, 1905.

**Antimalarial Prophylaxis in the Forts About Rome.**—G. B. Mariotti-Bianchi details the results of observations made on the regiments which are quartered for a month at a time in the forts of the malarial Roman Campagna. These forts were divided into three groups, and in each group a different method of prophylaxis was used, and the results observed. In the first group mechanical prophylaxis was used, the rooms being all screened at both windows and doors, and the men, when out of doors, using gloves and helmets provided with veils that covered the face and neck entirely. In the second group the men received small doses of quinine daily; the third group received large doses of quinine once a week. Each experiment lasted one month. Where the mechanical protection was used there are few inhabitants, and at times the epidemic has been very severe. In 1900 it was very severe; 1901 it was mild, in 1902 there was almost none. In group two almost all the inhabitants had malaria in 1901; in 1902 there were many returns from 1901. In group three the epidemic was diffused in 1901, and even more so in 1902. Mechanical protection succeeds well where the number of persons is small, but with great numbers it becomes ineffective and burdensome. The administration of small doses of quinine has no inconveniences and results well. Where large doses were taken once a week the inconveniences were marked and the protection was no better. The author believes that large doses of a gram a week are insufficient; at least two grams per week should be taken. The administration of small daily doses acts better and in quite sufficient protection.—*Giornale Medico del Regio Esercito,* May 31, 1905.

**Direct Inguinal Hernia in Women.**—Marie Donati believes that the smaller number of hernia of the direct inguinal type that we find in women, is due to the different formation of the inguinal canal in the two sexes, and to establish this conclusion he has dissected 52 cadavers of both sexes, 31 women, 21 men, and has found marked differences in the canals in the two sexes. The aponeurosis of the insertion of the great oblique muscle has linear interstices, which are much larger in the male than in the female. The pillars of the internal oblique are stronger in front of the canal in women. The arciform fibers (intercrural) are in the women often mingled with cross fibers which strengthen the ring, which are absent in men. The orifice of the external inguinal ring is generally smaller in females than in males. The ring is generally situated higher and a little more external in men than in women, contrary to what has been supposed to be the case. The aponeurosis of the large oblique, which forms the anterior wall of the canal, is much stronger in the female sex than in the male. The lower margin of the ring in women is more horizontal, that in the male more oblique. Hence this point, which is often weak in the male, is in the female most resistant.—*Archivio per le Scienze Mediche,* N. 3, 1905.

**Medically Trained Legislators.**—Dr. H. W. Wiley says that there were but three physicians in the Fifty-seventh Congress, as contrasted with 319 lawyers. He thinks it strange that this great law-making body of the country should contain so few medical men. Medicine is a jealous mistress, and demands undivided devotion from her followers.

# Society Reports.

## MEDICAL SOCIETY OF NEW JERSEY.

*One Hundred and Thirty-ninth Annual Meeting, Held at West End, Long Branch, June 20, 21, and 22, 1905.*

(Special Report to the MEDICAL RECORD.)

THE PRESIDENT, DR. WALTER B. JOHNSON OF PATERSON, IN THE CHAIR.

**Reports of Committees.**—The first morning session was devoted to hearing the reports of the various committees. Of particular interest was the report of the Committee on Publication, showing that the first year in the history of the New Jersey State Medical Journal had been one of success. The afternoon session was opened with prayer by the Rev. Elliott White. The Mayor of Long Branch, the Hon. C. A. Francis, made the address of welcome, which was responded to by the President.

**Therapeutic Agents of Animal Origin.**—Dr. GEORGE E. READING of Woodbury read this paper and said that the animal economy contained agents capable of influencing the course of disease, and this was an idea of very ancient origin. It could be traced back through Grecian literature into Persia, where it was lost in the mists of antiquity. The object of his paper was to call attention to those substances existing in the normal animal organism which were capable of being used with good results in the battle against disease. Pepsin was probably the first to receive the attention of the profession, and still commanded an important position, but one not so important as formerly in the treatment of diseases of the stomach. Of the remedies obtained from the glands themselves adrenalin stood at the head. After referring to its use in the treatment of a large fatty tumor and in carcinoma, he took up briefly a consideration of the treatment of myxedema and cretinism by the administration of thyroid gland. He said that if the members of the Society could be persuaded to lend their assistance in determining, by clinical tests, the therapeutic value of this class of remedies, which seemed to offer such a wide field of application, the object of the paper would be attained.

Dr. L. M. HALSEY of Williamstown thought that the profession should feel proud of the additions made to therapeutics in the last fifteen years by the use of the animal products, and believed the future was rosy with hope that many more effective aids in the cure and alleviation of disease would be added as a result of investigations already in progress.

Dr. WM. GRAY SCHAUFFLER of Lakewood, Dr. TREGANOWAN of South Amboy, and Dr. CUTHBERT WIGG of Boonton also discussed this paper.

**The Proof of the Existence of Amblyopia Ex Anopsia in Strabismus.**—Dr. WALTER B. JOHNSON delivered this address. He said it had been the result of unusual experiences which had led up to the circumstances which permitted the offering of what appeared to be positive proof of the existence of amblyopia ex anopsia, which was the impairment of vision occurring in consequence of the disuse of the eye which had been excluded from the visual act for a considerable period of time, by absence of binocular fixation. In convergent strabismus, which was the symptom resulting from this condition, there was, if the squint was not of the alternating variety, invariably a monocular diminution of vision which was more or less marked. Hypermetropia was, it was believed, the etiological factor in the production of this condition. After relating the histories of three cases, he concluded that the existence of amblyopia ex anopsia as a condition was positively proven by the almost invariable return of absolutely normal vision in the amblyotic eyes; that the control of the vision of the amblyotic eyes by the cerebral centers was positively indicated through the confusion of images caused by the mental impression that the normally seeing eye was about to engage in the visual act when the injured eye was not covered; that, as instanced in one of the cases, the vision in the left eye would become normal providing the stimulus of exclusive sight perception should be permanently established in that eye by loss of vision in the right eye, or in case an operation should be performed which resulted in the attainment of perfect binocular fixation; that the amblyopia of squinting eyes was a consequence and not a cause of squint; that it was not at all probable that congenital amblyopia, the result of cerebral lesion or diseased conditions, would completely disappear and the eyes regain their normal vision under any imaginable circumstances; that changes in the muscular balance of the eyes affected by congenital amblyopia, the result of cerebral lesion or discoverable disease, were more likely to be in divergence than convergence; that after the loss of the seeing eye, in this condition, the hypersensitive retinal area developed as a result of the changed position of the point of convergence of the visual lines, lost its increased visual power and the macular region resumed its functions as the visual center; that hypermetropia was the etiological factor in the production of amblyopia ex anopsia; and that it was most probable that squint and subsequent amblyopia was the direct result of hypermetropia in which there was primarily a difference in the degree of the refractive error and in the vision of the eyes; that in the cases reported the amblyopia was not due to structural changes either in the eyeball or nerve centers, but to continued suppression of the visual image induced by convergence of the visual lines superinduced by an hypermetropia.

**The Trained Nurse and the Doctor—Their Mutual Relations and Responsibilities.**—Dr. EDWARD J. ILL of Newark read this paper.

**Surgical Diagnosis.**—Dr. FRANK D. GRAY of Jersey City delivered this oration. After making a brief retrospect, he said that in seeking the cause for faulty surgical diagnosis he would consider (1) superficial acquaintance with anatomy, physiology, and pathology; (2) carelessness in taking and recording history and symptomatology; (3) neglect of the assistance of modern aids in diagnosis; (4) undue haste in dealing with obscure or chronic cases, indecision and delay in the presence of acute or traumatic conditions; (5) not infrequent neglect by the internist to recognize promptly or even suspect the possible surgical nature of supposed non-surgical conditions. As a rule no operation was justified until one had, with approximate certainty, determined that a surgical lesion or condition existed, and, in addition, where and what it was. There was no royal road to diagnostic success. Only by acquiring the elemental knowledge, educating the eye to observe, and the ear to hear comprehensively and shrewdly, and seeking to interpret properly the data obtained through well developed reason and wide experience, was the true diagnostic acumen attained.

**Difficulties in the Diagnosis of Abdominal Conditions.**—Dr. RICHARD P. FRANCIS of Montclair presented this paper, which was read by Dr. RICHARD C. NEWTON. He detailed the histories of two cases, in one of which there were supposed to be intestinal adhesions when there were none, and, in the second, adhesions were not supposed to be present but were found. Certain detailed methods to be employed in making an examination of the abdomen were presented, and the following conclusions drawn: The diagnosis of abdominal conditions depended very largely on the skill and training of the examiner as well as on the physical and other characteristics of the patient; the examination should be systematic and thorough; inspection, palpation and percussion, with the patient both supine and erect, were the best means for diagnosis; bimanual examination and particularly examination of the pelvis should never be omitted; a general anesthetic was sometimes, though rarely, needed; it was very important that not only the entire abdomen but the entire body should be examined so that all the conditions of every organ could be noted; exploratory laparotomy was often warranted in doubtful cases, and the decision when to employ it was one of the nicest points in modern surgery.

Dr. JOHN A. WYETH of New York directed his discussion

of the difficulties in the diagnosis of abdominal conditions to the laboratory side. Scarcely a week went by but what he was called to the laboratory for help. Especially in lesions located in the right iliac fossa where the physical signs and febrile movement might suggest either beginning typhoid, intestinal toxemia, or a pyogenic sepsis, an early diagnosis could be made in no other way than by the laboratory. Its value was accentuated in the knowledge that the safety of the patient hung upon even a few hours time. The pulse and temperature of a commencing typhoid might well be mistaken for those of an appendicitis, pain and muscular resistance over the right iliac and the right abdominal region in many instances were practically alike, the nausea, vomiting, and general sense of uneasiness pointed neither directly to the one nor the other; but in a crucial test by Widal's reaction with the blood count pointing to the presence or absence of a leucocytosis the question was quickly settled. He had seen all the symptoms of appendicitis in which the blood count contraindicated a pyogenic sepsis and in which Widal's reaction told the story of typhoid. He also had dealt with cases which would have been most perplexing in which all the signs of typhoid prevailed at a period when it was too early to recognize this disease by Widal's test and a leucocytosis of 15,000 to 20,000, proved at the earliest possible moment the case to be one for immediate operation. Bacteriological research had rid the puerperal state of much of the anxiety and dread which formerly attended this ordeal, not only in preventing sepsis, but in recognizing the infections already established in time to prevent a general peritonitis or septicemia. One of the most important fields for laboratory diagnosis was in certain obscure lesions of the stomach, as well as in arriving at the exact condition of the digestive functions of this organ. The presence of lactic acid in the stomach contents had a diagnostic value, since it took place in comparatively rare conditions, and since those conditions were seldom fulfilled except when carcinoma was present. He said that Boas had gone so far as to insist that the persistent presence of lactic acid in noteworthy quantities, chemically free from hydrochloric acid, during the digestion of a saucer of oatmeal, was a specific sign of carcinoma of the stomach. While the stomach might contain hosts of bacteria, there were only three others than that which formed lactic acid that were of importance as pathogenic organisms. First, the sarcinæ ventriculi which indicated insufficient stomach muscle due to non-malignant obstruction. Another was the yeast plant also found in insufficient muscle action. The bacillus geniculatus was present under some conditions in which lactic acid was produced and was considered to be suggestive of carcinoma. A study of the discharges from the rectum was as yet of little value to the surgeon.

**The Surgical Treatment of Bright's Disease from the Viewpoint of the General Practitioner.**—Dr. Alexander Marcy, Jr., of Riverton delivered this address. The term Bright's disease he thought should be dropped entirely from our nomenclature. Reference should be made to the various inflammatory conditions of the kidney that would convey some idea at least of the actual type of the diseased conditions present. After considering the diagnosis of chronic nephritis, and relating to certain cases, he took up the surgical treatment referring first to the successes of Edebohls of New York, Reginald Harrison of London, and A. H. Ferguson, of Chicago, all of whom at about the same time accidentally discovered while operating upon kidneys for other troubles, that some who were afflicted with chronic nephritis became very much better after the operation. The results of their investigations upon the subject warranted them giving the profession a new method of treating these heretofore hopelessly incurable cases. Decapsulation of the kidney was an established fact, and was a legitimate method of procedure in this disease. At present it was looked upon by many as a method of treatment to be used only after all other measures had failed. This was certainly not giving the operation a fair chance to demonstrate what it could accomplish. The question naturally arose how were you going to recognize the disease in the earlier stages and give your patients the advantage of the operation. This could only be done by a systematic, careful, and frequent examination of the urine. If, in a given case, one found albumin or casts, or any other abnormality, one should watch such a case carefully, and if it did not improve speedily under proper medical treatment, operation should be resorted to at once. He firmly believed that before another decade in medicine had gone by the surgical treatment of chronic nephritis would be the acknowledged method of dealing with such cases.

**Ectopic Gestation.**—Dr. Edward Staehlin of Newark read this paper in which he considered the definition and causation as cited by Kelly and other eminent authorities, the clinical history of cases falling under his own observation, the symptomatology inferred from these cases and his own opinion as to the causative influence of the passage of uterine sounds and the ingestion of drastic medicines. He said that the factors which lead to the arrest and developments of the fertilized ovum within the oviduct were usually of a mechanical nature; these factors might be included under the following general heads: (1) Obstacles within the lumen of the tube by means of which its caliber was diminished; (2) diseases of the tubal walls and peculiarities in its anatomy or forms; (3) factors acting externally to the tube by means of which its lumen was encroached upon or obliterated. Two cases cited by him had been most fertile for thought. He said that if it was true that fertilization occurred in the tube, and that the fertilized ovum was carried to the uterus by the action of the cilia, and its safe deposition into the uterus depended upon an unobstructed course, it was equally true, in absence of any obstructive cause, that the irritation caused by the passage of a uterine sound or the turgid effects of drastics, might very well cause peristaltic action of the tube of a nature so violent as to cause its rupture. He felt confident that many cases of so-called severe uterine or ovarian colic, and pelvic cellulitis and hematoma, were cases of ectopic gestation with early and slight hemorrhage, and he felt equally confident that the majority of these cases had as their exciting cause at least the introduction of a uterine sound, or the ingestion of drastic medicines.

**Prophylaxis in Gynecology.**—Dr. Geo. H. Balleray of Paterson read this paper, and made the following summary: Prophylaxis in gynecology demanded that our girls should be properly fed and clothed, take sufficient exercise in the open air and receive proper instruction in regard to the functions of their generative organs. It demanded that our women should receive proper treatment during pregnancy and labor. It demanded that all lesions of the genital tract occurring during labor, should be promptly and skilfully repaired, in order, as far as possible, to close all avenues of infection during the puerperium, and prevent the prolapse of the pelvic viscera which follows almost to a certainty, in all cases of neglected laceration of the pelvic floor. The repair of lacerations of the cervix at an early date, would prevent erosions, cervical and corporeal endometritis, subinvolution, version, flexions, and catarrhal salpingitis; and cancer of the cervix would be almost unknown. Preventive gynecology demanded that gonnorhea in the female should be promptly and efficiently treated in the early stage to prevent its spread to the deeper organs of the pelvis. It demanded that a sensible hygienic mode of dress should be substituted for the fashionable abominations with which the modern woman is prone to constrict, hamper, and deform her person. It demanded that medical students should have an opportunity to study gynecology clinically—that is at the bedside—not from the last row of benches in the amphitheater of a hospital, with the patient at such a distance as to require the use of an opera-glass. Finally, it demanded that the rank and file of the medical profession should be imbued with the desire to acquire a practical knowledge of the diseases of women, in order that the family physician might be able to detect

early all conditions requiring operative interference and refer the patient to a skilful operator, and, at the same time, should have sufficient confidence in his own judgment to oppose the present tendency to the performance of unnecessary mutilating operations in cases in which they were not indicated. When this had been accomplished the general practitioner would find that he had been restored to the honorable position which he once occupied, that of a trusted friend and counsellor; and that he could no longer be looked upon merely as a go-between to steer the patient to his favorite specialist. A more thorough knowledge of gynecology would enable the family physician to appreciate the difference between the real specialist, the honest, intelligent, well-educated, conservative man, who looked at every case with an eye singly to the good of the patient and the *soi disant* specialist whose ignorance of pathology, of the natural history of disease, and of the reparative powers of nature caused him to see in every case an indication for operation, and who was ever willing to sacrifice the interests of the patients to his own unhollowed lust of gain, or undying love of éclat.

Dr. Philander A. Harris of Paterson said that during the preoperative days about three-fourths of all cases of tubal gestation ended fatally. He presented eight specimens of unruptured tubal pregnancy.

Dr. Balleray of Paterson believed that there were thousands of deaths from ruptured extrauterine pregnancy in which the condition had not been recognized. He advised that one should not wait until the classical symptoms appeared before resorting to operation.

Dr. George C. Laws of Paulsboro referred to the process gone through in fecundating the roe of shad in covered pans in which they swelled enormously, even to the size of a currant. If the same process occurred in the fecundated ovum which was in the tube, he did not wonder that rupture occurred.

Dr. F. B. Gray of Jersey City had operated upon eight cases within the past few months, and prior to that time he had never met with a case. He was impressed with the experience of Dr. Harris in being able to report 12 cases of unruptured tubal gestation.

Dr. Herman C. Bleyle of Newark said that the diagnosis of this condition was not, as a rule, made until rupture had occurred.

Dr. Philip Marvel of Atlantic City reported a case of ectopic gestation in which a diagnosis of intestinal obstruction was made merely on the one symptom of excessive and uncontrollable vomiting.

Dr. E. J. Ill of Newark doubted the statements of Dr. Harris that the specimens presented were truly cases of unruptured tubal gestation. Microscopical evidences were lacking to prove this assertion.

Dr. Harris offered to have a microscopical report of the specimens presented at the next meeting, if Dr. Ill so desired.

**Uremic Surprises.**—Dr. J. T. Wrightson of Newark read this paper, which was discussed by Drs. Ellis W. Hedges of Plainfield, Henry Mitchell of Asbury Park, William H. Murray of Plainfield, N. L. Wilson of Elizabeth, and Emery Marvel of Atlantic City.

**Weaning.**—Dr. Floy McEwen of Newark read this paper, and said that weaning was imperative when tuberculosis was present or developing in the mother, when the mother was a degenerate or became insane during pregnancy, when the mother's milk failed and the ordinary methods of treatment did not improve it, and in those mothers who had uncontrollable tempers, or who were unhappy in their homes, or who were unwilling to nurse their babies, or who were irregular in their habits of diet, and rest, and exercise; such mothers gave no promise of successfully nursing their children. In fact, they would do their children incalculable harm if they attempted to do so. Nervousness in the mother was transmitted to the child, and it was utterly hopeless to attempt to nurse a baby from a nervous mother. He said that weaning might become necessary when the mother had to work out for a living, when the baby failed to gain or was losing in weight, in persistent fissures or ulceration of the nipples, in puerperal eclampsia, in persistent fretfulness in the child, and when persistent digestive disturbances in the child indicated a hopeless disproportion between the proteids and fats of the mother's milk. Weaning should be avoided in hot weather, during or immediately following an acute illness, when the child was actually teething, and during the presence and continuance of vomiting and diarrhea, unless such disturbance was directly caused by the faulty milk of the mother.

Dr. D. E. English of New Brunswick reported a case of a mother who had diphtheria and nursed the infant throughout without injury. This was before the days of antitoxin.

**Recent Progress in Cerebrospinal Meningitis.**—Dr. Frank W. Pinneo of Newark read this paper, in which he summarized the present status as follows: (1) Cerebrospinal fever is always due to the diplococcus intracellular meningitidis of Weichselbaum; (2) primary meningitis, whether epidemic or sporadic, is due to this infection; (3) the channel of its entrance into the organism is unknown; (4) lumbar puncture is the best means of diagnosis, and the only certain means; (5) there is no specific treatment; (6) diphtheria antitoxin is useless; (7) in treatment, the most used means are, first, careful attention to hygiene, including much fresh air, and feeding the patient, then lumbar puncture, hot baths, and opium. As the treatment is mainly symptomatic, many other drugs and measures had their advocates.

Dr. R. C. Newton of Montclair said that personally he would be inclined to recommend the use of the hot baths, salicylate of sodium by rectum, bromide and chloral to quiet the pain and restlessness, lumbar puncture to relieve the pressure symptoms if urgent, and to confirm the diagnosis, plenty of sunlight and fresh air, bandaging the eyes if photophobia was present, and, in any case, not allowing the bright light to fall upon the retina, ice to the head, and, perhaps, sinapisms to the spine and extremities, and heat to the feet when indicated. The alimentary tract was to be kept free. A large quantity of water, perfect quiet and seclusion, and handling the patient as little as possible, all would aid in the patient's recovery.

Dr. George E. McLaughlin of Jersey City believed that until we had further knowledge of the means of communicability of this disease we should treat it as we did infectious diseases.

Dr. William M. Leszynsky of New York believed that many cases had been registered with the Board of Health as cases of cerebrospinal meningitis which were not cases of this disease. He emphasized the fact that the first lumbar puncture should be for diagnostic purposes only. He had seen patients presenting violent types of the disease, who recovered without any sequelæ whatever, and he had seen mild types that ended fatally within three or four weeks; therefore, he did not think we had any right to offer a prognosis. He emphasized the importance of fresh air and the subcutaneous injection of ergot. The latter agent took the place of morphine, and rendered the patient more comfortable. He called attention to the dangers attendant upon the removal of large quantities of fluid at the first lumbar puncture.

Dr. John C. Johnson of Blairstown related the history of an epidemic in which there were strong evidences of the infectiousness of the disease.

Dr. Simon Baruch of New York spoke of the controlling influences over opisthotonos by the continuous baths at a temperature of 98° F. given in connection with large doses of salicylic acid.

Dr. Frank D. Gray of Jersey City referred to the alkalinity of the normal cerebrospinal fluid, which became slightly acid in inflammatory conditions. In one case he gave a patient 60,000 units of antitoxin within five days. The fluid was at first acid; the second puncture showed

the fluid to be neutral, while the third showed the fluid to be slightly alkaline in reaction. At the first puncture the fluid was turbid, at the second less so, while at the third it was clear. During this time the symptoms had not abated at all.

**Clinical Diagnosis of Early Tuberculosis.**—Dr. S. A. Knopf of New York opened the symposium with a demonstration of the method of value in making a diagnosis of tuberculosis in its early stages, demonstrating at the same time on a patient the methods employed by him.

**Treatment in Sanatoria and Home.**—Dr. I. H. Hance of Lakewood read this paper. He emphasized the fact that tuberculosis was curable. Osler gave the percentage of healed pulmonary phthisis at 7.5, Biggs 30. He personally knew twelve physicians who positively had tuberculosis, and eight of them had remained cured of their disease for thirteen years or longer, two for twelve, and two for ten years. This was his own personal clinical proof of its curability among his confrères alone. He believed that to-day the sanatorium was the best that we could offer for its patients. A little blood spitting should be always considered as direct evidence of the tuberculous trouble unless one could positively see a ruptured vessel as the cause for it. The open-air rest cure embodied the principles of the treatment; fresh air in the open as many hours as possible in the twenty-four, fresh air inside of house day and night, rest in the open air, superabundance of good food, exercise only as it did not produce certain positive symptoms, and a proper attention to the skin by bathing and the general laws of hygiene. Rest must be absolute in all cases of hemorrhage, when the temperature is above 101° F., where the heart's action is over 100, when there was a daily chill, during the first few weeks while you were observing the types of disease in pleuritic cases when cough was increased by moving about, or when some fluid was found in the pleural cavity, when the patient continued to lose flesh, or under treatment remained stationary well below the average weight. Alcohol and tuberculosis were antagonistic, and the physician would find a very small proportion of cases in which it was indicated. One should avoid over-fatigue, and not neglect the question of bathing. The laws pertaining to hygiene must be carefully looked after. Drugs should be prescribed only when there was a distinct indication for their use. Success in treating tuberculosis rested upon a tactful, sympathetic, and painstaking manner of the physician in his dealings with his patient, and in the constant care and personal supervision of the latter's daily life.

**What the State Is Doing for Her Consumptive Poor.**—Dr. C. J. Kipp of Newark read this paper, and said that the movement for the proper care of the consumptive poor by the State was started by Dr. Halsey in 1900, when he strongly urged the society to take up the fight against tuberculosis, and to appoint a committee with full power to study the questions involved in the effort to eradicate this disease, to draft a proper measure for the erection of an institution for the care of persons afflicted with this disease by the State. His recommendations were favorably received, and a committee appointed to carry them out. While this committee was not able to report any flattering progress, it felt that it had accomplished a reasonable amount of success, and that the prospects for the future were very encouraging. The State of Massachusetts had built a sanatorium at Rutland for about 200 patients, and they had adopted a similar plan and had had the superintendent of this institution, who had been there for five years, go over their plans and point out the defects and suggest improvements. Their plan was thoroughly approved of. From what he had stated it would be seen that, while the people of this State owed a debt of gratitude to the members of this society for having taken the initiative and for having persistently urged the members of the legislature to undertake the care of the indigent consumptive for the State, a great deal of the credit for inducing the members of the legislature to make the necessary appropriation for the purpose of carrying out the plans made by the society was due to the Hon. Franklin Murphy, lately Governor of this State, who on every similar occasion with untiring zeal urged the members of the legislature to appropriate sufficient money to build the sanatorium till it was done.

**The Prevention of Consumption.**—Dr. T. W. Harvey of Orange read this paper, and in conclusion said that it was only by enlisting all possible aids in this campaign that he could overcome the ravages of this disease, the prevention of which resolved itself into two methods; first, the restriction of the danger of contagion due to contact, by the destruction of the bacilli after they had left one individual and before they had reached another. To do this we needed the most efficient public sanitation for the destruction of the breeding places of the disease, the safeguarding the food supplies of the people, by exterminating bovine tuberculosis, and by the prevention of the pollution of food and water and commonly used utensils of the tuberculosis patient. We also need the most careful and conscientious efforts on the part of the diseased individual himself, not to be a source of danger to others, and the intelligent aid of philanthropy in providing treatment and assistance for the indigent. Second, the development of the resistance of the individual, by placing him in an environment conductive to the highest physical condition, and the cultivation of his natural immunity to its highest degree, and the use of such methods as would induce an acquired immunity during times of greatest susceptibility or exposure.

**Some Points in the Diagnosis and Treatment of Pulmonary Tuberculosis.**—Theodore Senseman read this paper. He said that among the objective and subjective signs which first directed our attention to the lungs, and which when present should arouse our suspicions of the beginning tubercular lesion in the pulmonary tissues he considered under six heads as follows: Gradual loss of weight, emaciation; weakness on slight exertion; increased frequency of the pulse after exercise; daily variations in temperature; cough; expectoration. A consideration of the treatment of pulmonary tuberculosis naturally resolved itself into two general parts, that with drugs, and that with remedial agents other than drugs. The day for treating phthisis after the formula of a barrel of whisky, a barrel of cod liver oil, and a barrel of creosote was passed. The tuberculin treatment he condemned. Bathing, rest, and an abundance of nourishing food, fresh, dry air and sunlight were important factors in the treatment. The best food for the consumptive consisted of eggs beaten raw and milk. The value of sunlight and an abundance of fresh air was too well recognized to need any comment.

Dr. Simon Baruch of New York called attention to the necessity of stating exactly the temperature that was required for the water in giving baths.

Dr. Theodore W. Corwin of Newark wished to hear discussed the value of fat as an element of food in tuberculosis.

Dr. S. A. Knopf of New York said that he allowed his patients to exercise when he knew just exactly how much they could stand, the temperature being his guide. Breathing exercises were of value not only in the cure but in the prevention of tuberculosis. Creosote had ruined more stomachs than any other drug in this disease, he believed.

**Oration in Medicine.**—Dr. Richard C. Newton of Montclair took up the consideration of modern neurology, reviewing its history and present status, and paying particular attention to the neuron theory. His excuse for having chosen such a subject for his oration must be found in its great inherent interest and the prospect that in its future study we were drawing nearer to the solution of many questions of paramount importance bearing upon human life and development. Dr. Newton gave a short résumé of the more striking features of the literature of the past year, and he felt sure that this would convince

them of the truth of the assertion that excellent progress had been made in neurology.

**Is the Mosquito the Only Etiological Factor in Malaria?**—Dr. J. T. Wyckoff of Leonia presented this communication. He said that certain facts seemed to indicate that there might be a method of human infection other than now known to us. Such work as railway building, or excavating for sewers, was often followed by a severe outbreak of malaria, when the region was particularly uninhabited before the coming of the workmen. Again on the west coast of Africa, in India, and other tropical regions, we found localities uninhabitable for mankind by reason of the malaria. If malaria was necessary for the continued life of the parasite, and if the mosquito could obtain the parasite only from man, he asked where the mosquitos obtained their abundance of infected material in the absence of man. In explanation of the first difficulty was given the supposition that the soil might be impregnated with the black spores of Ross, which did not decompose but lived a long time, or infected sporozoites might have been deposited in the soil by mosquitos now dead. Thus in disturbing the soil these dormant parasites were set loose, and so in the air gained admittance into the lungs through the blood, or in a similar manner by water into the digestive tracts, and so in the blood. The second question might be answered in three ways. First, the malarial parasite might be capable of living in a variety of vertebrate hosts, so that it might be that an appropriate vertebrate with an appropriate mosquito had the ability to keep the parasite alive. Second, the malarial parasite might be capable of passing from mosquito to mosquito without the aid of man. Third, the mosquito might obtain the parasite from an entirely different source, as an ameba found in the algæ upon which the larvæ feed, as we find certain amebas wherever the anopheles breed. The amebas being taken in by the larvæ change some of their characteristics as they change their surroundings. The latent phase of the disease showed that the parasite could exist in a changed form in man. As had been shown, the first home of the parasite was in the mosquito, and was conveyed to man by the mosquito, hence it was only logical to say that there must be a source for the parasite other than man, for one could not believe that this parasite developed spontaneously in the mosquito.

**The Essentials in Diuretic Treatment.**—Dr. Alexander McAlister of Camden said that, generally speaking, diuretics were indicated in all kidney diseases, as well as in all morbid conditions of other parts of the genito-urinary apparatus. Diuretics could not be employed in the haphazard style that purgatives were often administered. Strictly speaking, a diuretic was always a local-acting drug, though it might be indirectly local through the medium of the blood or the vessel walls. The kidneys occupied an intermediate position between the other two great emunctories, the intestines and the skin. No increase or decrease of functioning was possible in one of these organs without disturbance in the other. When the bowels were loose, or the sweat glands active, stimulation of the renal function was not possible. Tissue metabolism was neither increased nor diminished by the diuretic treatment, save only as a thorough cleaning out of the smoke-stack made an engine consume coal more rapidly. In the selection of diuretics increasing preference was given to the simplest remedies. They suffered comparatively little or no change in passing through the alimentary canal, and did not disturb the process of digestion, but rather stimulated it. The bowels should receive attention before the diuretic treatment was inaugurated. The special diuretic power of water was to be added to that of the remedies selected. When diuretic treatment was instituted to remove accumulated fluids, water had to be eschewed as far as comfort would permit. In nephritis and grave cardiac disease, every diuretic treatment would fail. The remedies to be blended in order to prepare an ideal mixture were buchu with one or more members of its family, one of the vegetable acid salts, a nerve sedative for a corrective, and an ether to aid diffusion. When a distinct astringent was indicated, preference was given to uva ursi. If for any reason the volatile diffusible effect was called for, oil of juniper might be added to the remedies already indicated. No synthetic or inorganic remedies, new or old, approached this in general utility and reliability.

D. F. H. Sherk of Camden discussed this paper.

**Properties of Medicinal Plants.**—Dr. Henry Chavanne of Salem read this paper.

Dr. Joseph Tomlinson of Bridgeton said that notwithstanding that scientific medicine was based upon the action of drugs, we probably had only two specifics, quinine for malaria, and mercury for syphilis. On the other hand, the serum treatment could claim almost as many specifics as could drugs. It was conceded that serum was almost a specific for diphtheria as well as for tetanus. After all, he believed that prophylaxis would be the treatment of the future.

**Some Uses of Adrenalin in the Peritoneal Cavity.**—Dr. Emery Marvel of Atlantic City read this paper, in which he advocated adrenal extract in the treatment of shock, post-partum hemorrhage, and acute peritonitis.

**What Osteopathy Demands, How Shall the Medical Profession Regard It?**—Dr. Philip Marvel of Atlantic City, after having briefly considered the history of osteopathy, which he said was but a part of mechanotherapy, whose benefits had been known to medicine for hundreds of years. He said that the people should be shown that to permit the practice of medicine or of the healing art by any sectarian school meant the establishment of a lower order of efficiency. We must not retrograde. He recommended such legislation as would be fair and just alike to all—legislation which should include the embodiments of all scientific truths touching upon or allied to the relief of all diseases. He recommended that the profession urge a restriction of privileges to a degree at least that would insure against individual injury. That the practitioners of osteopathy and allied systems be prohibited practising in contagious and other febrile diseases, obstetrics, and gynecology, and in those accidental and otherwise acquired sudden illnesses that resulted from chemical poisoning.

Dr. W. Blair Stewart of Atlantic City thought that the suggestion offered by Dr. Marvel promised the only solution. The osteopaths were bound to have representation, and this should be allowed them providing the same qualifications were exacted as were exacted of the regular practitioner.

Dr. Dowling Benjamin of Camden, Dr. Linn Emerson of Orange, and Dr. E. L. B. Godfrey of Camden discussed the paper.

**Treatment of Convergent Squint in Young Children.**—Dr. Linn Emerson of Orange read this paper.

Dr. N. L. Wilson of Elizabeth, Dr. Charles J. Kipp of Newark, and Dr. Walter B. Johnson of Paterson, discussed the paper.

**Report of the Committee on Legislation.**—Dr. L. M. Halsey of Williamstown presented this report, and said that during the session of the last legislature there was introduced a bill to license osteopaths. The committee succeeded in getting a hearing on the bill. A canvass of the Senate after the hearing showed a decided majority against the measure; but, a few days before the close, a substitute bill was introduced which was worse in its provisions than the former bill, and this passed the Senate by a large majority. This bill was then reported to the House, but never saw the light of day. The committee said that the society should decide as to what plan was the better one, to radically oppose them, or to admit one of their members as examiner on the present medical examining force.

**Officers Elected.**—*President,* Dr. Henry W. Elmer of Bridgeton; *First Vice-president,* Dr. Alexander Marcy Jr., of Riverton; *Second Vice-President,* Dr. Edward J. Ill of Newark; *Third Vice-President,* Dr. David St. John

of Hackensack; *Corresponding Secretary,* Dr. Daniel Strock of Camden; *Recording Secretary,* Dr. William J. Chandler of South Orange; *Treasurer,* Dr. Archibald Mercer of Newark. Place of meeting, Atlantic City, in June 1906.

## AMERICAN NEUROLOGICAL ASSOCIATION.

*Thirty-first Annual Meeting, Held in Philadelphia, June 1, 2, and 3, 1905.*

(Special Report to the MEDICAL RECORD.)

(*Continued from page 38.*)

THE PRESIDENT, DR. WILLIAM G. SPILLER, IN THE CHAIR.

SECOND DAY, FRIDAY, JUNE 2.

**Brain Tumors: A Study of Clinical and Post-Mortem Records Bearing on Their Operability and Their Symptomatology.**—Drs. GEORGE L. WALTON and W. E. PAUL of Boston presented this communication, which was read by Dr. Walton. They divided their autopsy cases into three groups, the operable, the inoperable, and the doubtful, or possibly operable. They found the proportion of undoubtedly operable growths much lower than in previous statistics. It was rare to find deep-seated tumors of such character as to be operable. Localizing symptoms were quite apt to fail in operable growths springing from the dura; therefore, as a general rule in exploratory operation it would seem that search should be extended over the surface rather than into the substance of the brain. The authors had studied 221 cases in specimen or autopsy records; 7 per cent of these were operable, 80 per cent inoperable, and 13 per cent. doubtful. By further exclusion the operable cases were reduced to 3.6 per cent. Many of the operable cases showed the tumor in the periphery of the brain. The procedure of puncture of the brain in search of a tumor was not to be encouraged. Gumma had seldom been found in recent years at autopsy, although it was often diagnosed. One should not fail to operate in a given case because the symptoms were just like those of a previous case which was found inoperable. There was headache with vomiting in ninety-one cases, headache without vomiting in sixty-five, vomiting without headache in eleven. Every kind of pupillary reaction was found. In 123 cases the knee jerks were increased, and in twenty-seven were diminished or absent. In thirteen cases the knee jerk was increased on the side opposite the tumor, and in one case on the same side. A further study of the influence of the brain on the reflexes should be made. In cerebellar tumors the knee jerk was increased in five and diminished in four. In certain cases a loss of knee jerk might be due to hypertension, resulting from increase in cerebrospinal fluid.

**The Results of Operation for the Removal of Cerebral Tumors.**—Dr. PHILIP COOMBS KNAPP of Boston presented this paper. The statistics of 828 cases, including fourteen unpublished cases, on which an operation for removal of tumor of the brain was performed were presented. In 471 of these cases, the tumor was wholly or partly removed; 128 of these patients died as the result of operation, and 78 were not benefited. In 189 cases the tumor was not found at the point of operation. In 64 cases it was impossible to remove it, and in 104 cases the operation was for the relief of pressure. Of the whole 828 patients, 265 died as the result of operation, and 186 were not improved. One hundred and sixteen were classed as recovered, but the cases of actual complete restoration to health were regarded as exceedingly rare. A comparison of the statistics of operation collected by the writer on four different occasions in 1889, 1891, 1899, and 1905, showed that there had been a diminution in the mortality and an increase in the number of cases benefited, due to the improvement in surgical technique. The percentage of failures to remove the tumor largely on account of incorrect diagnoses, showed comparatively little gain. The palliative operation for the relief of headache and optic neuritis by relieving intracranial pressure was often unsuccessful. These symptoms were perhaps of toxic origin. In 36 out of 104 cases the headache continued and the optic neuritis increased.

Dr. E. W. TAYLOR asked Dr. Walton what criterion he used in determining whether the knee jerk was increased or diminished, saying that we must have knowledge of what is normal to the individual before it would be possible to decide as to the presence of an abnormality.

Dr. W. M. LESZYNSKY of New York referred to a patient with an endothelioma of the dura the size of an egg, who had been entirely well for six years since operation.

Dr. CHARLES K. MILLS of Philadelphia had always understood that the admission of the presence of a cerebral reflex was an old matter. Huxley called attention to it years ago. There were certain definite responses in the form of knee jerk and Babinski from stimulation of parts of the cortex by tumors and in other ways. In one case of tumor in the parietal region, exaggerated knee jerk was gradually developed as the tumor extended forward. In cases in which there was no exaggeration of the knee jerk, the absence of it might be due to some toxic cause. He thought that the ability of the neurologist to locate the tumor properly had greatly increased within the last five years.

Dr. M. ALLEN STARR said that Dr. Walton's statistics were very valuable, although they ran counter to the old ideas of knee jerks. He considered Walton's explanation of the loss of knee jerk by increased pressure of cerebrospinal fluid to be a good one. In the recent epidemic of cerebrospinal meningitis in New York he had found in many cases lost knee jerk returning on lumbar puncture. In tumor of the cerebrum, one might get symptoms of cerebellar tumor, due to the downward pressure upon the cerebellum, pushing it with force into the foramen magnum and against the bony walls of the cavity in which it lay. Inasmuch as the brain tumor was absolutely hopeless without operation, he believed that at least a palliative operation should be undertaken in every case, for, even if the tumor was not revealed, good results were often obtained. Dr. Starr emphasized his belief that the operation was perfectly safe in the hands of a good surgeon, and stated that he would always advise operation in case he could say who should operate. He had two patients who were absolutely well, one six years after the removal of a sarcoma, and the other from whom an endothelioma was removed on March 1 of the present year.

Dr. H. M. HOPPE of Cincinnati said that he had two cases which had made good recovery from operation performed in 1893. One patient suffered from hemianopsia and blindness, and the tumor had eroded the skull and protruded in the occipital region. This patient now, following operation, had paraplegia and one or two epileptic attacks a year. The other case was one of sarcoma of the motor area.

Dr. MEYER said that in connection with the study of the effect of the brain upon the reflexes, it was necessary to remove the spinal cord at autopsy in order to determine whether or not any lesions existed in it. He found in one case of cerebellar sarcoma that the lumbar cord was also involved. He would agree with Starr rather than with Knapp as to the advisability of operation in doubtful cases. He recently had a case in which no operation was done, but at autopsy it was found that the case would have been easily operable. The patient had the Babinski sign, but the tumor was found over the sensory speech area.

Dr. B. SACHS thought the changes in reflexes of cerebral tumor were often accounted for by cord and root changes. He reported a case of glioma, removed ten years ago, not entirely well except for occasional numbness in the right hand. He thought the palliative results were good enough to warrant operation, but he wanted to select

his surgeon. Surgeons had not given due attention to the technique of operation for brain tumor, doing their operations now very much as they did ten or fifteen years ago. Surgeons could give more help than they did. The ability of neurologists to diagnose and locate tumors properly had greatly increased. If the tumor was not found it was because its localization by the symptoms was an impossibility.

Dr. Harvey Cushing of Baltimore stated that he was in favor of early operation. The usual delay for therapeutic diagnosis between gumma and other forms of tumor was a very serious one, and led to a discrepancy between diagnosis and autopsy findings. Potassium iodide often improved the symptoms of tumors other than gummata. Even as a palliative measure, a large flap should be raised, a small one being of no benefit. By proper means, hemorrhage during operation could be controlled. In the past three years, at Johns Hopkins, he had had only one operative fatality, which was in the case of an extremely large tumor in a child, and had had only one fungus cerebri. Hernia frequently occurred in palliative operation, but should never become a fungus under proper care.

Dr. Walton, in closing, stated that when there was unilateral alteration of the knee jerk, he took the other side as a criterion in case it seemed to be normal. An examination of the cord was important, but was not always necessary.

Dr. Knapp, in closing, said that he would not admit certain cases as recovered, though so regarded by others. He emphasized the fact that complete recovery seldom occurred. His statistics showed that there had been a fall from 25 per cent. to 4 per cent. in operative fatality. He did not mean to imply that palliative operation should not be undertaken. He only emphasized the fact that it was often unsuccessful.

**The Motor Area of the Human Cerebrum as Determined by Cortical Faradization, with a Discussion of the Surgery of the Motor Region.**—Dr. Chas. K. Mills and Dr. Chas. H. Frazier presented this communication. The paper was illustrated by several diagrams. One represented the position and general outlines of the motor region and the subdivisions of the area for the face and upper extremity, several of these having been determined by faradic investigations of the cortex; another indicated the exact method of passing to and fro between the postcentral and precentral convolutions until a minimum standard current was obtained, and others illustrated the exact methods of surgical procedure in exposing the motor cortex and also the results of investigations on the cadaver demonstrating the accuracy of the plans employed. In all operations large openings were made, and these were of the osteoplastic type. In the paper extensive references were made to personal experiences, many of them recent, but some reaching back as far as 1888. A series of unpublished cases of Dr. W. W. Keen, and also of Drs. Mills, Frazier, and Spiller were given in abstract. A historical résumé of the American and foreign literature of the subject was made, beginning with the case of Bartholow, in 1874, and including cases both by neurologists and surgeons. The authors discussed the observations of Grünbaum and Sherrington on the chimpanzee and gorilla, comparing their findings with those of Ferrier, Horsley, Schäfer, Beevor, and others on monkeys below the anthropoids. Papers of Lamacq, Rothmann, and Krause were considered. The readers of the paper took a strong stand in favor of the view that the motor zone was located entirely, or almost entirely, cephalad of the central fissure. The methods of operating for the relief of brain lesions employed at the hospital of the University of Pennsylvania were detailed and illustrated by the presentation of a patient who had recently been operated upon for a cyst in the motor region.

Dr. James Hendrie Lloyd of Philadelphia said that as one of the pioneers in this work, beginning 17 years ago, he had followed the paper with great interest. The tabulation by Mills was open to some errors. He did not think that the results of faradization at operation were very reliable, because of the difficulty of localizing the central fissures. He thought the results which he obtained from faradization of the postcentral area were fairly reliable. A difficulty in faradization was to limit the transfusion of the current. The authors of the paper had shown a preponderance of evidence in favor of the limitation of the motor area to the precentral convolution, but he did not think that they had proved their case.

Dr. B. Sachs commended the standard osteoplastic flap used by Mills and Frazier. Since 1890 he had had about 40 operations upon the motor area, and had not once omitted faradization. He had found dural faradization with the bipolar electrode very satisfactory for the purpose of localizing a tumor or cyst, but did not claim that it was good for physiological purposes. He had had much experience with faradization, but had not published his results.

Dr. M. Allen Starr stated that since 1888 he had used faradization of the motor area as a matter of routine in cases of operation for epilepsy, but had not used it in cases of tumor or cysts.

Dr. Harvey Cushing stated that when he was in Liverpool, he had assisted Sherrington and Grünbaum in their experiments upon the anthropoid apes. Since then he had faradized the cortex in all favorable cases at the time of operation. He did not think the results were reliable when a cyst or a tumor was present. He had had 50 cases of faradization of epileptics, and had never obtained motor responses except in the precentral convolution. The best way to test the strength of the current was to apply an electrode to the temporal muscle which was always exposed. He had never succeeded in opening the leg area and said he would be pleased if anyone would explain how it could be done. The leg area was very high and close to the great longitudinal fissure. It was covered by the adhesions of the Pacchionian granulations and was unapproachable operatively. Dural stimulation was useless. Cortical stimulation was useless unless one first evacuated the cerebrospinal fluid in order to prevent diffusion. The consideration of the influence of the anesthetic was very important. He always used the unipolar electrode and put the indifferent electrode upon the side of the operation. Scalp measures were of no value except to the amateur. Anyone with experience could pick out the motor strip without elaborate measurements.

Dr. D. J. McCarthy said that for practical purposes the bipolar electrode was good enough, but for physiological purposes the unipolar was necessary. Anesthesia and shock were very important factors. The strength of the current must be increased as these conditions deepened. Care must be exercised in the manipulation of the brain. After faradization in animals there was a tendency to hemorrhagic encephalitis. Diffusion of the current could be obviated by puncturing the dura with an electrode.

Dr. Charles K. Mills, in closing, stated that faradization in the presence of a cyst or tumor would depend upon the situation of the new growth in the opening. In one case the tumor was very far forward and the motor area was not involved. This was also true in the case of a cyst. Faradization also taught something in reference to the depth of subcortical involvement. He had not seen any harm done by faradization in any of his cases. It was not advisable to try to localize by faradization through the dura. He was surprised to hear what Dr. Cushing said about rule of thumb measures on the scalp. He always evacuated the subdural fluid, but did not see how it was possible to remove the fluid from the subarachnoid spaces.

**Postoperative Asthenia.**—Dr. S. Weir Mitchell of Philadelphia presented this subject. He said that one-third of all patients operated upon by abdominal section, were doomed to six months of helplessness after the operation. This could be avoided if care were taken to put the patient into the best possible condition before the operation. After the operation the patient should be put under the care of a

physician. He referred to asthenias following operation in soldiers during the Civil War. Keen, Morehouse, himself, and others, had called this condition acute exhaustion. He often saw men so weak they could hardly stand, and others who could walk only a short distance as a result of heavy marches. There seemed to be great sensitiveness of every muscle in the body, and many months' treatment by surface friction and good diet were required to bring them back to health. In other cases a widespread crop of boils would break out.

**Cerebellar Tumors, with Reference to Diagnosis and Surgical Treatment.**—Dr. B. Sachs of New York read this paper, reporting not merely successful cases, but his entire experience with cerebellar tumors. In the last few years he had had 22 cases in which the diagnosis was certain. Fourteen were hospital cases and eight were private. Optic neuritis appeared unusually early, and soon led to absolute blindness. Paralysis of the external rectus was unusually frequent, and more important than any other symptom. Indirect cranial nerve symptoms involving the first, third, and fifth pairs were very frequent. They were usually unilateral. Very little stress could be put on the deep reflexes. In some they were lost, in others exaggerated. Exaggeration was probably due to pressure on the pyramidal tracts. Cerebellar tumors were difficult to differentiate from those of the frontal lobe. Direct sensitiveness to touch and localization of the headache were not very helpful. The question of the character of the tumor, whether gumma, tubercle, or sarcoma, malignant or benign, was puzzling. In one case where the tuberculin reaction was obtained the tumor turned out to be sarcoma. Localization of the tumor was difficult as localizing symptoms were frequently absent. Facial and auditory nerve involvement occurred when the tumor was in the depth of the cerebellum as well as in the cerebellopontile angle. Of 22 cases he advised operation in 6, in the others there was no sufficiently localizing symptom to warrant operation. Of the six patients, three died in one to two weeks. In none of them was the tumor found. In 2 of the 3, autopsies revealed the tumor exactly at the site diagnosticated. Of the 3 patients living, one improved after a preliminary operation and one after the removal of the tumor. In the third case the tumor was not found, but the man has been able to go about and attend to his business. In spite of the good results obtained by some, Sachs still held to the view that there was not much in the statistics to encourage operation, but we might encourage exploratory operation early.

Dr. F. X. Dercum of Philadelphia said that it was at present a matter of common consent that there was early optic neuritis with blindness in cerebellar tumor. As to external rectus palsy, it would help but little as it occurred in so many tumors in other situations. He had been puzzled in the diagnosis between frontal and cerebellar tumors. In a case, years ago, he advised an operation on the frontal region, and at the autopsy a cerebellar tumor was found. Cerebellar surgery is the least promising of all brain surgery. He asked Sachs if he regarded the lateral lobe of the cerebellum as of importance, saying that neurologists do not agree with physiologists on this point.

Dr. William Hirsch of New York had seen a number of cerebellar tumors in the last few years, and had found early optic atrophy. He thought the symptoms might be accounted for by internal hydrocephalus due to disturbance of the circulation in the ventricles. This also explained why early trephining relieved the symptoms. In some of his cases the brain was distinctly flattened. Mydriasis had been a common symptom in his experience. In localizing, the bilateral external rectus paralysis was of much value. The localization in one of the lobes was made in children by their falling to one side.

Dr. Harvey Cushing said that he agreed with Dr. Hirsch as to hydrocephalus in subtentorial growths, and said that this accounted for the frontal symptoms. Loss of the sense of smell might be caused by tumors anywhere. In cases where the trigeminal nerve had been removed there was no headache on the side from which it was removed, because it supplied nearly all of the dura. He had had three cerebellar cases. One patient operated on died in 6 months of fungus cerebri; another, a child, operated on 13 months ago was well; the third, a child, had not regained cerebellar control.

Dr. Charles K. Mills agreed with Sachs that there were early optic neuritis and blindness, but thought the blindness independent of the neuritis. Only prefrontal tumors were hard to differentiate from the cerebellar. When the motor or speech areas were involved, the diagnosis was easy. Mental symptoms were frequently present in frontal tumor. Headache was more frequent in cerebellar tumor.

Dr. Frank R. Fry of Cincinnati said that he considered the cerebellar attitude of the head and falling to one side important.

Dr. Theodore Diller of Pittsburg reported a case in which there were definite symptoms of cerebellar tumor in which the patient refused operation and was now well.

Dr. M. Allen Starr had had operations on 12 cases of cerebellar tumor without a single success. In no case where the tumor was removed did the patient get well. In one case a flap was removed on each side at successive operations, and a part of each lateral lobe of the cerebellum cut away. No tumor was found. The patient had been fairly well since the operation 1½ years ago. In 10 cases the tumor was inoperable. As to the question of staggering, in 30 cases, two-thirds of the patients staggered away from and one-third towards the tumor. In frontal tumor the early-morning headache and vomiting, lasting 3 or 4 hours, did not occur as in cerebellar tumor. He had seen the cerebellar attitude of the head in two cases. The early symptoms were due to distention of the ventricles.

**Thyroid Metastasis of the Spine.**—Dr. F. X. Dercum of Philadelphia reported the case of a woman who had been admitted to the Philadelphia Hospital in June, 1904, with the history of an operation for the removal of a goitre in August, 1899, by Dr. A. C. Wood, at the University Hospital. She had made apparently a complete recovery from the operation, but about one year afterward she began to suffer excessively from severe pain in the left upper extremity. The pains were sharp and shooting in character. Subsequently, pains made their appearance in both lower extremities, and later in the right upper extremity. She finally became completely paraplegic. When admitted to the Philadelphia Hospital, both legs were in a position of extreme contracture. They were also markedly wasted. Contracture with extreme wasting was also present in both upper extremities. A disassociated sensory loss was also present. Tactile sensation was preserved over the entire body, save that over the left leg a tactile hyperesthesia, existed. Over the trunk, as far as the nipples anteriorly, and as far up as the axilla posteriorly, and over the entire right lower extremity, there was a complete loss of pain and temperature sense. The autopsy revealed a tumor involving the fourth and fifth cervical vertebræ. The tumor involved the dura mater and pressed upon the cord. In its gross appearance, the tumor suggested a sarcoma. Similar masses were found infiltrating the sternal end of the left clavicle and also several of the ribs. A microscopical examination of the growth revealed the astonishing fact that it consisted of thyroid gland tissue. The acini were well formed, lined by typical cubical epithelium, and filled with colloid material. Dr. Dercum discussed the question of thyroid metastasis, and also the question of malignancy. The tumor did not, of itself, show such anomalies of thyroid structure as would justify the diagnosis of a malignant growth. Dr. Dercum also dwelt upon the resemblance of this case to one reported by Gussenbauer in 1891, and to a second reported by Hollis in 1893, in both of which paraplegia and associated symptoms had resulted from thyroid metastasis of the spine.

**Operative Intervention for the Intracranial Hemorrhages of the New-born.**—Dr. Harvey Cushing of Baltimore presented this paper. A few years ago, on studying new-

born children that had died suddenly, he found that in 50 per cent. of the cases death was due to intracranial hemorrhage. The early lesion which presented itself later in life as sclerosis of the brain was little known, and was probably very often due to hemorrhage at or about the time of birth. Many patients with intracranial hemorrhage early in life recovered, and its after effects were seen in the form of birth palsies. The chief symptom was tense fontanelle; asphyxia and early convulsions were important historical facts. The hemorrhage was always venous and was due to laceration in the veins over the cortex as they passed up to enter the superior longitudinal sinus. Often there were no symptoms. Cushing had operated on four cases. The first was one of twins born in difficult labor terminated by forceps. The child was asphyxiated. It was in very bad condition at the time of operation. The entire parietal bone was turned down and extensive hemorrhage was found covering the entire hemisphere, the clot being 1 cm. thick. The baby took the bottle subsequent to the operation, but died the next morning. The second child was operated upon when 8 days old. Convulsions appeared on the sixth day of life, and on the seventh day there were 11 convulsions. The hemisphere was exposed and an extensive clot was found. The child was now 18 months old and was perfectly well. The third case was a very serious one. The child was born in a forceps labor. There was slight cranial injury, and the child was asphyxiated; it nursed 24 hours, but later became stupid and the fourth day there was a very marked unilateral exophthalmos which led to diagnosis of hemorrhage from the lateral sinus. Two days later Cushing saw the child and undertook operation with the idea of removing the eye for the sake of appearance. He determined, however, to undertake the operation for hemorrhage. It was found that the hemorrhage had been from the lateral sinus which later became thrombosed. He exposed the hemisphere on each side to make sure that nothing would be overlooked. The child made a complete recovery. It was now 8 months of age and appeared to be perfectly normal, although it was impossible to determine its exact mental condition. The fourth case was in many respects similar to the first, the child perishing soon after the operation.

Dr. D. J. McCarthy of Philadelphia stated that he had three cases in his collection in which the lesions present showed that hemorrhage must have occurred a long while before birth.

Dr. C. K. Mills called attention to cases of unilateral cerebral palsy which were due to hemorrhage following infectious diseases in which cysts later formed. When hemorrhage into the brain occurred as a result of infectious disease, the patient should be operated upon the same as for hemorrhage due to other cause.

**The Progressive Spinal Atrophies.**—Dr. Charles L. Dana of New York presented this paper. Of the cervical and cervicobulbar (Duchenne-Aran) type he had 19 cases; of the lumbocervical, or leg and shoulder type, 15 cases; of the amyotrophic lateral sclerosis type, 10 cases; and of the bulbar and bulbospinal, 6 cases. Syphilis was the most common cause, being active in 25 per cent. of his cases. He thought that the percentage was really larger than this. Syphilis was the causative factor in 8 out of 19 cases of the cervicobulbar type and in 1 case of the purely bulbar type. This was rarely the cause in the cervical and the amyotraphic type. Occupation was the next most common cause. It was also due to exhaustion, acute infection, lead, and tobacco poisoning. Lead did not have much to do with it, as only 5 of Dana's cases were traceable to lead as a probable cause. Heredity did not play any part in the cervicobulbar type, but was active in amyotrophic cases. The author reported a case of bulbar palsy and another of tabes with autopsy.

Dr. Joseph Collins of New York reported a case of the amyotrophic form which he thought was due to lead, as the urine showed large quantities of this metal.

*(To be Continued.)*

## NEW YORK ACADEMY OF MEDICINE.

Section on Pediatrics.

*Stated Meeting, Held May 11, 1905.*

Dr. L. E. LaFétra in the Chair.

**Case of Friedreich's Disease.**—Dr. Charles E. Nammack said that he had presented a case of Friedreich's disease April 12, 1894, but had not seen another case until April 29, when the patient was admitted to Bellevue Hospital. He was 23 years old, native of this country. His father died of Bright's disease and his mother from change of life. There was no history of any nervous affection in his own family or in the families of his grandparents. The history was also negative regarding tuberculosis, rheumatism, and syphilis. The patient smoked some, but was not a drinking man. He had malaria six years ago. He denied any venereal disease. Five years after an attack of diphtheria he noted some unsteadiness in his gait and a slight trembling of his hands. His memory became impaired. There was some slight complaint of his digestive apparatus. There was no marked trouble with his bladder or rectum. The patient was a well developed and well nourished young man, and his mental condition was clear. There was a slight drooping of the left shoulder girdle. There was neither any atrophy nor hypertrophy of muscles. There was some slight nodding movement of the head, as well as swaying. The pupils were regular and reacted to light and accommodation. There was no strabismus or ptosis and the eye grounds were normal. The thoracic and abdominal organs were found to be normal. There was a marked incoördination, particularly shown in the manner in which he reached out for and grasped a glass containing water; he hovered over the glass and then grasped it, a "bird of prey" movement. There was no loss of power in either extremities. The feet were cold and moist and presented the usual deformity which appeared to be a talipes equinus to a certain extent. Knee and elbow jerks were present. There was no clonus nor Babinski sign. The Romberg sign was marked. The gait was ataxic but was not that of tabes. Dr. Nammack said that these cases were usually mistaken when first seen for other conditions, especially in early childhood, following some acute affection. This was the second case he had ever seen. A peculiar and marked feature in this case was the impulsive and uncontrollable laughter. The peculiar speech was monotonous, not staccato speech of multiple sclerosis.

Dr. L. Pierce Clark said that Friedreich's disease was not such a rare affection as the speaker implied; there were on record now three, four or five undred cases, and at the Vanderbilt Clinic alone four or five cases were seen every year. The speech was very suggestive of an anomalous form of multiple sclerosis. He believed it was a possibility that in addition to the Friedreich's ataxia there was associated a multiple sclerosis ataxia as already had been described. It should be borne in mind that Friedreich's ataxia might be associated with other lesions, especially those of the nervous system as early degenerations. He thought the movements partook of the intention tremor type.

Dr. Henry W. Berg said that some eight years ago he presented a case in which there was a traumatic lateral curvature which was followed by symptoms similar to those described by Dr. Nammack. The patient was a girl 14 or 15 years old; she had a severe fall which was followed by a lateral curvature without fracture of the spine. This curvature rapidly developed, with the primary curve high up and the secondary one well down. At the end of two years there appeared the ataxic gait, there was an absence of reflexes, pains developed similar to those of locomotor ataxia, there was no scanning speech, etc., the patient presenting the picture of a disseminated sclerosis, the sclerosed patches being limited to the spinal cord. At autopsy there was found a sclerosis in the posterior part of the cord, but worse at the point of lateral curvature. Dr. Berg believed that the cord would stand much deviation without undergoing myelitis.

Dr. Jacob Sobel said that the association of this impulsive laughter with Friedreich's disease was new to him, and he had always associated it with multiple sclerosis. At a recent meeting, Dr. Hirsch had presented a case of trauma which was followed by multiple sclerosis, and he said that this sign was not at all common in these cases.

**A Case of Retained Intubation Tube Treated by Gradual Dilatation.**—Dr. Fielding Lewis Taylor presented a child 3 years old who had worn an intubation tube for 187 days.

Dr. Henry W. Berg said that at the Willard Parker Hospital they had had about 27 chronic tube cases within the past four or five years. The longest time one was worn was one year and a half, and they had recently discharged a patient who had worn one nine months.

**Two Cases of Hydrocephalus Treated by Autodrainage.**—Dr. Alfred S. Taylor presented these patients. He said that external drainage had never been satisfactory because of the anger from infection and early death. Methods of internal drainage had been tried, and only those had been successful which dealt with drainage of the ventricle into the subdural spaces, as first tried by Sutherland of England, who used the upper corner of the anterior fontanelle. The patients nearly all died within two or three months. The particular technique of the English surgeon did not appeal to him, and he therefore devised the operation which had already been described at previous Academy meetings. The right side of the head was chosen in order not to endanger motor area or the speech center. The osteoplastic flap was made and turned back, the brain was pierced through the second temporo-sphenoidal convolution, etc. A forty-day chromic catgut was used for drainage, being covered over with Cargyle membrane, leaving the tip of the drain in the ventricle one-quarter of an inch.

Case I.—This was a patient over 5 years old, who was brought from the Randall's Island Hospital and no definite history had been taken. The head was 62.5 cm. in circumference, and the tension was so great that, at time of operation, the brain protruded three-quarters of an inch. Following the operation the temperature went up to 104° and 106° F., which lasted for several weeks. During the first weeks improvement was very slow, but after three months it became moderately rapid. The child had become moderately intelligent and acted more like other children. It was now 26 months since the operation and he could sing, look at books, knew everybody in the ward by name, and there were no evidences of intracerebral pressure.

Case II.—This child was 13 months old at time of operation. She was born with great difficulty, one of her thighs being broken. At the age of 5 months she had a rapid abnormal growth of the head. At time of operation her condition was very good, the reflexes being normal, etc. The head was very large, the eyes protruded so that the sclera showed entirely around the iris. There was moderate nystagmus. The head grew 49 or 50 cm. in nine weeks, almost one-half an inch per week. The operation was done as already described. After eight or ten months the osteoplastic flap had healed by bony union. During the first three or four weeks there was no change in the circumference of the head. About the tenth week the head became asymmetrical, and the right side appeared to be smaller. The eyes were back in the orbit, the nystagmus had disappeared, etc. At the end of eight and a third months there was no incracranial tension. Eleven months after operation the head had grown to 61.5 cm., and the child was beginning to play in her crib. At 22 months after operation it measured 61 cm. In other words, there had been no growth from 11 to 22 months.

Dr. Lewis M. Silver said he had recently operated upon two cases and his results he would report to the Section next autumn. Both reacted nicely from the operation, except that for three days the temperature was 103° F., but it quickly subsided.

Dr. Henry Koplik said that Dr. Taylor's operation practically converted an internal into an external hydrocephalus. The cases on which this operation should be tried, he believed, were those of meningitis with beginning or commencing hydrocephalus. Lumbar puncture was absolutely of no value in these cases. He thought that Dr. Taylor had been given bad material with which to work.

Dr. L. Pierce Clark said he had followed Dr. Taylor's cases very closely and had noted a very decided improvement in both. The improvement seemed to be rather marked soon after operation.

D. L. E. LaFétra had seen the second patient presented by Dr. Taylor, and was considerably struck by the marked improvement.

Dr. Taylor closed the discussion, and said that in neither of the cases were there any evidences of active drainage until three months after operation.

**Intestinal Hemorrhage in a Child Eighteen Months Old.**—Dr. J. Finley Bell reported this case in which he had been able to exclude as causes everything except scurvy and ulcer. The probabilities were that it was caused by an ulcer in some part of the small intestines.

Dr. Henry Koplik said he had seen this case in consultation, and there were absolutely no signs of scurvy except when he squeezed an extremity the patient winced. He thought the case was probably one of scurvy with beginning enteric catarrh. The gums were pale but with no ecchymoses in the extremities or elsewhere. If the case was one of scurvy it was an atypical one. He thought the case taught a lesson that one should not operate on such cases unless there was present tumor and other signs of an intussusception.

Dr. LaFétra wished to emphasize the point that blood in the stools might be one of the earliest signs of scurvy.

Dr. Berg said that he excluded scurvy as a cause when there was but one large hemorrhage from the intestines.

**Some Cases of Congenital Syphilis.**—Dr. Henry S. Patterson reported two such cases. He said there was a general belief that the transmission of syphilis from parent to offspring was a limited process, that in the father the transmissibility of the disease died out after the second year and, in the mother, after the third year. Jonathan Hutchinson had stated that a man might marry at the end of a year if there were no lesions. This impression was held as the result of the observations of most clinicians, in the large majority of the cases, and the principle was considered much more likely to obtain where the parents had had good and continued treatment. Although physicians had occasionally seen syphilis transmitted to children by parents who had allowed the orthodox period of time to elapse between the primary lesion and marriage, and who had been well treated, still such cases were sufficiently rare and interesting to warrant drawing attention to them at present. In the first case reported, the woman had been syphilitic for six years, and at the end of that time was still able to transmit the disease to her child. In the second cases the mother had a primary lesion on the lip in 1898, which was followed by secondary lesions and, in 1899, she had late secondaries and for two years after she was thoroughly treated by an excellent physician. In 1900 she married, and in the fall of 1901 gave birth to a female child which was and has since been perfectly healthy. Shortly after the birth of her first child treatment had been discontinued. On November 28, 1903, she gave birth to a syphilitic child whose lesions healed up in a few days under small doses of gray powder.

**Measures for the Relief of Symptoms in Cerebrospinal Meningitis.**—Dr. Francis Huber read this paper. He said that of the 112 patients treated at Gouverneur Hospital last year (all doubtful cases being excluded) 28, or 25 per cent., recovered, 5, or about 4 per cent., were discharged improved, a similar number were unimproved, and the remaining 74, or about 66 per cent., died. Among 14 of the 28 recoveries, 10 had fully recovered in two weeks or less; 1 was discharged on the 17th day, and the other 3 in about three weeks. These figures were interesting in that it showed that 12 per cent. of the total number of cases treated belonged to the mild type of the disease. During the first 23 days 56 patients died; from the 29th to the 230th day 18 died. In the first 5 days 26 died, constituting 23.2 per cent. of the

total number of admissions, or 35 per cent. of the fatal cases. The deductions from the above might be tersely given as J. C. Wilson had stated: "The mildest cases require no treatment; the malignant react to none. Medicine with all its resources is neither capable of combating the attack nor responsible for its results." In considering the treatment in detail and in estimating the value of any plan, certain factors should not be lost sight of, as, (1) the large proportion of malignant cases; (2) the grave character of the anatomical changes and (3) the great irregularity in the clinical course. It was impossible to predict the subsequent progress from the initial symptoms. An apparent convalescence was frequently interrupted by an unexpected recrudescence or relapse, and severe and apparently grave manifestations might clear up unexpectedly. The treatment was entirely symptomatic. The case should be isolated and placed in charge of a good and competent nurse, and in a well ventilated room. The general nutrition must be sustained. An ice bag to the head, with proper support to head and neck, would add to the comfort of the patient. Plenty of water should be given and the body functions should be regulated. The nasopharynx should not be neglected. Forced feeding through the nose or mouth might be indicated. Pain and restlessness must be relieved by chloral per rectum or morphine per os or hypodermatically. The headache might be relieved with phenacetin, with or without codeine. Ergot in the beginning had been praised. Severe vomiting in the later stages was relieved by lumbar puncture, small hypodermics of morphine, ice to the epigastric region, and careful dieting. If pulmonary edema occurred, sodium benzoate of caffeine subcutaneously given, afforded prompt relief. The general circulation was improved by packs or baths with or without mustard. This lessened the muscular spasm and rigidity in general. Each case presented its individual indications. Nourishment and nursing were of the utmost importance. The iodides were indicated with a view of causing absorption of plastic exudates. Local bleeding by leeches did not give any appreciable results. At the Gouverneur Hospital the first puncture was usually for purposes of diagnosis, a small amount only being withdrawn. Later, larger amounts were taken away. To influence the intracranial pressure from 10 to 15 c.c. must be removed, but care should be taken not to remove more than 20 c.c. or 30 c.c., unless the evidences of pressure were very prominent. Chronic hydrocephalus (internal variety) necessitated autodrainage by Taylor's method. Chronic hydrocephalus (external and internal) repeated tappings at intervals of a few days were indicated. Hypodermoclysis was given early to overcome the prostration and initial shock and possibly to dilute the toxins, later on to supply fluids to the tissues. He said certain clinicians resorted to the diphtheria antitoxin in treating this disease, but it had been found by most of them that it was without value, especially in the experience at Roosevelt Hospital.

Dr. J. Finley Bell reported a case seen in Englewood, N. J., in which the pneumococcus was obtained by pure culture.

Dr. Henry Koplik said that the prognosis in these cases varied with different epidemics and with the age of the patient. The prognosis in those below the age of two years seemed to be invariably fatal. He did not believe that lumbar puncture was a difficult operation, but he had less faith to-day in its efficacy than formerly. It should be remembered that in young children they were unable to express their feelings after a lumbar puncture; it was known that in adults there occurred a severe headache which lasted for some time, and it was Dr. Dana's suggestion that some serum should be injected to replace the fluid removed; Dr. Koplik thought this was a good idea. The subdural injection of drugs he believed to be productive of more harm than good, and the lysol injections he had some time ago given up. During the present epidemic he had seen several cases occurring in the same family, whereas in previous epidemics, this had not occurred in a single instance, so far as he knew.

Dr. Henry W. Berg said that in 1895 the Board of Health of this city, did not know of the existence of such an epidemic until he went and asked if they could supply him with the number of cases that had occurred within the last four months; then it was noted by the Health Department, and not before, that there was an epidemic of cerebrospinal meningitis which had been on the increase; this had been shown by the number of deaths which had gradually increased each month. During that epidemic he had not seen one single instance of two cases occurring in the same family, and in that respect the epidemic was different from the present one.

**Ulcer of the Stomach in Children.**—Dr. Wm. L. Stowell read this paper. (See page 52.)

Dr. David Bovaird, Jr., said that in infants there were several kinds of ulcerations to be seen, the tuberculous, the multiple, the so-called "brown" ulcer which corresponded to the round ulcer seen in adults, etc. The multiple ulcer was what Dr. Northrup had already referred to, and was associated with a distinct gastritis. These ulcerations, as a rule, were not noticed except on very careful examination. Dr. Adriance's observation led him to believe that multiple ulcers were far more common than generally believed, and were so frequently found at autopsies. The round ulcer in children he believed to be very rare, and he personally had never seen a case.

Dr. Foote said he had been struck by the similarity of the symptoms as they occurred in childhood and in adults, and he related a couple of instances, in one of which a child, 5 years old, with peritonitis, was taken to the hospital because of a supposed appendicitis. At autopsy there was found a perforating ulcer of the stomach. In the second case, a girl 12 years old, had suffered for a long time from pain, vomiting, and bleeding. At operation the pylorus was found to be adherent to the small intestine, and so constructed that it would not admit the little finger; there was a dilatation of the stomach, etc. A retrocolic gastroenterostomy was performed, and a good recovery followed. The treatment of these cases in children should be as in adults, and the same results should be obtained.

## College of Physicians of Philadelphia: Section on General Medicine.

At a stated meeting held May 8, Dr. Alfred Hand reported "A Case of Typhoid Fever, with Divers Complications, Including Perichondritis, from which Typhoid-bacilli Were Isolated One Year After the Attack of Typhoid Fever." The patient was a man, about 32 years old, whose illness was complicated by intestinal hemorrhage and by pneumonia. The temperature failing to decline to the normal after a reasonable time, a small focus of suppuration was discovered at the junction of the fourth or fifth rib on the right side with its costal cartilage. A small amount of pus was evacuated by a simple incision, but perfect recovery did not ensue until resection of the rib was practised. Dr. Hand also reported a case of typhoid fever setting in with a chill and presenting symptoms suggestive of pneumonia, and an additional case characterized by toe-drop due to peripheral neuritis and the pressure of the bedclothing. Dr. H. R. M. Landis exhibited a patient presenting "Hypertrophic Pulmonary Osteoarthropathy." The case occurred in a woman with symptoms and physical signs suggestive of a fibroid process in the lungs without tubercle bacilli in the sputum. The extremities of the fingers and toes were enlarged and bulbous, and there was hyperplasia of some of the long bones. The report was supplemented by a full discussion of the clinical and pathological features of the disorder. Dr. Robert N. Willson, Jr., presented a communication entitled "The Value of Kernig's Sign." He pointed out that failure to extend beyond an angle of 120° the leg on the thigh flexed on the abdomen at an angle of 90° is observed in a considerable number of cases of cerebrospinal meningitis, and conversely the phenomenon is

occasionally present in cases in which there is no reason to suspect meningitis. Drs. Clifford B. Farr and William B. Cadwalader presented a communication entitled "The Significance of the Analysis of the Gastric Contents." They showed, among other things, that the acidity of 60 per cent. stated by foreign investigators as normal appears not to be applicable in this country, where a percentage of about 40 per cent. seems to be more nearly the normal. Little difference in the figures was observed with respect to race. Dr. Herbert Fox read a paper entitled "A Comparison of the Agglutinating Properties of Typhoid Fever Sera with Bacillus Typhosus, Bacillus Paratyphosus (A) and Bacillus Enteritidis (Gärtner), with Reference to Their Individual Antisera."

## Medical Items.

**Contagious Diseases—Weekly Statement.**— Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending July 1, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 632 | 13 |
| Diphtheria and Croup | 235 | 20 |
| Scarlet Fever | 83 | 4 |
| Smallpox | 1 | ..... |
| Chickenpox | 109 | ..... |
| Tuberculosis | 418 | 145 |
| Typhoid Fever | 47 | 9 |
| Cerebrospinal Meningitis | 35 | 22 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | ..... |
| Totals | 1,560 | 213 |

**Clinical and Experimental Observations in the Action of the X-Rays.**—Quadrone, as the result of observations made on patients with leukemia, malignant lymphoma, splenic anemia, and other blood diseases, as well as on animals, concludes that the *x*-rays have a special action on the circulating leucocytes, and perhaps also on those situated in the interior of organs. The question suggested itself whether the action of the rays in destroying a portion of the leucocytes and irritating the others did not, perhaps, increase the formation and the activity of the body's protective substances. Experiments show that under the effect of the rays there is an increase in the hemolytic cytose, and that animals exhibit a remarkably greater resistance to the action of pathogenic organisms. These experiments are only rudimentary, but they open up an interesting vista for future work.—*Zentralblatt für innere Medizin.*

**Pemphigus Contagiosus Containing Leishman Bodies.**—W. Turner refers to several cases of this nature which came under his notice among the British soldiers at Multan. He states that the sore, on exposure, presents a pinkish, slightly glazed-looking patch, in the earlier stages, but becomes a dirty ashy gray color later on, and is covered by a varying thickness of disintegrated tissue. When this tissue is scraped off gently, it leaves a bleeding surface. He examined these scrapings on prepared slides which were stained by Leishman's method for malaria. He discovered Leischman bodies in great numbers in some cases, and fewer in others. The bodies are oval, sharply defined in outline, with one end rounded and the other pointed. They measure from 2 to 4 $\mu$ in length. Inside the body is a nucleus which stains lilac and occupies from a quarter to sometimes half its size. It is peripheral in position, and may be circular or variable in shape. A smaller chromatin spot which is always circular is near the nucleus, while adjoining the nucleus is a part of the body which does not stain, and beyond this is the stained periphery. These bodies appear to be identical with the Heleosoma tropicum of Wright, which causes the Oriental boil, and so it is thought reasonable to conclude that the "Multan sore" has an origin in the vesicular disease of pemphigus contagiosus. These cases were treated in the following way: The blisters were first removed, the sores scraped, and antiseptics applied. One of the slides was examined by Semple of the Pasteur Institute of India, and he pronounced it to contain Leishman bodies.—*Journal of the Royal Army Medical Corps.*

**Grave Puerperal Anemia.**—Clivio considers 25 cases of severe anemia in puerperal patients, observed by him in the clinic at Parma. He takes into consideration the influence of pregnancy on the woman, and shows how she may pass from a chloroanemia to a pernicious anemia. From these considerations he draws the inference that interruption of pregnancy is necessary in those cases in which blood examinations show a progressive diminution in the number of normal blood corpuscles. In the period of cure of such cases he has observed a marked increase in the size of the spleen, as if the organ reacted to the necessity of destroying the large number of incomplete corpuscles present in the blood. The treatment should be both obstetric and medical—interruption of pregnancy first, then treatment with red bone marrow in the fresh state, and later arsenical preparations.—*La Riforma Medica,* June 3, 1905.

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, Public Health and Marine Hospital Service, during the week ended July 1, 1905:

SMALLPOX—UNITED STATES.

| | | CASES. | DEATHS. |
|---|---|---|---|
| Illinois, Danville | June 17–26 | 2 | .. |
| Indiana, Southbend | June 17–24 | 4 | 2 |
| Louisiana, New Orleans | June 17–24 | 6, 2 imp't'd. | |
| Michigan, Grand Rapids | June 17–24 | 7 | 4 |
| Missouri, St. Joseph | June 17–24 | 6 | .. |
| St. Louis | June 17–24 | 2 | 1 |
| New Jersey, Newark | June 18–25 | 1 | .. |
| South Carolina, Charleston | June 10–17 | 2 | .. |
| Wisconsin, Appleton | June 17–24 | 6 | .. |
| La Crosse | June 17–24 | 1 | .. |
| Milwaukee | June 10–17 | 1 | .. |

SMALLPOX—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | May 13–20 | 2 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Pernambuco | May 8–16 | .. | 223 |
| Canada, Winnipeg | June 10–17 | 2 | .. |
| China, Hongkong | Apr 22–29 | 8 | 2 |
| Shanghai | May 6–13 | 1 | .. |
| Colombia, Cartagena | June 3–10 | 1 | 1 |
| Denmark, Copenhagen | June 3–10 | 1 | .. |
| Ecuador, Guayaquil | May 31–June 6 | .. | 1 |
| France, Paris | May 27–June 10 | 46 | 4 |
| Germany, Bremen | June 3–10 | 2 | .. |
| Great Britain, Bristol | June 3–10 | 1 | .. |
| Edinburgh | June 3–10 | 1 | .. |
| London | June 3–10 | 3 | .. |
| New Castle on Tyne | June 3–10 | 1 | .. |
| Nottingham | May 27–June 3 | 1 | .. |
| South Shields | June 3–10 | 1 | .. |
| India, Bombay | May 16–23 | .. | 34 |
| Calcutta | May 13–27 | .. | 14 |
| Karachi | May 14–21 | 2 | 2 |
| Madras | May 13–10 | .. | 2 |
| Italy, Catania | June 8–15 | 3 | .. |
| Mexico, Mexico City | June 10–17 | 6 | 4 |
| Russia, Odessa | June 3–10 | 8 | 3 |
| St. Petersburg | May 27–June 3 | 10 | 3 |
| Turkey, Constantinople | May 20–June 10 | .. | 6 |
| Uruguay, Montevideo | Apr. 1–31 | .. | 4 |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| British Honduras, Belize | May 25–June 15 | 5 | 4 |
| Ecuador, Guayaquil | May 31–June 6 | .. | 12 |
| Guatemala, Livingston | June 10 | 1 | .. |
| Honduras, Puerto Cortez | May 25–June 15 | 18 | 8 |
| Mexico, Coatzacoalcos | June 11–17 | .. | 1 |
| Tierra Blanca | June 11–17 | 2 | 3 |
| Panama, Colon | Jan. 23–June 16 | 28 | 8 |
| Panama | Jan. 1–June 16 | 91 | 29 |

CHOLERA.

| | | | |
|---|---|---|---|
| India, Calcutta | May 13–27 | .. | 42 |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Hawaii, Hilo | June 24 | .. | 1 |
| Honolulu | June 25 | .. | 1 |
| Philippine Islands, Cavite | May 13–20 | .. | 1 |
| Arabia, Aden | May 12–26 | 2 | 1 |
| Australia, New South Wales: | | | |
| Newcastle | Apr. 22–May 6 | 4 | 2 |
| Northern Rivers District, Ballina | Apr. 25–May 6 | 2 | 1 |
| Lismore | Apr. 20–May 6 | 2 | 2 |
| India | Apr. 20–May 6 | 60,674 | 50,253 |
| Bombay | May 16–23 | .. | 577 |
| Calcutta | May 13–27 | .. | 318 |
| Karachi | May 14–21 | 119 | 116 |
| Japan, Tokyo | May 6–20 | 3 | 3 |
| Panama, Panama | June 26 | .. | 1 |
| Peru, Chicl'ayo | May 11–31 | 12 | 4 |
| Lima | May 11–31 | 5 | 2 |
| Mollendo | May 11–31 | 6 | 7 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 3.
Whole No. 1810.

New York, July 15, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### THE AMERICAN MEDICAL ASSOCIATION: ITS ORIGIN, PROGRESS AND PURPOSE.*

By LEWIS S. McMURTRY, A.M., M.D.,

LOUISVILLE, KY.

Both established usage and the by-laws of this Association require the presiding officer to deliver annually an address touching such matters as he may deem of importance. In the early years of the Association the president's address was devoted to an epitome of the progress of medical science in its various departments during the preceding year. Since distinguished orators are now selected annually to perform this important service, the president's address may be more appropriately directed to subjects relating to the general welfare of the profession and to the purposes for which this great organization was established.

The annual session of the American Medical Association is always an occasion of special moment and universal interest to the medical profession of America. That several thousand physicians from all sections of our broad country assemble annually for the advancement of medical science and the elevation of our profession is a splendid testimonial to the earnestness of professional achievement and aspiration. The occasion cannot but command the respect of all who are concerned in the progress of science and the betterment of the human race. The spirit which pervades such an assemblage is the desire for improvement, for the increase of scientific resources, and for the diffusion of medical knowledge. Closely related to these ennobling purposes is that social instinct of our profession, which would elevate and be elevated by interchange of views resulting from common experiences, and by mingling together in pleasant friendly intercourse. Happily our present meeting is held under ideal conditions for the exercise of all the functions of such an organization. Perfect harmony prevails. The differences which at times have divided us, have all been satisfactorily adjusted; and we are to-day as one man in our united effort to advance the science of medicine, to enlarge the scope of its beneficence, and to promote the welfare of our profession.

Since our meeting at Atlantic City one year ago, many of our members have ceased their labors and passed to the great beyond. The list is a long one. Among the number is that of Nathan Smith Davis. He was one of the founders of this Association, an ex-president; a member of the Board of Trustees, the first editor of *The Journal*, and for years a power for good in its affairs. He lived beyond the time allotted by the Psalmist, and all his years were filled with labor and honor. I will not undertake at this time to estimate adequately his great services, or appropriately to pay tribute to his memory. This will be done later in the session by one better prepared than I to eulogize our departed leader.

At our last session, Dr. B. C. Pennington of Atlantic City, was chairman of the Committee of Arrangements. He was honored with the fourth vice-presidency in recognition of his ability, his high professional standing, and his devoted services to this Association. His name, too, is now found among the year's honored dead. A cultured gentleman, a learned and accomplished physician, his memory will ever remain as an inspiration for high ideals and noble endeavor.

When the American Medical Association was organized in 1846 it is doubtful if there were more than 25,000 physicians in the entire United States of America. It was organized as a representative body, composed of delegates from affiliated societies, colleges, and hospitals throughout the states. It was a body of delegates from all state, district, county, and other medical societies which adopted the code of ethics of the national association. The apportionment of delegates was on the basis of one for every ten members of the societies represented. For a number of years the delegate body thus constituted was not too large for the discussion of important subjects and the ready transaction of business.

With the rapid increase in population, the admission of new states to the Union, and the settlement of new territories came a vast increase of physicians, with a corresponding multiplication of state and county societies. Without change in the apportionment of delegates, the national association developed into a body too large and unwieldly for the transaction of business. Indeed, during the latter years under the original system of organization, practically every member in attendance on the annual sessions was a delegate. While the work of the sections was carried on with increasing excellence, the important functions relating to legislative and other matters belonging to a great national organization of the medical profession, were neglected. The general sessions brought together hundreds of delegates, forming a convention so large that thorough discussion of important questions and judicious action on the same became practically impossible. Moreover, the delegates attending the annual sessions constituted a body annually changing in personnel; and the sources of attendance changed with the sections of the country in which the meetings were held. In consequence there could be neither that equal representation of all sections which must obtain in a national body, nor continuation of work from year to year along definite lines.

During these early years it was the steady improvement in the work of the sections which drew the best element of the profession to the annual sessions. Many leaders of the profession in the various states attended the sections in which they were interested, and took no part in the proceedings of the general meetings. The sections have now reached such a high degree of efficiency that they have attained the standard so much desired, and rank as

*President's Address, at the Fifty-sixth Annual Session of the American Medical Association at Portland, Oregon, July 11-14, 1905. From advance proofs by courtesy of the *Journal of the American Medical Association*.

leading special national societies in the several departments of medical science which they represent.

As chairman of the Committee on Sections and Section Work, I have carefully studied the workings of the sections. As a result of this experience, I would repeat the recommendation of my distinguished predecessor in this chair, that the secretary of each section should be elected for a term of years. No national society can maintain its efficiency which changes its secretary annually. And, again, I would suggest that the officers of the several sections meet together in conference as soon as practicable after the adjournment of the session at which they are elected, in order that definite plans may be formulated for the scientific work of the next annual session. The conference of section officers in New York last November contributed much toward the development of the admirable scientific program now before you for the present session.

It should be the aim and purpose of every member of this Association to aid the officers of the sections in elevating continually the standard of scientific work. Every American physician may have pride in the work done year after year in the sections of this Association.

It would be a difficult task were we to undertake a definite estimate of the influence of *The Journal* in the great work which this Association has accomplished during the past two decades. When it was decided to discontinue the annual volume of transactions, and to establish a weekly journal, the change was viewed with apprehension by many. The influence of this publication, the property of the Association, in stimulating research, diffusing knowledge, elevating professional thought and conduct, and building up this great organization cannot be computed. This part of my discourse is so replete with suggestions, that I fear the time and space at my command will not permit such consideration as should be devoted to it.

The volumes of *The Journal* mark the steady and continued growth of the Association, and likewise bear testimony to the fact that *The Journal* itself has been a potent factor in that growth. Under the judicious direction of the Board of Trustees *The Journal* has steadily advanced as a scientific publication. By the untiring daily services of the present able editor, it has leaped into the very front rank of scientific publications, and in all that a great weekly medical journal should be it has no superior in the world. The power exerted by such a publication as a medium of communication among the members of the Association is inestimable, to say nothing of the other more important functions performed by a great weekly journal. It has been the most potent instrument in building up this Association to its present proud position as the largest medical organization in the world. No other American medical periodical has a circulation so distinctly national, and no other journal can sustain the same relation to the great body of the medical profession. It is a great engine whose power is constantly increasing, constantly extending. With such increased power comes increased responsibility, much of which rests with the House of Delegates in the selection of proper men to fill the responsible places of the trustees. No other office should be regarded higher in honor than that of the trustees, as no other affords greater scope for unselfish labor and efficient service to the Association. Under the conditions of our organization more power is invested in this board than the combined power of all other officers.

At the annual session of 1900 a committee on reorganization was appointed, and one year later, at St. Paul, the report of the committee was submitted and adopted. It included a new constitution, which altered the basis of apportionment for delegates, so as to reduce the delegate body to 150, and definitely established a close relationship between the national organization and the state, district, and county societies. For the first time a practical scheme of complete organization of the medical profession of the United States was provided. This is the fourth annual session held under the new plan of organization.

Previous to the reorganization, the valuable scientific work of the sections constituted almost the sum total of the effective work accomplished by the Association. Matters appertaining to medical education, to the public health, to national legislation, and to the welfare of the profession received no deliberate consideration; and in consequence no decisive action was carried out. This condition existed for the reasons already mentioned. In a word, the very objects and aims for which the Association was organized were thwarted by the growth of the Association into an unwieldy delegate body. Under the reorganization the House of Delegates, in which the membership of the state societies is proportionately represented, now gives deliberate consideration to those important matters, already indicated, which under the former organization were neglected.

The influence of the revised plan of organization was immediately apparent in the increased attendance at the annual sessions, and the stimulus felt in every purpose of the Association. And each year this influence has grown, until some idea can now be formed of the great possibilities to come from organization on a definite and practical plan. The good results to accrue to the profession as a whole, and to every member as an individual, are so positive that no subject can deserve more careful consideration by this body than that of medical organization. Indeed, it is the fundamental question before us, and on its decision depend the results of all our other efforts in all directions.

In order that we may thoroughly appreciate the origin and purposes of the Association, and thereby be better prepared to meet its present and future requirements, I have very imperfectly outlined the history of its earlier years. During the more than half century of its existence it has always brought to its councils the ablest and best men in the profession of America. Among its leaders from the beginning are found the most eminent physicians and surgeons of the day. In the list of its active members are the names of Samuel D. Gross, Paul F. Eve, Austin Flint, Marion Sims, N. S. Davis, Alfred Stillé, Lewis A. Sayre, and many others which adorn the annals of American medicine. It has from the beginning been a great power with the profession of America. Its greatest influence, as I have already indicated, was in the growth and diffusion of scientific knowledge through the splendid work of the sections. In elevating medical education, in promoting legislation, and advancing the powers of public health organizations its influence was most felt in the development of a helpful public professional opinion. The extension of the influence and advantage of organization to the masses of the profession was gradually lost sight of in the annual meetings, and the work relating to matters of public policy was spasmodically considered and imperfectly executed. Whatever was accomplished along these lines worthy of mention was the work of the committees. The necessity of reorganization was appreciated by the leading members of the Association long before it was accomplished. In 1888, Dr. N. S. Davis, as chairman of a committee appointed for the purpose, reported a scheme of reorganization very similar to that adopted in 1901 at St. Paul.

"The object of this Association shall be to federate into one compact organization the medical profession of the United States, for the purpose of fostering the growth and diffusion of medical knowledge, of promoting friendly intercourse among American physicians, of safeguarding the material interests of the medical profession, of elevating the standard of medical education, of securing the enactment and enforcement of medical laws, of enlightening and directing public opinion in regard to the broad problems of state medicine, and of representing to the world the practical accomplishments of scientific medicine." (Article II, Constitution of the American Medical Association.)

If every physician worked alone, relied on his own unaided observation for his knowledge, never looking outside his own scope of view, ignorance would prevail, and there would be no progress in medical science. Medicine is not an exact science, and until perfected by extorting from Nature all her secrets, it must from the nature of things continue to be a progressive science. Never before in the history of medicine has such marked progress in all its departments been made as during the present age. Theories have been supplanted by facts; laboratory research and clinical investigation have taken the place of tradition and authoritative opinion. To rely on the accomplishments of the college period is to be left behind in hopeless incompetency. The advance of medical knowledge is to be observed first in our medical societies, and afterward in our scientific medical journals. In the medical societies innovations are subjected to criticism and discussion by those competent to judge the merits of scientific contributions. Moreover, there is a stimulus to study and investigation from association with workers in the same field; and one obtains a broader view of every subject so considered. The physician, more than any other professional man, is isolated by the conditions of his life, and to no profession is the educating influence of society work so essential and invaluable. This same condition of isolation is at the foundation, for the most part, of the jealousies and petty bickerings so prevalent in our profession. These troubles are, as a rule, the result of misunderstandings, and are both prevented and corrected by coming together in a society composed of physicians. The lonely worker in any calling is prone to become narrow, suspicious, and morbid. Our medical societies are the great post-graduate schools of the profession, where knowledge is increased and individual character developed.

But the promotion of scientific investigation, and the diffusion of medical knowledge are not the only objects of organization. Our profession has a most essential and important duty in relation to the public health. Through no other agency can municipal, state, and national health authorities formulate and secure recognition of laws to prevent and control disease. Another duty no less essential is to regulate and to control medical education that the ignorant and unworthy shall not be admitted to the privileges of the profession, thereby preserving the time-honored standard of professional honor and scientific capability. In this age of organization, without it the profession is powerless to secure the enactment of humane sanitary laws, by which alone the people can be protected from preventable diseases. The welfare of the profession, collectively and individually, can only be subserved by organization. Without such organization, our profession, as a body politic, will be without unanimity of sentiment or action in relation to the important scientific, ethical, and social questions which confront us; and consequently without influence politically, socially, or otherwise.

In the declaration of the constitution adopted at St. Paul, which I have just quoted, the American Medical Association has undertaken to place within reach of every reputable medical practitioner in the United States these incalculable advantages of medical organization.

The Committee on Reorganization appointed in 1900 has treated this subject in a masterly manner. After a careful study of the condition of the profession throughout the states with relation to organization, reports have been made to the Association showing the needs of the profession and the extent of the work required. A uniform plan of organization for state and county societies, making the county society the unit of organization, and federating all state societies in the national association in harmonious co-operation, has been prepared by the committee. The able chairman of this committee has with remarkable tact, patience, and good judgment given his personal supervision to this great work in almost every state and territory. In his latest report it is announced that all the states and territories, except three, and including Hawaii and Porto Rico, are now organized on a practically uniform plan, with universal local societies, and coincident membership in them and the state associations as the cardinal feature. To illustrate the magnitude of this work, I mention that, under the stimulus of reorganization after the plan of the committee, the Michigan State Medical Association increased in membership in one year from 452 to about 2,100. Texas increased the membership in the same time from 382 to 2,510, while several states quadrupled their membership. While these results are phenomenal, and elicit our admiration, it will be realized how much remains to be done when it is considered that few of the states have over 50 per cent. of the eligible members of the profession enrolled as members of the society. Indeed, the work is yet almost in its infancy. What has been accomplished is an assurance for the future; and considering the brief time since reorganization began, is a high tribute to the enterprise of the national association and the work of its able and efficient committee. The possibilities of this work are stupendous, and as it proceeds the Association can confidently undertake the great reforms of such incalculable moment to the profession and the public. In his official report to the House of Delegates one year ago, the chairman of the Committee on Organization, after reporting the splendid results of his labors during the year, said:

"The real test of our organization will come in each state when the first outburst of enthusiasm has passed, and county societies, the foundation for everything, are likely to disappear as rapidly as they have been formed, unless their usefulness to the rank and file of the profession can be demonstrated in a very broad way."

In recognition of this fact, it is of the utmost importance that the personal attention so effectively given to this work throughout the states by the chairman of he committee be continued.

When the American Medical Association was founded in May, 1846, the delegates assembled in response to the following preamble and resolutions of the Medical Society of the State of New York:

"WHEREAS, It is believed that a national convention would be conducive to the elevation of the standard of medical education in the United States, and

"WHEREAS, There is no mode of accomplishing so desirable an object without concert of action on the

part of the medical societies, colleges, and institutions of all the states, therefore be it

*"Resolved*, That the Medical Society of the State of New York earnestly recommends a national convention of delegates from medical societies and colleges of the whole union, to convene in the City of New York on the first Tuesday in May, in the year 1846, for the purpose of adopting some concerted action on the subject, set forth in the foregoing preamble."

From this it is apparent that this Association was founded with the avowed and specific purpose of elevating the standard of medical education in this country. This subject has constantly received consideration from the Association throughout the years of its existence; and while no distinct and positive reform marks its action, the perpetual demand for improvement undoubtedly moulded the public sentiment of the profession which ultimately stimulated action on the part of the medical colleges. Since the addresses of my two distinguished predecessors, who immediately preceded me in this chair, were devoted to the consideration of medical education, I shall only make brief allusion to this subject. The several national organizations and the many state boards which are now dealing with this important professional problem invest the changing conditions with peculiar interest. The present is a transition period in the advancement and reform of medical education in America.

The consideration of this subject in the House of Delegates culminated in the establishment, last year, of the Council on Medical Education of the American Medical Association. During the past year the council has taken up its work with exceptional energy and good judgment, and is directing its efforts along most practical lines. The first annual conference was held in Chicago April 20 last. Representatives of many state examining and licensing boards, of the American and Southern Medical College associations, and of the government medical services, attended and participated in the discussions of the papers presented. The plan and scope of the work of the council can be best appreciated by a consideration of this extract from the address of the distinguished chairman of the council, delivered to the conference:

"What we need is co-operation, especially the co-operation between the medical profession, represented by the American Medical Association, and the state and county medical societies, and the state authorities, represented by the state licensing and examining boards. The most important question, therefore, before this conference is, How can the American medical profession and the state licensing bodies cooperate to elevate and control medical education? It is believed that such cooperation is possible. In such cooperation it will be the function of the American Medical Association to represent and possibly mold the opinion of the medical profession, and employ its influence and the influence of the county and state medical societies in obtaining proper medical legislation. In such cooperation it will be the function of the state licensing bodies to protect the interests of the public and the profession by seeing that the medical laws are properly interpreted and enforced, and from their intimate knowledge with the medical acts they can often be of service in securing or modifying medical legislation.

"It is not the purpose of the Council on Medical Education of the American Medical Association to attempt to arrogate to itself any special powers, nor does it desire to either criticise or interfere in any way with any of the agencies which are already in the field. If its creation is to result in good, it must be the means of obtaining cooperation between the medical profession and the medical schools, the colleges of arts, the state examining boards, the government services, and all the factors which are interested in elevating and controlling medical education."

By securing cooperation of the various state and national bodies engaged in this important work, recognizing the varied interests involved in the numerous states of the Union, and fostering an intelligent public sentiment, so essential for every great reform, the influence of the Association will be of the most effective character.

Chapter VII., Section 3, of the by-laws provides a permanent Committee on Medical Legislation "to represent before Congress and elsewhere the wishes of this Association regarding any proposed legislation that in any respect bears on the promotion and preservation of the public health, or on the material or moral welfare of the medical profession." This committee was appointed in 1903, and under the leadership of its accomplished and energetic chairman, proceeded at once to organize the auxiliary committee provided in the by-laws. This being a permanent committee, its work will be continued from year to year. With the auxiliary committee, representing every state in the Union, and the several medical departments of the Government service, every representative of the people in Congress can be reached directly. The importance of this work is so apparent that I need only call attention to it at this time, and urge on all members of the Association the necessity of aiding and co-operating with the committee at all times. The disregard of the good work of the medical profession in the public service (to say nothing of the indignities offered) on the part of Congress is notorious; and it is only by such concentrated power of the profession, intelligently directed, that such injustice may be overcome. I commend to your consideration the report of this committee in order that you may appreciate the important work already projected.

The use of proprietary medicines in the treatment of diseases has become one of the most confusing and demoralizing questions of the day. All proprietary medicines must not be classed as secret nostrums, for there are many honestly made and ethically advertised proprietary preparations that have therapeutic value and that deserve the approval of the medical profession. But there are many preparations offered the profession, which are protected by copyright or trade-mark, with formulæ more or less fictitious, and for which are made extravagant claims, which are, in fact, secret remedies. These preparations are so exploited by the manufacturer that the physician is persuaded to use them instead of writing a prescription; and since they usually bear popular names and plausible therapeutic claims, they appeal to the fancy of the laity. The field is an enticing one for commercial enterprise since these preparations in many instances are simply mixtures and contain the most inexpensive drugs. The use of such remedies is both unscientific and unjust, alike to physician and to patient.

The separation of the legitimate pharmaceutical preparations from the class of fraudulent nostrums described is a most difficult undertaking. This perplexing problem forced itself from year to year on the attention of the Board of Trustees in the effort of the board to keep the advertising pages of *The Journal* free from unethical advertisements. In order to have thorough protection and to make no unjust discrimination, the board has established the Council on Pharmacy and Chemistry to make the necessary investigations. The council is composed

of pharmacists and chemists of national and international reputation. It will be the aim of the council to publish in book form, a list of the preparations which are not officinal, yet which conform to the proper ethical standard. The work of the council will be similar to that of the Committee on Revision of the United States Pharmacopeia.

The magnitude and importance of this work is such that I desire to direct attention to it here, and to commend it to the members of the Association as deserving every possible aid and advancement. It is the only practical way to deliver the profession from one of the greatest curses that ever came on it.

It has been my endeavor on this occasion to outline the plans of the founders of the Association, briefly to trace the evolution of those plans throughout half a century of progress, and to recount some of the purposes that invite our active exertions at the present time. From a small body of delegates our Association has increased until it is now the largest medical organization in the world. It owns valuable property, has accumulated a considerable fund, and has a large annual income, all of which belongs to, and is subject to the control of, the members who through their delegates select the Board of Trustees to manage their funds.

The possibilities of the work before us are almost beyond calculation. In acting as the representative and agent of the 120,000 physicians of the United States, the Association is assuming great responsibilities, which will increase from year to year. It will require administrative and executive ability of the highest order to meet these demands; but there is both prophecy and proof in the work already accomplished that men will appear as needed to discharge the supreme duties of a great profession in behalf of science and humanity.

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## THE DELAY OF OLD AGE AND THE ALLEVIATION OF SENILITY.*

By CHARLES G. STOCKTON, M.D.,

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In 1805, Lewis and Clark, typical and celebrated among American explorers, turned their faces toward the furthest west and disclosed in a single expedition the possibilities of the continent and the mysteries of the great undiscovered. Their feat was in principle but a repetition of the undertakings of Columbus, De Soto, and La Salle, of Daniel Boone and the numberless pioneers who so quickly, almost suddenly, transformed America from a desolate wilderness into the puissant commonwealth of today. In each we may discern a discontent with the established order and environment of his heritage; an inspiration to find in newness a satisfaction which the settled regions, settled habits of thought, settled manners of life failed to provide him at home. The word "settled" is significant. Our race is without rest until it settles things; and with this there stalks a poignant impatience with the things that are settled. The new, the undiscovered, the unattained, the unprecedented, this it is which causes American manhood. The Muezzin calling his prayers from a minaret in far away Cairo, the yellow haze in the circumambient air, the camels with jingling bells, the palms turned always eastward by the hot breeze from the monotonous sands—these possess for the western man no attraction greater than that of poetic interest. In these scenes he could never make his life.

*Oration on Medicine at the fifty-sixth annual session of the American Medical Association at Portland, Oregon, July 11-14, 1905. From advance proofs by courtesy of the *Journal of the American Medical Association.*

The European finds in America everywhere that which impresses him with our youth; in the Orient, he sees the indisputable evidence of age and a settled order of things. This exploitation of new lands, the cry of "Westward Ho!" which for the past few centuries has stirred mankind, is rapidly, inevitably dying out; but during the long period of its continuance it has wrought important changes in our point of view, it has stimulated a luxuriant growth of thought, it has modified considerably our nature. As our common interest has been fixed upon the untried, we have gradually come to exaggerate the importance of new truths and to ignore the meritorious which the slow-moving caravan of thought has brought us from ages.

Now, it may seem a *non sequitur,* but reflection leads one to inquire if the great appreciation which we feel for the vigorous youth-spirit of recent times, has not educated us to prize, perhaps to over-value, youth, to the disparagement, if not to the absolute neglect, of old age.

In saying this we are not unmindful of the element of truth in the rightly interpreted utterance on this subject of one of our most distinguished colleagues. From the standpoint of the original investigator, as from that of the soldier, or the adventurer, there is nothing to replace the effort of the man under forty; but if for no other reason than to obstruct impetuosity and to provide such a handicap that youth shall not too soon outrun the limitations which a wise Providence has provided, middle and late old age have their uses. At any rate the old man is with us and there appears to be no acceptable method of obliterating him, even if it would add to the welfare of the race to do so.

Finding ourselves in this obvious position, it would seem the wise course so to manage that the disheartening effects of years may be as long as possible postponed; and to seek those methods by whose application we may do our utmost to minimize the terrors of senility. If youth is so delectable, let us find how it may be protracted; if old age is so beset with ineptitude, let us not rest until we learn how it may be mitigated. Such a proposal is not quite identical with a scheme for the prolongation of life—mere increase in years, although it would doubtless include this, however desirable or regrettable it might be. It has to do directly with something about whose desirability there can be no doubt. In other words, I ask your attention to the question of the practicability of *keeping* the various functions of the organism, of preserving the physical and intellectual powers, of delaying the onset of degeneration as much as may be, of developing a race less prone to early decay.

Then, besides this, I wish you to consider the feasibility of so managing the senile when once their degeneration has arrived, that many of their miseries may be avoided and the remainder lessened in degree. Having granted that age is inevitable the average man would seem to have become indifferent to his penalty for living, and, if complainingly, he none the less heedlessly allows his forces to ebb away prematurely. With some the whole of existence seems to be spent in infancy, adolescence, and senility. There is no period in which one can say, "there is full, healthy maturity." When examined this early senility is found to result from pathological processes and there the observation ends as though it were conclusive. But the event is not thus to be disposed of, for, according to our best standards, senile changes are always pathological, and, therefore, the question of prematurity rests on some pathological reason for cause, or else upon inherent weakness in human vitality. We are in the

habit of speaking and thinking of senility as something separate and apart from disease; as a result, not sufficient attention has been given to the question of prevention of age.

On this subject one cannot escape the bold work and bolder thought of Metchnikoff, and I quote at once his description of the degenerations of age. "In senile atrophy the same condition is always present: the atrophy of the higher and specific cells of the tissue and their replacement by hypertrophied connective tissue." It is this same process on which every teacher of medicine constantly harps in discussing disease, the disappearance of the parenchyma and the increase of the stroma.

One need not dwell on the theory of Metchnikoff as to the *rôle* of the phagocytes in the process; for the moment it is enough to know and to recognize that senile atrophy is pathological and that, essentially, old age is disease. It is unnecessary to discuss the plausible but startling suggestion—that of finding some antiserum which might antagonize the development of the age producing agencies. Already we possess some knowledge of how to defer age, but this information is not generally insisted on as a guide in living. We frequently allude to measures of prevention, but we do not reduce them to a system which can be taught to the student and to society. If we are further to lengthen the probational study period in medicine, it will be wise to give the matter of deferred old age very careful consideration. If the subject were studied seriously, we would foresee a tremendous improvement in the type of humanity, and the readjustment of many habits, customs, social questions along altogether new lines.

Obviously, real progress cannot be made without accumulating data from which to deduce positive conclusions. At present we lack information on such simple matters as the effects on the organism of diet, exercise, recreation, and rest. There are many opinions, but they are largely theoretical. To begin with, we must know something about the material with which we have to deal; that is, the inheritance, the reserve powers, the internal resistance of the individual. In fact, we know very little concerning the inheritance of any one. All are more or less obscure in the matter of family history. There are courts of record in which are found descriptions of estates, but there are no archives in which are deposited accurate descriptions of the various members of the family itself. We are more particular in relation to our domestic animals, especially in the introduction of a new strain. Inquiries are made as to the matter of endurance, longevity, powers of nutrition, good or bad qualities of mind or body, but concerning ourselves there is an indifference to these important qualities of organic perfection. It would not seem to be altogether impossible to acquire some official record of the physical and intellectual qualities, in other words, strains in men. It is not improbable that if such records were known to exist, they would be not only consulted, but would gradually grow to have an influence on the formation of families. Love is said to know no barriers, but history fails to confirm this view. If a matter of class, of caste, or rank, has been sufficiently important to control the forming of marriage contracts, it is not impossible to conceive of a more intelligent public sentiment which would make an alliance with a family celebrated for physical, intellectual, and moral superiority, a thing greatly to be desired; and conversely, which would lead to the abhorrence of an alliance with a family in which freaks, degenerates, and incompetents, or in which a tendency towards lowered nutrition, too early maturity, or premature senility were frequent events.

Naturally this is not an affair of a generation, but it is unquestionably a doctrine which ought to be taught. The notion that acquired characteristics can have any transmitted influence on the character of the offspring, as formerly taught by the Lamarckians, is still doing great harm. Our young people should be instructed in the fact that the well being of their posterity depends almost altogether on the native stamina of the germ-plasm with which they are endowed. They should be taught to understand the responsibility implied in maternity and paternity, and should be made to recognize that the greatest influence which they can have on the well-being of their children is in the selection of the spouse. The sentiment should be encouraged that parentage is a matter which concerns the public, and especially posterity, more than it does the parent; that the germ-plasm of the race is of all questions the most important which concerns it. Measures could be adopted which would make it more possible than at present for individuals to inform themselves concerning the family characteristics of the contemplated fiancée. A bureau for the precise registration of disease and causes of death, together with the chief facts in family and personal history, might be established through legal enactments, reinforced and made active by a high social sentiment. Such a bureau would afford the needed information, and the special study of the material thus provided would result in the formation of guiding principles in human biology and race development.

Such a system might seem to be contrary to our laws of personal rights, and, of course, the sanctity of reserve may not be easily disrupted. Nevertheless, with Emerson, "We shall one day see that the most private is the most public energy; that quality atones for quantity," and, although we cannot attain at a bound to these heights of wisdom, we may, at least, begin to map out a way. He is short sighted who supposes that the complacency shown in the devolution of the race must continue, unchanged, eternally. We have only admiring applause for the remarkable accomplishment of Burbank in the vegetable world, and yet such are our deep-rooted prejudices that we shrink from the application of similar principles to human uplifting even when we know it is possible. Shaler remarks that man "sorely needs a herdsman's care." The subject is painful, yet I think it will be acknowledged that susceptibility toward tuberculosis, insanity, alcoholism, epilepsy, *et cetera*, is hereditary. Granting this, it follows that a stock could be developed which practically would be immune to those diseases. Doubtless all will regard the realization of this suggestion to be remote and some may liken it to that of Maeterlinck, who says: "Man may some time master the secret of gravitation and by means of it steer his planet wherever in the universe he wills." The principle is open to such wide application that it may easily be obscured in absurdity. Nevertheless, here is an honest, straightforward truth not so far beyond our reach. It lies in a public demand that none but healthy parents shall be allowed to bear children. The brevity of middle age resides, first, in the inherited quality of the organized tissue; second, in the effects of its environal conditions on each organism. We physicians are making it our function to exterminate disease. Why should we be content with merely pointing out that certain disease tendencies are hereditary without taking some practical steps to prevent such disease transmissions? As an illustration, it doubtless would be a hardship to the syphilite to make procreation for him a penal offense. Nevertheless, such a course would be full of beneficence to the race. The amount of nervous and other disease

in the innocent resulting from syphilis in progenitors is incalculable. The incompetence and misery which often overtake the unfortunate victim in middle life as the result of syphilis, one or two generations removed, must be considered. Those who have studied the subject carefully, regard this disease as responsible for one-fifth of all cases of arteriosclerosis, and yet higher proportion of those cases occurring in middle life. A man has not the moral right to beget disease. Notwithstanding that it usually comes through ignorance, it should not be allowed. The profession of medicine should make its convictions bear fruit, and should teach, and should be expected to teach, that the marriage of a large number of people whose nuptials they now help to celebrate, should either be prohibited or else made barren. To those who would regard the realization of these thoughts as unattainable, it may be remarked that the world is yet very young, and as a result, as Carlisle has said, in most things very stupid. At any rate it will be admitted that middle age could be considerably prolonged and the infirmities of old age largely mitigated if we could eliminate from the equation that faulty cell metabolism which arrives through inheritance.

The trend of modern thought is toward the development of the individual. Our researches in therapeutics, dietetics, immunity, gymnastics all alike are directed toward the betterment of the individual by making life possible to many who would otherwise perish, comfortable to many who would otherwise survive in misery—results in prolonging life. Our educational efforts concern themselves more and more with fitting for life the otherwise unfit, in so dealing with the neurotic, the semi-imbecile, the vicious and criminal that they may be practicable units in the body politic. The result is that individuals otherwise impossible are so modified that they are finding some happiness in life and become less disturbing elements in society as a whole. There can be no doubt as to the benefit to the individual and no doubt as to the good which comes from the reflex effect on society. Perhaps nothing counts more for the moral uplifting of the masses than the awakening of personal interest in all altruistic undertakings, but let me repeat, we must dismiss as untenable the views of the Neo-Lamarckians that acquired characteristics of the individual have any appreciable effect on the offspring. It is acknowledged that the natural tendency of defectives of all kinds is toward extermination. Left to themselves, many of these weak strains would disappear. In making it possible for these strains to continue to blend and to dilute the organic type of the race, we are unquestionably lowering the future standard of internal resistance and we are creating a threat to physical, intellectual, and moral perfection.

On this subject Professor Woods Hutchinson, of this city, has said some interesting things.

Is it unchristian or unethical to consider this question from the phylogenic standpoint, or, on the contrary, is it not from the highest ethical plane that we look forward to a means that may elevate man spiritually, strengthen him intellectually, increase his vital and physical vigor, thus widening the period of his usefulness and decreasing his sufferings as a whole? We find ourselves sustained in our efforts when they are directed toward helping the individual, but there seems to be a social veto placed on the study of generic betterment. Weismann and his followers have shown us that the character of the individual depends on the germ-plasm with which he starts life, and although education and favorable environments may modify greatly the individual, the values have no effect whatever in improving the character of his posterity. The possibilities of an individual, his resistance to disease, his longevity, his strength, and his intelligence are determined beforehand by his inheritance. It is known that it is possible to bring deterioration by introducing an inferior strain. No educational advancement can counteract the injurious effects of this preservation and inbreeding of the bad stock. Unless intelligent foresight be used to prevent this definite and ascertained source of degeneracy, we are likely to find a growing depreciation of our racial stock and, in spite of our modern preventive medicine, a progressive increase of mental and physical disease, and an abbreviation of the working years. By homely methods we have learned that aside from the question of perfect nutrition and proper exercise of function, there is nothing which contributes so unquestionably toward the improvement of organic life as intelligent study of what is known as breeding, in other words, by the intelligent blending of the germ-plasm of healthy, resisting, long-lived stock, so that there may result not inferior progeny, but offspring superior to the parental stock. I am aware that the question is not new, and that its mere mention exposes one to criticism, not only from the timid and ignorant, but even from the wise and philanthropic; and yet, no one can deny that in shutting our eyes to this truth which Nature spreads plainly before us and which she makes the subject of countless lessons illustrated by individual inferiority, perversity, disease, and death, we are not doing all that we ought for the coming race, not all that we might toward assisting that evolution which we hope for, but which lingers so in the process. It will be said that no one can contemplate such a scheme as is here suggested without feeling strongly convinced of its impracticability. Of course, it must be admitted that the large fulfilment of such ideals is at present quite impracticable, but it is not impracticable to study the subject with the hope of finding certain aspects which may admit of modification.

By a study of the subject we would at least offer a reasonable antidote to the possible injurious effects of the modern rage for individualism. More than this, it may be possible, by more or less united action, so to modify established customs, social tendencies and common law that we may elevate the sense of family, and possibly municipal and national morality to a standard high enough to result in our placing the welfare of the community above the desires and the instinct of the individual. As we have somewhat meddlesomely diverted the natural tendency of deterioration and degeneration from its end, thus interfering with the action of the law of the survival of the fittest, it does not seem improper that individualism should recompense society by yielding some of its prerogatives for the welfare of the race; or, to put it more pointedly, it would seem only fair, since we have preserved the life of the weakling, that we should deny him the privilege of paternity, or since we have educated the defective or criminal youth into semi-useful citizenship that we should forbid him the right of increasing the number of his kind. In one of our states a legislative enactment looking toward this end was recently vetoed by the governor, who accompanied his decision by a conventional lecture to the profession of medicine on its willingness to disregard the rights of individuals. This illustrates one of the difficulties in the way, and would seem to indicate still another field in which physicians must assume their rôle of public educators. The sentiment of the people is instinctively against public interference with personal privilege. This feeling seems to be particularly strong in the Anglo-Saxon people, and to be contrary to the nature of our institutions;

yet, like every other privilege, it is susceptible of doing great evil if carried to its full logical extreme.

Are we not as an organic type suffering from an extreme application of individual rights? Are we not inflicting an injury on the race through permitting unwholesome privileges to the individual? Is it necessarily dangerous to attempt to create a public sentiment, a social feeling, toward the making of new customs and the enactment of new laws which may result in the elimination of at least some of the more abhorrent and destructive elements that at present are blending with and antagonizing the evolution of the race? Would it not be desirable to have an aristocracy of health? That is to say, to see developed a zeal for physical and intellectual perfection, and to have that zeal supported by public sentiment, so that there might be created something like a caste, the attributes of which should be mental and physical wholesomeness, and from which should be excluded those families which are shown by carefully studied data to come of degenerate or unfit stock? This would result in a contest between the general and the particular. At present the particular, the individual, prevails; in the presence of rightly adapted social feeling the general would prevail. Evolution would thereby be speeded and not retarded as at present. The principle involved does not seem to be any more unethical than the application of the quarantine laws which now operate injuriously to the individual, but make greatly for the public good.

Let us now consider what may be accomplished in the way of postponing age by the reasonable treatment of even the poor material that comes to us. Undoubtedly the question is as broad as the whole subject of personal hygiene and general therapeutics, and so, for the most part, must be passed; there are, however, some aspects of the subject which deserve special consideration. One of these is the improvement in the nutrition of the aged as the result of good teeth. While all recognize the comfort and convenience which we owe to the dentists, it is doubtful if we fully appreciate how much they have contributed to good health and longevity. For another great advance we have to thank the oculists. Who can estimate the additional resources both of usefulness and happiness secured through the discovery of spectacles and the operation for cataract? Useful eyesight contributes much toward health and long life for the reason that it permits of a continued interest in living which otherwise would be lost. It permits of a struggle for an ideal and in this real happiness consists. The ideal, of course, is never reached, but, as Montaigne says, the reward is not found in the victory, but in the conflict. Perhaps no one factor is so important in maintaining courage and health in old people as the creation and continuance of some keen interest in life, and this interest, even in the otherwise enfeebled, may be kept up by means of useful eyes.

Now comes the timeworn but neglected subject of arterial disease. Too often our attention is for the first time attracted to arteriosclerosis by the appearance of fibroid or fatty degeneration, exhibiting itself in the figure, form, and viscera of the individual. Even after these later changes appear measures may be adopted to stay the march of the process, but how much better it would be to anticipate it. For instance, by noting the high and rising blood pressure and the physical signs of cardiac strain, by estimating the decline in urinary solids and the rise in the urotoxic unit, by measuring the decline in respiratory capacity, or by detecting the falling off in cutaneous secretion and the loss of the pliability and softness of the skin, we may make ourselves aware that vascular degeneration is progressing. Heedless of these earlier manifestations we shall soon awake to the advent of the state which Sir James Paget has so marvelously described.

In the earlier steps of arteriosclerosis, if intelligent study be given to the individual, to his habits of life, to his excesses, and to his deficiencies, very much can be done, and, by thoughtful men, is done, to delay arterial changes and to restore functional activity.

May I trespass so far as to emphasize the importance of judging and correcting the disturbed balance between assimilation and waste—the anabolic and katabolic processes? The facts are so well understood that one hesitates to mention them, and yet just here there is so much neglect of precious opportunity. There are successful methods of lessening the extent of autointoxication and of widening the field for the play of nutritional processes. This is so commonplace that we neglect it. Middle age often brings luxury and at the same period the contracting arteries narrow the field of physiological activities. The circumstances of life and the taste of the man are for indulgence in appetite or for excess in undertakings, while the limitations of the organism are increased. The tendencies are thus in opposite directions and, with Munsterberg we ask, "How can they keep together who are going different ways?" Ultimately, they must separate, of course, but temporarily they may keep company if we help to preserve harmony between them. There is abundant proof that even advanced arteriosclerosis may be so far modified as to delay the oncoming degeneration and to admit of happy usefulness, but the victim must be content with moderation and not hope, like Mahomet, to cleave the moon in twain.

Advanced arteriosclerosis is too generally neglected, and intoxications, of one kind or another, are for the most part responsible for it. Our prophylactic and curative measures are readily understood. It is well known that the relatively great fatality of pneumonia and other acute diseases is explained by the greater toxemia which exists late in life. Besides this, the autointoxication increases the blood pressure and induces prematurely the fatal events of cerebral, cardiac, and renal diseases. Almost as deplorable as these are the conditions of unnatural excitement, confusion, and depression from which many people unnecessarily suffer in early old age. Still further there may be found in vascular disease the source of much severe pain from which old people suffer. This pain is often referable to the aorta, at times to those forms of aortitis which Clifford Allbutt has described, and also to aortitis and periaortitis of the abdomen recently so well set forth by Teissier of Lyons. The latter has also shown that the pain can be ameliorated, the progress of the disease stayed, and even great improvement induced by rational treatment. Aortitis and periaortitis often greatly interfere with the flow of blood into the branches of the abdominal aorta, and as a result the organs supplied by these branches suffer special degeneration. In middle age and later life, intractable diseases of the stomach, intestines, kidneys, and other organs could be dealt with much more successfully, and comfortable longevity secured, if more attention were devoted to this pathology.

There remains for brief consideration the question of what can be done to make old age more tolerable; in other words, to remove it to a physiological basis. We find on close consideration that most of the derangements from which the aged suffer can be classified as belonging distinctly to pathology, but I am afraid there exists a tendency among us to dismiss these matters as necessary corollaries of senility,

without giving them that careful consideration which similar processes receive in younger patients. To a few the diseases of old age have a peculiar charm, and these few who give senile diseases special study seem to agree that the complaints of the aged arise for the most part from toxic causes. Even the threadbare question of arteriosclerosis falls to a large extent under this head. There is good reason for believing that this toxic state which underlies the decadence of senility takes its origin for the most part in the colon. Metchnikoff supports the view that mammals have developed a large colon for the purpose of storing the products of digestion, and that man has inherited an enormous colon at the expense of his longevity. This organ harbors an immense number of bacteria leading to fermentations, putrefactions and the production of alkaloids, fatty acids, and toxins, which man has to combat for the length of his mortal days. While vitality is young and vigorous, the combat is not so unequal, but with failing powers autointoxication prevails in the contest between the internal resisting powers of the organism and the toxic adversary made potent by inheritance. Unfortunately the degeneration of age first produces functional insufficiency of the organs of elimination, then their degeneration, and as a result we find the skin, kidneys, lungs, liver incompetent in each individual overtaken by years. It is somewhat remarkable that facts so well understood as these do not receive more attention.

There are few text-books, there is little teaching devoted to the pathology and right management of senile disease, and yet experience teaches that few patients respond more satisfactorily than do the aged if their cases are approached with the principles in mind which are here set forth. It is not merely a question of dilatation of the colon, nor of any special defect of the organ; even in the absence of these, the source of autointoxication exists and becomes important because of the failure of the skin and other emunctories which, earlier in life, are relatively sufficient. The indications are obvious. In addition to the usual measures for improving the general circulation, old people are benefited by systematic colonic lavage, stimulating baths with superficial massage, prescribed pulmonary gymnastics, and an abundant drinking of pure water. It is the almost universal neglect of these matters which has made it seem to me a subject of sufficient importance to call to your attention in a general address. There is something inspiring about youth which gives an incentive to our care of the diseases of childhood and adolescence, but there is something benignant in studying the problems that lead to the postponement of age and to the alleviation of the trials of senility. Old age is repulsive when it is pathological, but is beautiful when it is physiological, and it would appear as a fitting theme for the consideration of this great body at its meeting in this new land of the setting sun.

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**The Question of Dilatation of the Cervix.**—De Seigneux says that in spite of what has been alleged against Bossi's method, it is founded upon a sound principle, and most of its disadvantages depend on the fact that Bossi's instrument is still imperfect, as are also the various improvements on it that have been devised by others. He himself has invented a dilator quite different in form from the preceding models and which he thinks will obviate their disadvantages. The points he claims for it are that it effects dilatation in the plane of the cervical entrance, and is, therefore, less apt to produce tears; that as dilatation progresses wider tips may be fitted to the instrument; the instrument may be easily taken apart and cleaned; no assistance is needed in using it.—*Zentralblatt für Gynäkologie.*

## CONGENITAL ABSENCE OF TIBIA: TRANSPLANTATION OF THE HEAD OF THE FIBULA: ARTHRODESIS AT THE ANKLE JOINT.*

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A BOY, 2 years of age, was referred to my service at St. Luke's Hospital, May 5, 1904, on account of a deformity and shortening of his right leg, and his inability to walk.

There had been no deformities in either branch of the family, and there was no history of injury or disease in the early months of pregnancy.

Examination showed the boy to be in excellent general health and perfectly developed, except in the right lower extremity. Measuring from the ant. sup. spine of ilium to the tip of the external malleolus this was 2¾ inches shorter than the left. The femur was normal in shape, but slightly atrophied in all dimensions. The tibia was entirely absent. The head of the fibula articulated loosely with the upper and posterior part of the external condyle of the femur. The shaft was curved outward and 1¾ inches shorter than the left. The foot was in marked equinovarus, being rotated on transverse axis of ankle at 135°, on anteroposterior axis 30°, and on vertical axis 45°. The leg was habitually a little flexed and adducted, with very slight power of flexion or extension, but passively the joint could be fully flexed, hyperextended 15°, rotated in 100°, and rotated out 150°, adducted 10° and abducted 60.° It was so relaxed, therefore, as to be useless for walking, and the child had always gone about on his knees.

Fig. 1.

An examination of the accompanying skiagraph (Fig. 1) will show the absence of the entire tibia, the shortening and curvature of the fibula) and its relations to the femur and astragalus.

The previous treatment had consisted of the application of several plaster splints and a tenotomy of the tendo achillis.

*Read at the annual meeting of the American Orthopedic Association, June 6-8, 1905.

The condition of the muscles was examined for me by Dr. Capito at St. Luke's Hospital, and groups of flexors and extensors of the thigh, leg, and foot reacted normally, though it was impossible to pick out individual muscles. There were none showing reaction of degeneration, which led me to hope that

Fig. 2.

if I could secure use of the limb, its development would be increased correspondingly.

June 21, 1904. Under gas-ether anesthesia, an Esmarch bandage having been applied, I made an incision across the outer half of the joint, below the patellæ, opening the articulation between the head of the fibula and the external condyle, which was lined with synovial membrane communicating with the synovial pouch below the femoral condyles. The latter, much smaller than normal, was in normal relation to the femur, but had only a connective tissue base below where the semilunar cartilages and tibia exist normally. There was a rudimentary crucial ligament rising from this base in front and attached to the posterior and inner part of the outer condyle of the femur. The posterior crucial ligament was not identified. There were two thin, rudimentary patellæ, almost round, of half an inch diameter each, lying, tandem-like, one above the other in the quadriceps extensor tendon about one-third of an inch apart. The ligamentum patellæ, thin and long, running outward and downward, was inserted well below the head of the fibula on its inner side.

The capsular ligament was very thick and strong, and the external lateral ligament was especially so, and had to be freely divided and very considerable force used before the head of the fibula could be drawn down and inwards to a position between the condyles. The patellar ligament was shortened and transplanted to the anterior surface of the fibula; some of the capsule on the inner side was removed and the remainder attached to the periosteum of the head of the fibula in order to hold it more firmly in its new position. The incision was then closed. Rubber tissue drainage was used, as the manipulations had been considerable. Sterile dressing. The objects of this operation were to lengthen the limb (about ¾ inch was gained) without destroying any bone and so interfering with its growth; to secure a sufficiently stable support for the body weight; and to preserve the mobility of the joint in the hope that a useful amount of voluntary motion would be gained with the increase of muscular power encouraged by the use of the joint.

The ankle joint was then opened by a transverse incision, section of the tendons and nerves being avoided, the external malleolus was then cut off and the superior articulating surface of the astragalus denuded. The fibula was then placed squarely on the astragalus and united to it by several strong catgut sutures, the foot being allowed to remain in 45° of equinus. Wound closed without drainage. Sterile dressing. The objects of this operation were to increase the length of the limb, to correct the deformity and to secure a stable position of the foot.

A plaster of Paris spica was then applied, correcting the varus and holding the fully-extended leg in slight knock-knee position to prevent redisplacement outwards of the head of the fibula.

There was considerable pain and reaction after these operations, but by means of repeated leucocyte and differential blood counts we were able to be sure there was no infection of the wounds and the troublesome and painful re-dressing was avoided. These examinations of the blood have often been of great value to me in this way.

Fig. 3.

After two months the child was allowed to walk in this long spica splint.

December 16, 1904. A walking brace replaced the spica. This had joints at hip, knee, and ankle. The pelvic band had perineal straps to relieve the

limb of as much of the weight of the body as was thought necessary. The knee joint of the brace was placed well behind that of the limb, to increase the stability, since the extensor muscles were so weak, and a knee cap was added for the same reason. A cork sole of 1¾ inches equalized the length of the limb.

An examination of the accompanying skiagraph (Fig. 3) will show the position of the bones at the knee and ankle on February 21, 1905. The head of the fibula seems quite firmly embedded in its new position and the amount of motion allowed at knee is from 180° (full extension) to 110° in flexion, no adduction, abduction 40°, rotation inwards and outwards, 20°. The foot is plantar flexed 50°, and the toes have a tendency to rotate on vertical axis into 25° of varus. This is easily corrected by the shoe. The flexor long, polices was divided January 7, to allow full extension of this toe, upon which much of the weight is borne. The perineal straps of the walking brace were discarded after about a month, as the new joints seemed able to bear the body weight with the lateral support only.

The boy can now (June 13, 1905) flex his leg 90° and almost fully extend it. His power is increasing rapidly, and he now walks about all day, as shown in the photograph. (Fig. 2.)

Absence of the tibia is the rarest of the congenital defects, and in a review of the literature I have found but 46 cases of entire or partial absence of this bone. A number of these have been fetus or very young children at death (7, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25) and many have been dissected. In the older children this deformity has been regarded as an almost hopeless condition from the mechanical standpoint, though some surgeons have recommended this form of treatment (15, 26, 27). Usually amputation has been done on account of the great instability of the joints, and the shortening which probably will be progressive (28, 29, 30, 31, 37, 38). I shall give references to all cases I have been able to find, but shall go into details in only those six which were subjected to operations similar to that in my case. I shall, however, give some general statistics, using the article of Joachimstal freely, but carrying them down to date. In very few instances has any serious attempt been made to preserve the leg in these cases.

Albert,[1] in a girl 9 years of age, with a similar deformity to that in my case, first transplanted the head of the fibula to a position between the femoral condyles, as he thought no orthopedic apparatus could be of use, especially on account of the deformity at the ankle. He, however, shaped the head of the fibula to the form of a wedge, and made a corresponding notch between the condyles, and then held the bones in place by a silver wire suture. He secured bony union in slight flexion at the knee. No report is made of the treatment of the equinovarus or of the ultimate result as to function.

Helfreich,[2] in a boy of 1½ years, with absence of tibia excepting a rudimentary head, and marked contracture of posterior soft parts at knee, divided the tendons of the semimembranosus and tendinosus and posterior capsular wall. He could then only secure extension of 135°. He freed rudiment of tibia from head of fibula, which he cut into shape of pyramid and implanted between condyles, securing it there with silver wire sutures. This case was published eight days after operation, and I can find no report of the ultimate result.

Parona[3] reported a very interesting result in a child 20 months old who had defects of all four extremities. The femora were both short, but otherwise normal. On the right there was no patella; the lower half of tibia was absent; the fibula head articulated, as in my case, with the outer side of the external condyle of the femur. On the left side, only the upper third of the tibia was absent; the leg was strongly flexed, and the fibula was articulated with the external surface of external condyle of femur. On each foot were eight toes. A slight varus existed on both sides.

Parona resected the right, and, twenty days later, the left, lower end of femur and the head of fibula, adjusted the bones and secured the straight position thus gained by a water glass splint which was later replaced by steel splints. Ankylosis did not follow, and the child could move the limbs to some extent in flexion and extension, while lateral motion was prevented by the apparatus. The functional result was very good. The child could go alone all day by himself. Parona also thought he observed after some weeks an ossification of the fibrous bands representing the deficient tibiæ beginning to occur under the stimulation of use.

Motta[5] operated upon a boy seven months of age. The femur was 2 cm. shorter than the normal. The patella was present. The tibia was absent. The foot was in extreme varus position and had but three metatarsal bones and three toes. Extension of the leg, which was flexed at 90°, was impossible.

Motta divided the tendo-achillis and then opened the knee joint by transverse incision. The crucial ligaments were absent; the intercondylar notch poorly developed; the lig. patellæ thin and long. The head of the fibula lay behind and to the inner side of the external condyle 4 cm. above its lower surface. To avoid removal of the considerable amount of bone which would be necessary in order to implant fibula between the condyles, Motta made a hollow in the external condyle itself to receive the wedge-shaped head of this bone, and secured it there with a catgut suture. The leg could not be extended. After six months, the boy, with 30° motion at the knee began to make the first attempts at walking with the aid of a splint holding the foot in plantar flexion to increase the length of the limb which was 4 cm. short. There is no later report.

Busachi,[6] in a child ten months of age, found a total deficiency of right tibia; dislocation of head of fibula to the outer and posterior part of external condyle of femur and marked talipes equinovarus. He divided the tendo achillis and corrected the position of the foot. By a transverse incision he opened the knee joint, finding the crucial ligaments and semilunar cartilages absent. He divided the bands holding head of fibula to the external condyle, and implanted it, after freshening it, in a wedge-shaped depression which he made between the condyles. He secured bony union, but also applied a splint to hold leg fully extended, so that the child could stand upon it. There is no later report on the result.

Joachimstal[7] reports the following case: Girl 14 months old. The right leg was strongly flexed and adducted, the foot in marked varus. The femur was shorter than the left. Fibula articulated with posterior part of outer condyle and was 2.5 cm. shorter than the left. The angle of greatest extension at the knee, even with use of considerable force, was 90°. Wolff planned to implant fibula between condyles after overcoming flexion at knee and the deformity of the foot.

Tenotomy of the leg flexors was useless. The knee was opened transversely, the fibula freed from its abnormal attachments and placed between the condyles, and the capsule sewed over it. No crucial ligaments or cartilages were found. Tenotomy of tendo-achillis, correction of deformity of foot. Gradual correction of knee flexion by repeated plaster of Paris

splints. Ten months after the operation the child walked with high shoe, but a plaster splint extending from ankle to hip was worn to prevent relapse of head of fibula, though it semed quite firm in its new position.

The etiology of these conditions has been a matter of endless theorizing, and the arguments advanced by Sperling[8] in reference to defects of the fibula and so-called intrauterine fractures of fibula or tibia may be applied to defects of the tibia. These are epitomized by Cotton and Chute,[9] and I briefly state some of them. A fracture in utero by direct or indirect violence would only be produced with difficulty, the fetus being suspended in amniotic fluid and protected by uterine and abdominal walls. Violence sufficient to cause such a fracture would produce miscarriage. If uterine pressure were the cause of fracture, we should have fractures occurring with some frequency intrapartum, when the intrauterine pressure is greatest. In fact, however, such intrapartum fractures only occur at or near full term, and as a result not of intrauterine pressure alone, but of the counter pressure of the bony pelvis as well. Callus is practically never found in these cases. The presence of the so-called scar is not valuable evidence of a compound fracture. It has even been proven not to be true scar tissue.[10] To these slightly depressed cicatricial spots a piece of amnion is sometimes found attached. This would seem to indicate a small amniotic sac with adhesions or amniotic bands.[13]

The defects of fibula and toes so frequently associated with tibial bends, point to an origin as early as the second month of fetal life, for at this time the parts are laid down and defects in the true sense cannot arise later. These defects cannot be either the cause or the result of the so-called fracture. Hence the association points to a common cause for both. It seems likely that both are due to an abnormally small amnion and its adhesions, the more likely as these seem the cause of other similar deformities. This hypothesis has also been elaborated carefully by Lanois and Kuss,[24] and would seem to the writer to explain well most of the deficiencies and flexions, but leaves unexplained the presence of supernumerary parts and synostoses. These must be due to an abnormality in the arrangement of the original germ cell mass. If this assumption is necessary to explain some of the deformities, it certainly would explain more naturally than the pressure theory certain of the deficiencies, and the variations of the deformities. In one case, for instance, the tibia is absent, also some of the toes; in another, the tibia is absent and the foot is perfect. Albinism has been cited as an example of the possibility of the omission of one element of the normal tissues without interfering with the general development of the body in other respects.[40]

In the 46 cases I have been able to find recorded, the deficiency of the tibia was total 43 times (in 34 subjects), and partial 22 times. In 21 of the latter the lower part of the tibia was deficient. The right tibia was usually absent (39 to 23). The deformity was usually unilateral (31 to 17), and the males were generally affected (25 to 13). In more than half the cases (35 in 46) there were other deformities, and these affected, in order of frequency, the toes, fingers, patella, and radius. There were also noted absence of fibula, hypospadias, cryptorchidism, fissure of palate, and dislocations of various joints.

The femur was in many of the cases normal. Frequently it was somewhat shorter than its fellow, and in one case it was longer. Sometimes it was rotated outward. The lower epiphysis was often undeveloped, the condyles and intercondylar grooves poorly marked. In one case the lower part of the femur was split in two parts, the condyles being entirely separated. In another, the femoral head and pelvis were malformed. The patella was absent in 8 cases certainly, and possibly in 5 more, while in my case it was double. When present, its ligament was inserted in the fibula or in the capsule of the knee joint. Sometimes the ligament was absent, and the patella drawn high upwards by contraction of quadriceps.

In almost all cases there were contractures in flexion and adduction at the knee, and the fibula was generally luxated posteriorly and upward so as to articulate loosely with the external surface of the external condyle of the femur. In two cases it was in the popliteal space. This nearthrosis was lined with synovial membrane, usually continuous with that covering the femoral condyles. It was found well developed even in a fetus. Its ligaments were generally very strong, but the joint had not sufficient stability to carry the weight of the body.

Almost always the crucial ligaments were lacking and the semilunar cartilages as well. The fibula was generally thickened, but shortened, and curved outward and forward, occasionally backward.

If the tibial defect is not total there may be a thin, small hyaline cartilage on the inner half of the joint, and below this the inverted-pyramid shaped rudiment of the tibial head. From the apex of this, a slight band of connective tissue may extend to the astragalus, representing the shaft of the tibia in position, and serving for the attachment of its muscles. In only one instance was there a defect of the upper end of the tibia while the lower end was normal.[3]

The foot is always in varus and the deformity is usually of a high grade, combined with equinus. In a number of cases the number of toes was normal. in five instances the great toe was absent; in several cases two toes were missing. In some there were six or more toes, and these were often on the inner border of the foot. When the fibula is absent, there is often a deficiency of the outer part of the foot, especially the phalanges and metatarsal bones. Where the tibia is absent, the changes on the inner side of the foot are not so constant. In both instances, however, the entire foot may be normal or there may be supernumerary metatarsals and phalanges.

The muscular development presents the greatest possible variety. Some muscles are entirely absent, others atrophied with misplaced origins and insertions, in accord with the defects of the osseous system.

The six cases detailed above are all that have been operated upon by transplantation of the fibula. In none have the ultimate results been recorded. In none of them, except my own, did the ankle joint require the production of an arthrodesis. It would seem that the operative procedure should be selected with a view of preserving motion at the knee. The ankle joint also must be made as stable as possible, more so than a simple tenotomy with correction of the deformity could promise,[4] because not only must it be able to carry the body weight itself, but it must not by its weakness interfere with the function of the knee.

Baudenhauer[13] recently corrected a club hand due to deficiency of radius, by splitting the ulna and inserting the carpus in this cleft. He suggested that this procedure could be carried out in cases of defect of the fibula and tibia also, and Rincheval[38] attempted in a case of absence of tibia to split the fibula and insert the lower end of the femur in the cleft, expecting at a later operation to split the lower end of the fibula and insert the astragalus between

these ends. He divided, however, the popliteal artery, which pursued an abnormal course, and gangrene of the lower half of the leg followed. The deformity in some of these cases is so extreme, owing to the maldevelopment of the fibula, as well as the absence of the tibia, and the muscular contractures are so pronounced that amputation is necessary. However, amputation was done in some of these cases where the limb could have been saved. The attendant conditions, which always must be considered, are unknown to me, and may have made the radical operation necessary.

The cases will be very exceptional where a limb of this kind will not have to wear a high shoe and some splint always. On the other hand, if the leg is amputated, an artificial limb must be worn always, and most people prefer to have a leg of bone and muscle, even if it must always be supported. A stiff knee is most undesirable in a great many ways, therefore an arthrodesis at the knee is to be avoided. Judging from the condition of my patient twelve months after the operation, I shall be much surprised and disappointed if he does not continue to have sufficient stability at the knee, though its motion has been preserved.

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# EXAMINATION OF THE RECTUM AND ITS VALUE IN DIAGNOSIS.


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THE examination of the rectum is taken up exhaustively in this paper because many general practitioners overlook details and make but a cursory examination of patients suffering from rectal disorders. I have had many patients troubled by diseases of this region report to me whom the doctor had not even examined. All who have engaged in general practice realize how common rectal disorders are, and how completely the sufferers are invalided, yet with so little pathological change. The general practitioner who wishes to retain the confidence of his patients must examine the rectum as carefully as he would any other part of the body, for the time is past when patients will be satisfied with a placebo and not go to some one else. All modern books on surgery find it necessary to incorporate a chapter on diseases of the anus and rectum. Almost every patient who realizes that he has rectal trouble will inform his physician that he is suffering from piles and, I am sorry to add, many doctors accept the patient's diagnosis and prescribe without ever examining the parts. Rectal diseases are always progressive, and an early diagnosis may mean a slight operation and no absence from business, while later the condition may be so aggravated as to confine the patient to his bed for weeks or months. The object of this paper is to bring before its readers the essentials of an examination of these parts and to assist the physician in making an intelligent diagnosis of his patient's ailment, instead of trusting to luck and a "shotgun" prescription in the form of an injection or application.

The symptoms of rectal abnormalities sometimes draw the patient's attention at once to this particular organ, but again, because of the intimate connection of the rectum and other pelvic and abdominal organs, the symptoms may be so obscure or the onset so insidious that reflex disturbance elsewhere is first complained of, and the patient is treated for disease of some other organ. While the symptoms may refer in general to this part of the body, yet they do not indicate the specific disease, as few signs or symptoms are pathognomonic. The odor of cancer or the pain of fissure are characteristic, but they do not in any way indicate any associated condition or disease. The preliminary interrogation of the patient should be systematic, so as to cover carefully and completely the whole case without repeating. It is a good plan to let the patient tell his own history and for the physician to bring out the patient's age, the duration of the disease, the progress of the symptoms since their appreciation, together with whatever effect they have on the general health. If pain is complained of, ascertain its character, whether it is sharp and cutting, burning, or dull and aching; and its relation to defecation, whether it occurs before, during, or after the passage of the stool; and whether it is constant or intermittent; and its exact location as, at the anus, within the rectum, in other pelvic organs, or in the sacrum, or whether it radiates from a given point. If there are any discharges, their nature, and the presence and amount of blood, mucus, or pus, are important. If blood is present, find out the color, whether dark or bright. The condition of the

sphincters must be investigated as to whether relaxed or abnormally contracted, and if protrusions exist, whether they recede of themselves or must they be replaced, and whether their replacement is difficult or painful. It is important to ascertain the character of the protrusions, as smooth or nodular, or covered with rugæ, hard or soft, and whether it is tender and sensitive to the touch, and whether there are any ulcers present; also whether it occurs only during defecation or is continuously exposed or can be produced at will. Any evidences in the general system of other diseases, such as anemia, tuberculosis, or syphilis, must be taken into consideration; also the condition of the kidneys and bladder, and whether the patient has had gonorrhea or any urethral stricture. If a female, and married, how many children or miscarriages, and was there any rupture of the perineum? Is there any uterine or ovarian pain; any vaginal discharge; prolapse of the uterus, or difficulty in urinating? If a virgin, inquire as to menstruation; whether regular, painful, scant, or profuse.

The occupation or mode of life of the patient may not have been a factor in causing the disease, but it may be important in mapping out his future mode of living as to habits, environment, and diet. Does he use enemas frequently? Does he, like the proverbial Irishman, take his pipe and paper to the toilet with him? Does the rectum feel empty after the evacuation, or is there a desire for further action? Is there a history of sodomy or venereal diseases or any family history of tuberculosis or cancer? The examination of any case, medical or surgical, is incomplete unless we go into the family and personal history. It is often tedious, and much time is wasted on irrelevant matter, but frequently it emphasizes idiosyncrasies.

For convenience, I have arranged all the important items of the examination in abbreviated but comprehensive form in my record sheet. I want to emphasize the importance of keeping these records in even the simpler cases. One never knows what complication or legal tangles may arise in the future. A patient, whom you have forgotten, returns to you after a period of months or years, and, unless you have a record, you may be embarrassed to know just what the diagnosis or treatment was. When you write out a record before your patient, it impresses him with your carefulness, and at the same time it impresses carefulness and detail upon you. I append a copy of my record form that it may serve as an outline for the reader in preparing his own:

Record Sheets.

Name. Address. Occupation. Case No.
Age. S. M. W. Children. Miscarriages.
Family History.
Personal History and Present Illness.
Stool—
  Character.
  Frequency.
  Incontinence.
Pain—
  Character.
  Relation to Defecation.
  Constant or Intermittent.
Discharges—
  Blood.
  Pus.
  Mucus.
Protrusions—
  Character.
Condition of Other Organs—
  Generative.
  Urinary.
  Abdominal.
Examination—
  Inspection.
  Digital Examination.
  Sphincters.
  Specular Examination.
Diagnosis—
Treatment—
  Anesthetic. Quantity. Time.
  Dismissed. Condition.

After the patient has told you his case and you begin to make a mental picture, it must be remembered that in many instances rectal diseases do not have symptoms pointing directly to that region, and that the rectum is not always at fault when symptoms do refer to it, for they may be reflex. A displaced kidney or uterus, urethral stricture or enlarged prostate may incite an irritability of the rectum and necessitate a general examination before one states that the rectum is diseased, or that it alone causes the disturbance. On several occasions I have seen patients who had submitted to rectal operations without obtaining relief from the local symptoms, and who were surprised when informed that the trouble was not in the rectum, but in some other pelvic organ; and who were relieved of these symptoms when the other organ was set aright. Very recently I saw a periostitis of the coccyx, the most annoying symptom of which was a pain and heaviness in the rectum.

*Preparation of the Patient for Examination.*—It is convenient for those treating rectal cases to have a toilet adjoining the examining room, that patients may empty their bowels just before examination. When this is not practicable and only a few rectal cases are seen, a commode which, when not in use, can be screened or easily pushed aside, may be substituted. If possible, a cathartic should be given the day before and the rectum washed out with an enema just prior to the examination. This procedure is absolutely necessary when the upper part of the rectum is to be examined, as otherwise, when the speculum is introduced, the field would be obstructed by feces and a thorough examination could not be made. This is important not only for cleanliness, but also because the straining during defecation brings down hemorrhoids, polypi or prolapse, and thus assists in the diagnosis. Even with these precautions, you occasionally find in a case of impaction the rectum lined with inspissated feces, which, of course, have come down after the evacuaton. Often, however, I prefer to make the examination without this preparation, that I may find the rectum more in its customary condition and that any pus, blood, mucus, or hardened feces may be found more readily. Small protrusions or prolapses often retract within the anus when the patient walks a little, hence, it is sometimes necessary to examine the patient, either on the commode or just after arising, before he takes a step. All constricting bands, clothing, or corsets must be removed or loosened, for they have a tendency to force the bowels into the pelvis. The bladder must also be emptied. It is often necessary to administer an anesthetic to secure a thorough examinations of all parts and fully to relax the sphincter.

Gentleness is important in making a rectal exploration, as much pain may be avoided and spasm of the sphincter prevented. Very much also depends upon the skill of the examiner, because sometimes the ordeal may be very painful, and doubly so if

carelessly performed. Few instruments are needed, and only such as every physician has in his case. In examining the upper portion of the rectum. A speculum and reflected light are necessary. For such an examination an ordinary table is as suitable as a specially constructed one. In regard to the position of the patient, the exaggerated lithotomy, the Sims, and the knee-chest positions each have their special advantages in particular instances. The ordinary dorsal or lateroprone position is all that is needed for digital or specular examination of the lower rectum, although many prefer the exaggerated lithotomy, the patient's hips being elevated by a cushion. The knee-chest is, however, the only position that permits an examination of the higher portions of the rectum. The Sims' position, with the thighs strongly flexed and the breast on the table, the left arm behind the back, inverts the pelvis and allows the contents to fall upon the front wall of the abdomen; the lumen of the rectum tends to gap, and the mucus membrane falls away from the end of the speculum.

*Examination.*—The examination comprises inspection, digital and instrumental examination. Inspection may reveal the conditions which produce various neurasthenic or anemic conditions. The shape of the anus is sometimes important, whether normal, protruded, or drawn in (funnel-shaped), and the amount of pigmentation about the parts. Evidences of abrasions, scratches, pediculæ or worms may be seen on the skin about the anus, also signs of inflammation or scars. A prolapsed rectum may be the cause of prolonged vomiting or pertussis. An ulcer, fissure, or pruritus may excite rectal tenesmus and also produce a scybalous stool. Protruding tumors, condylomata, such as hemorrhoids, polypi or malignant growths may also be seen and their characteristics noted. Very often a distinct fullness or bulging of the anus is seen where internal hemorrhoids are present, even if they do not protrude. Where epithelioma exists at or outside of the anus, a small piece may be clipped off for microscopic examination without any discomfort to the patient by using a little local anesthesia. After carefully inspecting the anus and perineum, the field may be widened by gently pulling the anus open, a hand being placed on each buttock, the finger tips pointing toward the anus. If the patient bears down at the same time, a considerable portion of the mucus membrane will be everted, the extent depending on the relaxation of the sphincters. In this way, the lower inch or more of the bowel may be inspected without the use of the speculum, and a fissure, fistulous opening, gonorrhea in women, syphilitic erosions, eczematous excoriations or pin-worms may be brought into view. In many instances the internal opening of a fistula is situated immediately within the external sphincter, and, in such a case, it may be seen by this procedure. During this maneuver, any tender or indurated areas may be mapped out. Fistulous tracts are thus easily followed up without the use of the probe. In women who have lax sphincters, a portion of the interior of the rectum may be everted by introducing the index finger into the vagina and pressing the rectal walls out through the anus. The presence of a discharge issuing from the anus indicates disease within the rectum; while the sunken ischiorectal fossæ and retracted anus surrounded by a profuse growth of soft hair would immediately suggest malignant disease within the rectum, or tuberculous disease, with general systemic involvement.

*Digital examination* of the interior of the rectum follows inspection, and it is the most important of all methods. The practitioner who is familiar with the digital examination of these parts can diagnose better with his finger than by any other way. Fully 80 per cent. of all rectal cases may be diagnosed with the finger and the other 20 per cent. by the history of the case and a specular examination. Digital examination not only confirms the opinion regarding the local conditions found by inspection, but also determines other conditions to which attention may have been directed. The finger should first be swept around outside of the anus to palpate any induration or tenderness, either superficial or deep, which might indicate abscess or fistula. For internal examination the finger-nail should be well trimmed and the finger anointed with olive oil, which is not so easily rubbed off as soap or vaseline by the sphincter. Whatever lubricant is used must be kept in collapsible tubes, as this is the only method of having clean, sterile lubricant at all times. The cost is little and the advantages great over the old-fashioned jar of vaseline into which fingers and instruments were repeatedly dipped, carrying infection from one patient to another. For esthetic reasons, the rubber tissue cot may be worn if desired, because it will not affect the sensibility of touch and may be washed and anointed. The finger is then gently insinuated through the anus with a rotary or boring motion, the patient being asked to bear down at the same time, and the rectum systematically palpated as high as the finger will reach. The introduction will be rendered much easier if the course which the rectum follows is remembered, and the finger is first directed up and forward toward the neck of the bladder, until the sphincter is passed, and then backward toward the sacrum. The sphincter is very sensitive, and undue haste or roughness may induce spasm of that muscle, which will make the examination very painful and unsatisfactory. The iliac fossæ should be firmly explored to determine whether there is any tenderness or tumor. The finger should be introduced its full length, and, by passing the other fingers of the hand back into the intergluteal space instead of doubling them into the palm, an increased reach is obtained; also if the patient bears down or strains during the examination, one or two inches more of the rectum can be examined.

The condition of the sphincter should be noted; whether it is relaxed, suggesting a debilitated system, cancer, or large internal hemorrhoids, which, by frequently protruding, weaken the muscle; or contracted, signifying acute disease in the anal canal, anal fissure, or a nervous subject; or whether hypertrophied, denoting chronic disease, or atrophied. The spasmodic action should be overcome by slow, steady pressure, as the sphincter is always forcibly contracted on attempting examination. Frequently the internal opening of a fistula is found just within the sphincter, as a rough, indurated, and sensitive spot which may be elevated or depressed (ulcerated), or the path of a sinus is felt by its cord-like resistance. If a tumor is felt, its size, shape, location, movability, and resistance are to be ascertained and, if possible, a small piece removed later through the speculum for microscopic examination. Fecal impaction of the rectum or colon has often been mistaken for cancer. Gallstones or foreign bodies, polypi, stricture, and abscesses are occasionally felt. The tumor of appendicitis is found in the pelvis to the right, if the appendix is low, and rectal palpation should be practiced in every case of suspected appendicitis. Malignant disease of the rectum or pelvis, the tumor of intussusception and an infected lymph gland also may be felt. A digital examination carefully performed is not painful unless a fissure is present. Induration or constriction of the walls and the condition of the other pelvic organs may be determined.

Palpation of the prostate reveals enlargement, induration, tenderness or soft points, if present. The uterus and appendages should always be examined. Vesical irritation is a frequent source of reflex disturbance, and the bladder always should be examined. A stone may be found to be the origin of the trouble, although no symptoms were manifested. A digital examination through the rectum often assists considerably in diagnosing diseases of the urethra, Cowper's glands, seminal vesicles, bladder, vagina and pelvic bones; also tumors and abscesses of the peritoneal cavity, dislocation of the femur, ischial hernia and aneurysms of the gluteal artery. Very little information is gained by digital examination regarding hemorrhoids, except in rare cases, where much hypertrophy has occurred in the mucous membrane. Otherwise, the hemorrhoid being covered with nearly normal, mucous membrane, gives no differential tactile sensation. Thus, you see, a digital examination through the rectum is imperative in any case indicating disease below the pelvic brim. On withdrawal, the finger may be covered or streaked with blood, pus or mucus, each with its own significance. If a stricture is so small as not to admit the passage of the finger, no force should be used, as rupture of the bowel has followed such an attempt. The cervix, the fundus of the uterus, or the prostate may be mistaken for a tumor. In rare instances, it may be necessary to introduce the whole hand into the rectum, but as the walls are so crowded upon the fingers and the folds of mucous membrane fall in between the fingers, very little knowledge is obtained, and there is always the danger of rupturing the bowel. A laparotomy and intraabdominal palpation is preferable when the disease is high in the rectum or in the sigmoid.

*Instrumental Examination.*—Bougies. That part of the rectum beyond the reach of the finger may be examined by means of bougies or sounds, although their use is purely speculative and is often contraindicated. Only soft and flexible instruments should be used, and these must be handled with the greatest care and caution. They should be hollow, to permit the injection of fluid through them into the part beyond, thus dilating the rectum in advance and effacing any folds that might obstruct their introduction. Too great value must not be placed on bougies, as their field of usefulness is limited, and even in a healthy bowel the sensations of obstruction often are obtained and may be misleading. I have yet to see a student who did not find a stricture the first time he introduced a bougie, because the sound often impinges on the wall of the bowel between the folds of the gut, and a stricture is erroneously diagnosed; or it may strike the uterus or prostate, or the promontory of the sacrum. There is always danger of a metal or hard rubber sound penetrating the bowel, especially in cancer or ulcerations. Sometimes the so-called third sphincter, which is only a semilunar, transverse fold of the anterior and the right sides of the rectum about six or eight centimeters above the anus, may catch the bougie. Normally the bougie may be introduced with care to the middle of the sigmoid flexure. If the mesocolon of the sigmoid is very long, the bougie may be felt on the right side and lead the examiner to think it had perforated the bowel. Probes.—The probe has no place in the diagnosis of rectal diseases and very little in the treatment, except in fistula. Even here its value is very limited. Irrigations and injections are sometimes used for diagnostic purposes, and are best accomplished in the knee-chest or dorsal position. Specula.—The speculum corroborates the digital examination and aids in the diagnosis where the finger fails, but by no means supersedes the latter. It is indicated where obscure hemorrhage, pain, or discharge is an important symptom. The internal openings of the fistula may be seen, especially if the discharge escapes during instrumentation. Internal hemorrhoids usually drop into the instrument and are seen easily. As to which is the best speculum, the decision depends upon the one you are most familiar with. A large variety of specula are on the market, and each one is differently constructed, but the more rectal examinations you make the less you will use the speculum. The smooth blade bivalve causes much less pain than the wire blades, but it obstructs the field of vision and exposes only a small field at one time, and the speculum must be rotated. Bivalve specula may be used without an anesthetic or without previously relaxing the sphincter, but are not as satisfactory as the cylindrical specula. By putting the patient under the influence of a general anesthetic, many of the obstacles to the examination are removed and the field may be explored thoroughly; the sphincter completely relaxes, pain is obviated, and in such cases it is well to be prepared to do any necessary surgical treatment in order to avoid a second anesthetic. The cylindrical speculum permits of the most thorough work. With the patient in the knee-chest position and a speculum five inches long and one inch in diameter, the whole length of the rectum may be examined. Such a speculum is provided with an obturator to facilitate its introduction, which should be accomplished without much pain. When the obturator is withdrawn, the air rushes in and dilates the bowel, and the whole rectal wall may be inspected by moving the introduced end about, at the same time gradually withdrawing the speculum. The mucous membrane directly in front of the speculum is flattened out and viewed easily by gently pushing up the speculum after the obturator has been removed. When the patient is anesthetized, however, and the sphincter well relaxed, the lower part of the rectum may be examined quite as well by using an ordinary wide retractor. A speculum ten or thirteen inches long may be introduced, if with care, and the sigmoid explored, but as the great majority of rectal troubles are near the anus, a short and wide speculum is preferable. A good reflected light affords the best illumination. When assuming the knee-chest position, the chest should be well down on the table and all constrictions at the waist must be removed. Forcible overdistention of the sphincter, causing temporary paralysis, is often necessary and sometimes facilitates the after treatment. It may be done either with the fingers or a speculum. The incontinence that results usually passes off in a short time, provided the sphincter is not torn. Dilation is practiced by introducing both thumbs well into the rectum and grasping the buttock on each side with the fingers and then drawing the thumbs laterally until they touch the ischial bone. The stretching should be performed slowly and in every direction, for, if performed rapidly, some laceration will surely result. The sphincters remain partially paralyzed for a week or more.

The methods of examination of the anus and rectum have each been detailed and their merits and demerits compared. We have tried to show the importance of care and thoroughness in this work, and trust the reader may find his interest in this particular branch of surgery increased. Almost every day the writer is impressed with the lack of attention given to rectal diseases by the general practitioner. Surgery of the rectum especially interests the doctor and patient, because much of the work may be accomplished in the office and under local anesthesia, and the results of careful work are both positive and prompt.

500 East Forty-sixth Street.

# MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

THOMAS L. STEDMAN, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, July 15, 1905.


## HYGIENIC WISDOM.

AMONG the many things which various writers call this the age of, we may safely say that hygiene, especially individual hygiene, is one. Books without number are printed, many of them very sound, telling how to live long, how to get strong, how to breathe, how to eat, how to sleep, and how to do many other things that the natural man would rightly do by instinct. Many of the magazine and Sunday newspapers devote a column or more in each issue to discourses on health topics, and regular lectures are given in most of the higher schools on like subjects. In addition to these more or less orthodox expounders of personal hygiene, we have a horde of health cranks and food faddists—the "simple livers," who go about as nearly naked as the authorities will permit; the "mother earth" cranks who sit in holes in the ground for hours at a time so as to catch the vital principle which they assume makes the grass grow; the vegetarians, who, in these days of fruitarians, grainarians, nutarians, and raw-foodists, must be ranked among the riotous livers, and a host of others, who bear witness to the fact that this is the age of pseudohygiene at least.

The human frame can stand a good deal of abuse, inside and out, and it is probable that the food fads and the fool faddists do not injure very many and may do some good to a few; and unquestionably the advice given by the orthodox preachers of right living is sound in the abstract, but not always easy of application in the individual case.

In a very sane article on "Individual Factors in Hygiene," published in the *Boston Medical and Surgical Journal* of June 15, Drs. R. C. Cabot of Boston and P. K. Brown of San Francisco point out that there can be no rules of individual hygiene applicable to all, and that, in fact, in regard to this science, we are in one of those periods of not infrequent occurrence in any growing science when we know less than we used to know, or, rather, to think we knew. It is beginning to dawn upon us that in the matter of personal hygiene, as in other personal matters, what is one man's meat is another man's poison, and that the rules of sanitary conduct which are valid for all men are lamentably few and lamentably vague.

The writers in the Boston *Journal* make it very clear that in approaching this question of hygiene as applied to the individual there are several important factors to be taken into consideration. In the first place, one must know what are the ideals of the individual. One man may be of studious inclination, and may wish to know only how best to preserve health while devoting all the time possible to his literary pursuits. Another may want to get all the "fun" he can out of life without going so far as to bring it to a premature end. Still another may desire to go in for athletics, but not so strenuously as to cripple his heart. The physician may have his own notions as to which of these ideals is the best, but he must yield to the desires of his patient and must be ready and able to guide him along the road he has chosen. If the patient wants to go to Chicago it is not for the guide to advise him to go to Boston, but to point out to him the most comfortable and the safest road to take to reach the goal he has chosen. Other more familiar factors are those of age, sex, station in life, occupation, race, physique, and climate. The necessity of taking all these into consideration in advising upon the mode of life is self-evident, yet it is often ignored by the physician who is too prone to take his individual likes and idiosyncrasies as a standard to which he would make all his patients conform. In speaking, then, of personal hygiene it is clear that the accent should fall with fully as much emphasis on personal as on hygiene.

The hygiene of the future, Drs. Cabot and Brown aver, will not be a series of commands to do this or not to do that, without regard to the condition of life, the temperament, or the will of the individual, but "a map showing a number of practicable roads, each preferred and found satisfactory by a group of persons of a certain build, a certain ideal of life, a certain inherited and acquired set of tissues." Such a map is as necessary to the man who would live right and live long in his chosen sphere as a road map is to the cyclist or the autoist, and it is the authors' ambition "to assist in the construction of this map, to find out by the collection of an enormous body of statistics of healthy people what workable sets of habits now exist in regard to food, water, exercise, sleep, work, recreation, and the rest. Such a map of passable roads will not bind the individual to walk on any one of them, but if he wishes to roam in the fields or ditches he will at least be conscious of what he is doing and where the ordinary roads are if he cares to return."

Drs. Cabot and Brown have blazed a new path, and one that promises to lead somewhere, for the need of individualization in hygiene is only too apparent to one who reads the conflicting rules formulated by writers on health matters. If the authors of this thoughtful article succeed in the task they have set themselves, and are able to fill in the details of such a health map as they have outlined, the man who loves living as much as he loves life will have cause to call them blessed.

## THE PORTLAND MEETING.

THE meeting of the American Medical Association in Portland, Ore., which is still in session as we go to press, promises to be among the more successful of the gatherings of members of this society, if success is to be measured by numbers. The Lewis and Clark Exposition, which is now under full swing in Portland, probably drew a few visitors, but the chief attraction—and a very potent one for those of us who live east of the Mississippi River—was the opportunity afforded the members to see some of the wonders of the West in pleasant company and at moderate cost. Many of the eastern delegates clubbed together, forming special parties in special trains,

stopping either going or coming at Denver, Yellowstone Park, San Francisco, and other places of interest. The largest attendance, as is always the case, was drawn from nearby places, in this instance the entire Pacific Coast sending many to Portland. It is eleven years since the Association met west of the Rocky Mountains, and a gathering there was needed to arouse interest in the Association and to demonstrate to our western confrères that it is not a local Chicago society.

The very complete telegraphic report of the early proceedings, prepared by our staff of special correspondents, and published in the present issue of the Medical Record, will show that the scientific work of the medical and surgical sections bids fair to be up to the usual average of these gatherings. The all-absorbing topic of interest to the members and delegates seems to have been that of the character of advertisements in the *Journal of the American Medical Association*. For a long time, as is known, the Secretary-Editor was a notorious sinner in his readiness to accept the advertisements of proprietary remedies, and until the Editor of the *California State Journal of Medicine* began to hold him up to reprobation he seemed to be an incorrigible sinner. Finally, however, the latter's exhortations had the desired effect, and now there is apparently no more earnest advocate of publicity in drug manufacture than the Editor of the Association *Journal*. His sudden conversion has quite overpowered the converters, however, and their joy at Portland was almost hysterical in its manifestations. The advocates of open formulæ are working for a laudable object, and we would welcome the day when all proprietary remedies should be as definite of composition and proportions as Dover's powder, the makers depending for success upon their skill in manufacture. There is, however, a wide difference between a secret or semi-secret remedy advertised only to physicians, even though the makers are somewhat extravagant in their claims, and one that is advertised in the daily papers and palmed off upon the public on the strength of fraudulent certificates. To class the two together as nostrums or quack medicines is not the way to make converts to pharmaceutic righteousness.

## The Diagnostic and Prognostic Significance of the Diazo-Reaction.

While by no means so valuable from the diagnostic standpoint as the agglutination phenomenon, the diazo-reaction described by Ehrlich is still deserving of a certain degree of recognition in this connection. Although present in the overwhelming majority of cases of typhoid fever, it is, however, not specific of or peculiar to this disease, being observed also in many cases of measles, in a considerable number of tuberculosis, and in conjunction with other affections, especially puerperal septicemia. It has further been thought to have some prognostic significance in relation particularly with tuberculosis, its presence being considered a less favorable indication than its absence. Observations with a view of corroborating or correcting these opinions have been made on a large scale by Mr. Chas. W. Budden (*British Medical Journal*, May 6, 1905), who studied the diazo-reaction in 3,000 persons, 600 in health, and 2,400 suffering from various disease states. A negative response was obtained with the urine from all of the healthy persons, and in 564 cases of various acute maladies, while a positive response was obtained in 96 of 672 cases of various forms of tuberculosis, in 18 of 25 cases of measles, in 17 of 21 cases of typhoid fever, in all of 5 cases of typhus fever, in 4 of 41 cases of acute lobar pneumonia, in 1 of 16 cases of acute bronchopneumonia, in 1 of 96 cases of acute bronchitis, and in all of 4 cases of puerperal septicemia. The cases of pneumonia and bronchitis were eventually found to be complicated by underlying pulmonary tuberculosis. In many cases the test was made daily, and in none was it made less frequently than twice a week. Death occurred in nearly all of the cases of tuberculosis that yielded a positive reaction, but these were precisely the cases in which no hope of a favorable result could be entertained. In many cases yielding a positive reaction the course was rapid, but in an equal number it was slow, and in some improvement even took place. The appearance and disappearance of the reaction coincided respectively with exacerbations and remissions in the tuberculous process. The reaction was absent further in cases that had exhibited improvement in their clinical course, and it disappeared at times because the patient was growing weaker. On account of the inconstancy of the reaction, the conclusion must be accepted that it is of no value in the prognosis of chronic tuberculosis.

## The Effects of Hydriatic Procedures of Short Duration.

A great many observations have been published with reference to the influence of hydrotherapeutic procedures on the circulation, and particularly on the blood pressure. Less attention, however, seems to have been given to their effects on the respiration, so that a recent paper by Brieger and Herz, in the new *Zeitschrift für Experimentelle Pathologie und Therapie*, should prove of particular interest. The effects of various circulatory stimuli have heretofore been studied by the aid of the sphygmograph, but this has proven very unsatisfactory, as the results are by no means constant and often difficult to interpret. A novel method for recording the effects was adopted by these authors, who employed for the purpose a kymograph, by which both the respirations and pulse of healthy normal individuals were registered continuously for a period extending before, during, and after the application of the hydriatic procedure. For recording the pulse they used a Gaertner's apparatus, which takes account of the entire change in the circumference of an extremity and is, therefore, much more efficient than the usual type of sphygmograph. In the collected phenomena induced by thermic stimuli, the respiration was shown to be affected in various ways. The character of these effects varied not only with the temperature, but more especially with the suddenness with which the stimulus was applied, with the particular nerve area involved, and with the sensitiveness of the individual. The application of intense cold to the skin, by means of a lump of ice, was followed by a marked acceleration of respiration, particularly if the sole of the foot were selected for the application. The results were somewhat more inconstant if an extremity was plunged into cold water, the respirations in some cases being slow and deep, in others the very opposite. Regarding douches, it may be stated that in general the usual effect was a strengthened inspiration, without any well-marked stimulation of the expiratory mechanism. No uniformity whatever resulted from the application of various forms of heat. The effects on the pulse of the application of cold were rather interesting, the evaporation of even a small quantity

of ether on the skin, producing a well marked inhibitory action. The sudden application of cold water to any one part of the body produced, first, an increase, then a diminution of the pulse rate. The brief application of heat resulted in a very irregular reaction, only the warm spray producing a regular acceleration of the pulse rate.

### Hospital Ships in War.

Much of practical use should be gathered from the employment of hospital ships in the present war. As yet, however, no exhaustive export has been issued from either Russian or Japanese sources with regard to the value of hospital ships. It is known that the Japanese navy is supplied with excellently equipped vessels of this description, and it is more than conjectured that their utility has been demonstrated, but for an exhaustive account of the manner in which they have served their purpose, we must probably wait until the end of the war. In the *Journal of the Association of Military Surgeons* for June Dr. William C. Braisted, surgeon in the United States Navy, writes on the U. S. naval hospital ship *Relief*, with notes on hospital ships in general. Dr. Braisted points out that while a vessel can be fitted out as a hospital ship with a fair measure of success, the ideal hospital ship must be built and equipped solely for the treatment and care of the wounded. The writer thinks that to be efficient, a hospital ship should be of sufficient size to give room and stability—of not less than 4,000 or 5,000 tons displacement, with a length of 350 to 450 feet. There should be at least three of her decks clear and unobstructed for the purpose in view. There should be two complete decks for hospital purposes, the main deck and the upper deck, which should be divided into four grand divisions, each division constituting a ward with its adnexa, while the contagious ward should be aft and isolated. A spacious operating room should be fitted on the upper deck, with skylights overhead, and adjoining should be the sterilizing room, anesthetizing and recovery room. The transportation of the sick and wounded from a battleship at sea is a problem looking for solution, but it is likely that valuable lessons will be learned concerning this as well as the construction, equipment, and management of hospital ships from the reports of Japanese naval surgeons at the close of the present war.

### Antitoxin Horses.

The widespread employment of antitoxin in diphtheria should create an interest in information regarding the sources from which it is derived. The horse is the animal now most commonly used in the preparation of the commercial article, and the manufacture has been carried in for so long a period that statistical information has become available. W. R. Hubbert (*Journal of Experimental Medicine*, Vol. VII, No. 2) has found that better results in the production of diphtheria antitoxin can be obtained with greater experience in the selection of the most suitable types of horses. Young animals, it seems, are usually to be preferred. Over one-half of all such horses can be made to yield 300-unit serum, while a third will yield 500-unit serum. High test horses require a shorter time to immunize and will yield a potent serum for a longer period than will low test horses. The period of usefulness of an antitoxin horse is short, and, on the average, endures only a few months. A horse having attained a maximal antitoxin height begins to suffer a decline in antitoxin, which is usually as rapid as was the ascent, and is unaffected by subsequent injections of diphtheria toxin.

## News of the Week.

**New Jersey State Board of Medical Examiners.**—At a meeting of this board, held at Long Branch, July 5, fifty-five candidates, who passed the state examination at Trenton on June 20 and 21, were duly licensed to practice medicine and surgery in New Jersey. The medical license of New Jersey is endorsed by the states of Maine, Vermont, Delaware, Virginia, Illinois, Michigan, Minnesota, Kansas, and Colorado, but not by New York. The refusal of reciprocity by New York is naturally resented by the State Board of Medical Examiners of New Jersey, and at this meeting the following resolution was adopted: "*Whereas*, The educational and examining standards for the medical license of New Jersey are at least equal in all respects to those of New York, and in some respects higher, and *Whereas*, The degree of unreasonableness in the matter of interstate endorsement on the part of New York cannot be further ignored, therefore be it *Resolved*, That on and after October 16, the date of the next regular meeting of this board, the endorsement of medical licenses issued by New York will be suspended until further notice." The refusal of New York to endorse the New Jersey medical license is unneighborly, and so far as appears on the surface, unreasonable. Its effect will be to retard the coming of general interstate reciprocity, in which, until the establishment of a national licensing board, lies the only hope of relief from the present awkward system of state institutions. The new officers of the New Jersey Board of Examiners are: *President*, Dr. Edward Hill Baldwin, Newark; *Secretary*, Dr. E. L. B. Godfrey, Camden; *Treasurer*, Dr. Charles A. Groves, East Orange.

**Resignation of Dr. Pryor.**—The Board of Managers of the New York State Hospital for the Treatment of Incipient Tuberculosis has appointed Dr. Melvin Page Burnham of New York City acting superintendent, to succeed Dr. J. H. Pryor, resigned. Dr. Burnham has been for three years resident physician of Seton Hospital at Spuyten Duyvil. The cause given by Dr. Pryor for his resignation was that there was too much red tape in the administration of the hospital, and that while he was the responsible head of the institution, too much power was in the hands of the fiscal superintendent at Albany.

**Filtration of the New York City Water Supply Recommended.**—Health Commissioner Darlings is about to submit to Mayor McClellan a comprehensive report on the city's water supply, and urging the taking of immediate steps for the construction of a municipal filtration plant, which it is estimated will cost about $10,000,000. It is expected that the report will recommend the construction of sand filtration beds near Tarrytown, on a plan similar to the extensive plant now being installed for Philadelphia at Torresdale, Pa.

**Hospital Boat for the Health Department.**—The hospital ship *Claudine*, which is being constructed for the city at a cost of $70,000, will be ready for launching in a few weeks. Her principal duty will be the transfer of contagious disease patients from the hospitals at the foot of Sixteenth street and One Hundren and Thirty-eighth street to North Brother Island, but in addition she will be equipped to serve as a fire boat and will be provided with water tanks so that in case of accident to the pipe lines connecting the islands with the city an adequate supply of water can be transported.

**Federal Regulation for Cooking.**—At the meeting of the International Stewards' Association, to be

held in Chicago, a movement is to be started for the purpose of asking congress to make legal provision for a national school on food, cooking, and service. More than two thousand chefs, stewards, restaurant men, and hotel-keepers are interested in the project, which has for its object pure food for the public, natural methods in cookery, and sanitary ways of serving food. Germany inaugurated the national system of control a long time ago, but this is the first effort in the United States to have congress recognize that national cooking needs to be of the highest order to maintain national good health.

**Trouble in California.**—There has been a revolt organized against the Medical Society of the State of California on account, chiefly, of the action of the State medical examiners, who are appointed from among the members of that society. Charges have been brought against the examiners of the society of attempting to establish a medical trust, and against certain members, of conducting unfair examinations, the assertion being made that certain colleges are discriminated against in favor of the University of California. On the ground that the articles of incorporation of the old Medical Society of the State of California were not properly issued, and that the method of incorporation did not comply with the statute as required by the law on corporations at that time, a new Medical Society of the State of California had applied for articles of incorporation and been refused by Secretary of State Curry, on the ground that the name belongs to the old society. The object of the new incorporators was, of course, to obtain recognition for their organization on the legally constituted State medical society, and so to take away from the old society the appointment of medical examiners.

**The Ohio State Medical Union** is the name of a new society recently established in Columbus, Ohio. Any legally qualified practitioner of medicine, of no matter what school of practice, is eligible for membership. It will be affiliated with the American Medical Union, a national society organized six or seven years ago along the same lines. The president of the new State society is Dr. H. L. Kutchin of Columbus.

**A Solution of Radium Emanation.**—Mr. Colin, a Russian experimenter, claims to have effected a stable solution of radium emanation in distilled water, from which believers in the therapeutic virtues of radium hope for hitherto unattainable good results.

**Clarke County (Ga.) Medical Society Formed.**—This society was formed at a meeting held June 28, in Athens, and the following officers were elected: *President*, Dr. James C. Bloomfield; *Vice-President*, Dr. D. D. Quillian; *Secretary-Treasurer*, Dr. H. M. Fullilove; *Board of Censors*, Dr. I. H. Goss, Dr. S. H. Dillard, and Dr. Echols.

**Ambulance Accident.**—The Seney Hospital ambulance, while responding to a call, was upset by collision with a trolley car at Fourteenth street and Third avenue, Brooklyn. Drs. A. C. Hutchinson and Henry Zimmer of the house staff, as well as the driver, were thrown out and struck on their heads some distance from the wreck. All three were painfully but not dangerously injured.

**American Institute of Homeopathy.**—At the sixty-first annual convention of this association, held in Chicago, the following officers were elected: *President*, Dr. S. H. Aurand, Chicago; *First Vice-President*, Dr. J. N. Downs, Ottawa; *Second Vice-President*, Dr. Mary Hanks, Chicago; *Secretary*, Dr. Burton Hazeltine, Chicago; *Treasurer*, Dr. E. C. Sweet, Chicago. Chicago was chosen as the next meeting place of the convention.

**Hot Weather in Italy.**—The heat in Italy is phenomenal in intensity this summer, and over 800 cases of heat prostration have already been reported. The temperature in the square before St. Peter's in Rome is said to have reached 109°F. in the shade.

**Yellow Fever on the Isthmus.**—No cases of yellow fever have been reported since June 25. Only four deaths from this cause occurred among the employees during the month of June, and only two of these were appointed in the United States. Work on the water works and sewerage system is being pushed with much energy, and about 1,400 laborers are now engaged in this department.

**The German Surgical Society.**—The next annual meeting of this society will be held in the Langenbeckhaus, Berlin, April 18-27, 1906. The presiding officers will be Professor W. Körte of Berlin and Küsten of Marburg; the secretaries Drs. W. Körte of Berlin and Kümmel of Hamburg; the treasurer, Prof. Köhler of Berlin.

**The World's Fair in Milan.**—An international exhibition of applied sciences and manufactures is to be held in Milan in 1906, to celebrate the completion of the Simplon Tunnel. The exhibition grounds consist of 199 acres at the northwest of the city. The buildings will cover 42 acres. The scheme is being carried out under government and municipal patronage. Among the others there will be a section on hygiene where will be grouped all the exhibits relating to hygiene, therapeutics, and preventive medicine.

**The Dangerous Headache Powder.**—The death of a woman in Philadelphia as a result of taking a popular headache powder and the occurrence of a death from a like cause in Chicago call renewed attention to an evil for which there should be a ready remedy. Legislation should long ago have been enacted forbidding the sale of medicinal substances the exact constitution of which is not known or is not explicitly stated.

**Bequests to Hospitals.**—In the adjudication of the estate of Anna H. Wilstach of Philadelphia the following awards were made by the Orphans' Court from the balance of the annuity fund: Hospital of the Protestant Episcopal Church, $6,624.42; Protestant Episcopal City Mission, for the use of the Home for Consumptives, $6,624.43; Pennsylvania Hospital, $6,000; Howard Hospital, $624.43.

**Pennsylvania State Department of Health.**—All of the medical examiners in the Pennsylvania Railroad Voluntary Relief Department and also all of those connected with the Philadelphia & Reading Railway Relief Association have been appointed special medical inspectors for the two railroads by Dr. S. G. Dixon, State Commissioner of Health.

**The Washington Heights Hospital,** incorporated in June, 1905, will be a non-sectarian hospital, supported by voluntary subscriptions and annual donations. It is located on Broadway, between 178th and 170th streets. The medical board consists of Drs. Henry M. Kalvin, president; C. Clarence Sichel, Joseph Weinstein, Stanley O. Sabel, P. William Nathan, Leon Borman, I. Friesner, and Louis Rodenstein.

**The Highland County (Ohio) Medical Society** met in Hillsboro, O., July 5. Papers were read by Drs. C. C. Croffer, of New Market; J. N. Ellison, of Sardinia, and H. A. Russ and W. W. Glenn, of Hillsboro.

**Cincinnati Hospital Pathologist.**—The Board of Public Service, at the request of the medical directors of the Cincinnati Hospital, has passed a resolution that hereafter the professor of pathology of the

Cincinnati University shall be at the head of that department of the Cincinnati Hospital.

**The California State Board of Dental Examiners** has recently been thrown into a condition that may be compared to cyclonic agitation. Some people charge that they have been sowing the wind and that the harvest is now ripe. An official investigation will be made in August. The board has always consisted of two parts, the "solid three" and an uncongealing two. Recently one of the minority publicly accused a member of the majority of having furnished his questions and answers to favored applicants several days before the examination was held, and it was this charge that led the governor to appoint a commission to investigate. But a possibly more serious difficulty confronts the board in the form of a suit for $50,000 damages for the arrest of a dentist, said to have been licensed and wrongfully accused. No licenses have been issued to the successful applicants in the recent examination at San Francisco; the attorney of the board has been dismissed, and its executive committee has been "dissolved."

**Commission for Missouri State Sanatorium.**—The committee to select a site for the new state sanatorium in Missouri for the treatment of incipient tuberculosis has been appointed, the following gentlemen constituting the committee: Drs. W. M. Bayless of Macon, J. L. Eaton of Bismarck, L. C. McElwee of St. Louis, W. L. Gupton of Montgomery City, and W. D. Craig of Galena.

**Charges Against a Health Commissioner.**—Charges have been preferred against the Health Commissioner of St. Louis that he has failed to give his entire time to the duties of his office; that he has abused his power in the appointment and removal of subordinates, and has unduly interfered with the duties of the superintendents of institutions under his control.

**"Surgery, Gynecology, and Obstetrics"** is the name of a new magazine which appeared in Chicago this week. This new publication will be issued monthly. The managing editor is Dr. Franklin H. Martin, and the associate editor Dr. Allen B. Kanavel.

**The California Pharmacy Law.**—An amendment of the law in California that became operative on July 1 forbids anyone to conduct a drug store unless he employs at all times a registered pharmacist. Assistant pharmacists are forbidden to compound prescriptions or to sell any poisonous drug or chemical. The licensed pharmacist must record such sales and obtain the signature of the purchaser. The state board of pharmacy is given power to regulate the quality of drugs sold, and the appointment of an inspector is provided for whose duty it shall be to make periodical investigations of the manner in which the law is being obeyed by the druggists. Another section of the law prohibits all pharmacists from working longer than ten hours a day during any six consecutive days.

**Los Angeles County Hospital.**—The recently installed internes of this institution are Drs. D. D. McKellar, J. H. Hall, Walter Bayley, and J. H. McArthur, all of them recent graduates from the medical department of the University of Southern California.

**American Hospital for Turkey.**—The trustees of the American Hospital and Training School for Nurses to be established at Constantinople, Turkey, at a recent meeting adopted plans for the foundation of the hospital.

**Death of Prof. Nothnagel.**—Prof. Hermann Northnagel died at Vienna on July 7 at the age of sixty-five. During his illness he kept a record of his symptoms, and the notes found in his room describe his sensations until shortly before death came, including observations on the prodromal signs in three severe attacks of coma.

**Prof. Mikulicz Dead.**—On June 14 Prof. Johannes v. Mikulicz-Radecki died in Breslau at the age of fifty-five, after a painful illness. Obscure pastric symptoms had given him uneasiness for some months, when, early in December, 1904, he discovered a hard mass in the region of the stomach. In order not to mar his family's enjoyment of the holidays, he said nothing about his condition until after Christmas, and on January 7 at an exploratory laparotomy it was discovered that the pylorus was involved in a malignant growth so adherent to the pancreas and colon as to be inoperable. He accepted the verdict with unexampled fortitude, and caused the report to be circulated that the operation had been done for the relief of an umbilical hernia. After a very short period of convalescence he resumed the full routine of his professional and clinical work, but in April, after a severe hematemesis, had to give up, and became progressively weaker until his death occurred. It was a tragic perversity of fate to decree that a man who had contributed so much to the surgery of the stomach should himself fall victim to a carcinoma that when diagnosed was too far advanced to be operable.

**Obituary Notes.**—Dr. James H. Close of St. Louis was killed in his home on the night of June 15. He was found with a bullet hole in his breast, but it could not be established whether he committed suicide, or was murdered, or killed by accident. Dr. Close was an expert marksman, and was in the habit of practising in his rooms, where he had a practice range fitted up. He was very eccentric, and had his home and grounds wirder in an intricate manner to prevent invasion by burglars. Dr. Close was born in Canada in 1845. He was graduated from the College of Physicians and Surgeons of Kingston, Ontario, in 1873. He was a Fellow of the Royal Microscopical Society of London, and professor of microscopy and pathology in Barnes Medical College, St. Louis.

Dr. Charles W. Robbins died at Philadelphia on July 4, at the age of 70 years. He was a retired surgeon in the United States Army.

Dr. George L. Fanning of Port Jefferson, L. I., died July 6, in Brooklyn, after an operation for the removal of a gastric tumor.

Dr. Roger Q. Drake of Mt. Sterling, Ky., died June 29, at the age of 59 years. He was a graduate of the Jefferson Medical College, Philadelphia, in the class of 1868.

Dr. Robert S. Briskoe of Colorado City died on June 25, at the age of 72 years. He was a graduate of the Medical Department of Washington University, St. Louis, in the class of 1857.

Dr. Pascal H. Sawyer of Cleveland, O., died June 26, at the age of 68 years. He was born in Brimfield, Ohio, and was a graduate of the Western Reserve Medical School in the class of 1850. He practised for some years in Kent, removing to Cleveland in 1871. He left three sons, one of whom, Dr. John P. Sawyer, is a practising physician in Cleveland.

Dr. Samuel H. Leeman of Dallas, Tex., died July 5, at the age of 38 years. He was a graduate of the St. Louis College of Physicians and Surgeons in the class of 1898.

Dr. George H. Wilson, a colored physician of Cleveland, Ohio, died of Bright's disease on July 3, at the age of 35 years. He was a graduate of the Western Reserve Medical School in the class of 1893.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

ROYAL COLLEGE OF PHYSICIANS—HARVEIAN ORATION—PRESENTATION OF MEDALS—SLEEPING SICKNESS—HOSPITAL APPEALS—CHAIR OF PATHOLOGY AT OXFORD—OBITUARIES.

LONDON, June 23, 1905.

THE Harveian oration was delivered on Wednesday afternoon at the Royal College of Physicians, the orator this year being Dr. Frederick T. Roberts. The praise of Harvey is a well-worn theme at the college, and it must sometimes puzzle the orator to give it freshness. But the memorial is not confined to Harvey, for his will directed the oration to commemorate all the benefactors of the college with an exhortation to others to imitate these benefactors, to search and study out the secrets of nature by way of experiment with other excellent exhortations.

Dr. Roberts assigned a number of reasons for commemorating Harvey, besides his great discovery of the circulation. Harvey exhorted physicians to continue the work of research, and this had been done by the great body of medical men, who followed him. Antivivisectors have taken to patronizing the medical profession as a whole and bestowing their condemnation on the 300 vivisectors. But the 40,000 practitioners would decline to be thus separated from their brethren engaged in research, and would stand shoulder to shoulder and show every sympathy with men whose great work had been and continues to be of incalculable service to medical science and to suffering humanity. Harvey, if he could see, would be amazed at the extent and thoroughness of the manner in which his exhortation to search out the secrets of nature is being carried into effect at the present day. The older universities have been roused into activity, and independent laboratories for pathological work established in various parts of the world. Investigators should strive after truth alone, and not merely try to gain popularity or take up research as an amusing occupation. The men engaged in this work were not all vivisectors. A great debt of gratitude was owing to those who had investigated malaria; their devoted labors were carried out under circumstances involving severe trials and great personal danger, often, indeed, leading to the loss of health and even life. Some there were who had actually risked and lost their lives by what they had undertaken as personal experiments.

Another of Harvey's exhortations was that medical men should live in a state of brotherly love, respect, and esteem, and Dr. Roberts said they might congratulate themselves on the spirit of good-fellowship prevailing among members of the colleges of physicians and surgeons.

After the oration the president, Sir D. Powell, presented the Bissett-Hawkins memorial medal to Sir Patrick Manson for the services he has rendered to science and humanity by its researches on tropical diseases. This gold medal is bestowed triennially on a British medical practitioner, who has during the preceding ten years done such work in advancing sanitary science, or in promoting public health, as in the opinion of the college deserves special recognition.

The Baly gold medal, which has been awarded to Professor Pavlov, of St. Petersburg, was then handed to the registrar to forward to him. This medal is awarded biennially, on the recommendation of the president and council, to the person deemed to have most distinguished himself in physiology, especially during the preceding two years. It is not restricted to British subjects.

The Royal Institute of Public Health yesterday had the privilege of hearing an address by Colonel David Bruce on "Sleeping Sickness." He said in some parts of Uganda, where the disease prevailed between 1896 and 1901, it in a short time reduced a populous and richly cultivated country to a wilderness. He considered it essentially a disturbance of the brain functions, and said a patient might go about his ordinary occupations for years without his friends noticing anything the matter. But gradually a slight change of demeanor would become evident, he would be less inclined to exert himself, would lie about in the daytime, and at length his intimates would be convinced that his conduct was due to the onset of the disease. Colonel Bruce's investigations led him to believe that the disease was brought to Uganda from the Congo, and that it was caused by a protozoal parasite, the infection being carried by a species of tsetse fly. Where there was no such fly there was no sleeping sickness. They had to deal with a human tsetse fly disease. This disease had a very peculiar distribution. It was restricted to the numerous islands that dot the northern part of the Victoria Nyanza and to a narrow belt of territory a few miles wide, skirting the shores of the lake, but only in localities where there was forest with high trees and dense undergrowth.

University College Hospital is obliged to come before the public with an appeal for between three and four thousand pounds to complete the new building. The sum left by Sir Blundell Maple to finish the hospital he had so munificently rebuilt has been expended, and, of course, the executors have no power to add to it, although it is as certain as such a thing can be, that Sir Blundell, had he survived, would have completed his work. The sum required for absolutely essential work is a mere trifle in comparison with what he had provided. The hospital has only about £9,000 income which can be considered reliable, and its annual expenditure exceeds £23,500, so that there is a continual deficit, and the committee are at present in great straits.

Guy's Hospital appeal has not been so successful as hoped. About £48,000 has been given toward the £100,000 asked for. Some curious facts may be interesting. Some £46,000 was given by 138 persons, their gifts ranging between £5,000 and £25. Sums under the last-named amounted to £1,000 from 220 persons. The remainder of the money received has been from the "Million Shilling Fund." Apart from the help of the press the appeal has been distributed to over 100,000 offices and homes of the well-to-do classes, besides which, the treasurer says, thousands of personal letters have been addressed to those thought likely to subscribe, and yet a direct response has been received from only 358 persons. He attributes the success of the "Million Shilling Fund" to the personal effects of the doctors, students, and nurses, and adds that it is a fact that "Guy's has been saved to the public by the generosity and endeavors of a small group of old friends." I am afraid that this is the experience of a majority of our charities. I know it is in some of them.

The Hospital for Incurables wants £2,000 urgently for current expenses. A "Shilling Fund" has been inaugurated to accomplish this, besides which a three days' bazaar has just been held; in fact, it closes this evening.

On Tuesday a convocation of Oxford University received a deputation from its medical graduates to present an address signed by 165 on the importance of providing for the teachers of pathology. The deputation was introduced by Sir W. S. Church, who said they had already collected £500 toward the establishment and endowment of a professorship. The vice-chancellor cordially welcomed the deputation, and said in due course convocation would pass a decree thanking them for their handsome assistance. He also thanked Mr. Whilley, who was present, for his liberal donation to the chair of pathology, and hoped the example of the medical graduates would find many imitators.

The Sanitary Institute visited the new Sanatorium of Frimley on Saturday. This institution has been established in connection with the Brompton Hospital in pursuance of a determination to have a convalescent home for some of the patients taken many years ago. Lack of funds prevented an earlier completion of the scheme. Sir D. Powell, president R.C.P., and others concerned met the visitors and guided them over the building. There were fifty patients in it, and there is accommodation for another fifty. Work in the open air according to strength with sanitary living and the exclusion as far as possible of damp and dust, with the free admission of air and light to the rooms, is the treatment provided. Funds are asked for, about £10,000 a year, and the governors suggest that 2,000 persons should subscribe five guineas a year each. The calculation is easy—will the 2,000 put in an appearance?

The death is reported of Dr. Herbert William Brown, at Cairo, from typhoid, on May 12. He was a London graduate, had filled resident posts at Guy's, and then done a year's earnest work at the London Tropical School, and been appointed resident to the Kaor-el-Aini Hospital. His brilliant career closes at the age of 27.

Another young life has passed in typhoid. Dr. Arthur Griffiths, of Bridgend, who was overburdened with work in an epidemic there. His wife was ill, and early one morning he went and told her nurse he was himself very ill, and he soon afterward died. He took his M.D. in 1887. He was only 34 years of age.

The senior ranks naturally furnish names to the professional roll pretty constantly. This month Dr. John Matthews, of Tynemoulle, died at the ripe age of 84. He graduated at Edinburgh in 1853. He has been retired for many years.

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**An Accusing Tombstone.**—In a cemetery at York, Penn., is a granite monument erected to the memory of the wife of one of the residents of the place. On one side is the usual inscription; on the other is graven: "A Victim of Chloroform Poisoning and Shock, the Result of a Doctor's Negligence." The name of the doctor is not given, which is perhaps all that saves the erecter of the monument from a libel suit.

## OUR VIENNA LETTER.

(From Our Special Correspondent.)

THE SPIROCHÆTA PALLIDA IN SYPHILIS—PROGRESSIVE PARALYSIS IN A CHILD—TUBERCULOSIS OF THE TONGUE—A NEW THEORY OF PRESBYOPIA—RADICAL OPERATION IN TUBERCULOUS COXITIS.

VIENNA, June 20, 1905.

THE subject that is at present being most actively discussed is the etiological significance of the spirochæta pallida, which Schaudinn and Hoffman have described as the causative agent in syphilis. The observations which are being carried on in all the local clinics have so far yielded full confirmation of this view. Dr. R. Kraus, working together with Prof. Mracek, has been able to demonstrate the spirochæta regularly in syphilitic papules and also in syphilitic lymph glands. Control observations have shown that the parasites are not to be found in cutaneous lesions not of syphilitic origin. The spirochæta pallida is easily to be differentiated from the harmless variety by special staining methods; Giemsa's stain being used in the dilution of one to four. Good preparations may be obtained by staining from one-half to one hour. Prof. Finger has received a grant from the Vienna Academy of Sciences in order to study the question of immunization against syphilis by means of experiments on monkeys. Metchnikoff and Roux in Paris have successfully inoculated both anthropoid and lower monkeys, but Neisser of Breslau doubts the reliability of these results, as his own experiments have frequently been negative. Prof. Finger has made a short report to the Academy on the work which he has so far done in conjunction with Dr. K. Landersteiner. He has apparently succeeded in getting good results even with the lower monkeys, as out of thirty-nine inoculations only three were failures. No success has as yet met the efforts to produce immunity by inoculation with syphilitic serum, but the experiments are being continued.

Dr. Zappert has observed a case of progressive paralysis in a child six years old. Up to last year the child was in full possession of its faculties, and could not only speak well, but was intelligent in every way. During the past year rapidly increasing dementia developed, and now has reached a very marked degree. The child has entirely lost the power of responding when addressed, has forgotten how to talk, and shows no interest in her environment. When left to herself she wanders about the room and touches objects without evincing any understanding of their nature or purpose. The tongue is frequently protruded, and the lips make chewing, rolling movements. The child does not pay attention when spoken to, and objects vigorously to physical examination. There is great relaxation of the muscles of expression, the pupils are unequal and do not react to light, the patellar reflexes are exaggerated. All these symptoms, especially the rapidly progressive imbecility and the insensitive pupils afford positive evidence of the diagnosis of an infantile progressive paralysis. Syphilis, which can invariably be assumed in such cases, has not been proved present in this instance, which probably is the earliest one yet described.

Dr. Hanszel has been treating a case of tuberculosis of the tongue, which he has had under observation for ten years. The patient is eighty-five years old, and the formerly sluggish lupoid process suddenly became active after an attack of influenza, so that the tongue is now markedly swollen, and presents numerous ulcers and miliary tubercles. The patient's nutrition is greatly impaired on this account, and he is now in great danger. During the ten years' course of the affection, ulcers would from time to time appear on the dorsum of the tongue, together with more or less reactionary swelling, and after scraping and cauterization with lactic acid or silver nitrate would heal up again in the course of a few weeks. There is no evidence of tuberculosis either in the lungs or elsewhere in the body, and examinations of the sputum have always been negative. Possibly the process might be favorably affected by sunlight.

Dr. Stransky of Prague has presented a new theory as to the nature of presbyopia. The human sclera constantly increases in rigidity, partly during youth through increase in its density and thickness, and partly in age through the deposit of lime salts and decrease of elastic elements. This increasing rigidity involves an approach in form of the stretched sclera to that of the resting sclera, and shortens the bulbar radii by about 3 mm. at the age of seventy. In this way the supporting apparatus of the lens becomes modified, and from year to year the lens becomes more distorted. What it gains in refractive power, however, through the scleral relaxation it loses through its own progressive sclerosis, and therefore no increase in refractive power results. The altered form of the lens involves a successive decrease in latitude of accommodation because the difference in form between the maximal accommodating and the non-accommodating lens is constantly diminishing.

Dr. Joseph Winter has carried out interesting experiments on the effect of adrenal extract on the chloroformed heart. A 1-1,000 chloroform solution was run through the coronary arteries of a mamalian heart until it ceased to beat, and it was found that active contractions were set up again when the chloroform solution was replaced by suprarenin solution of the same strength. Cats were chloroformed until the heart action and respiration ceased, and then by injecting suprarenin solution into the left heart under artificial respiration the heart could be brought into action again, though other methods, such as cardiac massage, were ineffectual. The blood pressure in these cases would gradually rise, and finally breathing would become spontaneous. The suprarenin solution was injected either into the exposed heart or through the chest wall by means of a hypodermic syringe. Intravenous injections of suprarenin were without effect. Winter accordingly recommends in cases of chloroform collapse in which other measures are unsuccessful, the injection of suprarenin solution directly into the left heart, while at the same time active artificial respiration is kept up.

Prof. v. Mosetig-Moorhof recently spoke before the Society of Physicians in favor of radical operation in tuberculous coxitis. He employs the following procedure. Through a U-shaped incision running across the trochanter major and with its parallel portions in the direction of the fibers of the glutei the upper part of the trochanter major is resected and the joint made accessible. The capsule is then cut across and extirpated, and all diseased tissues in the neighborhood are removed, resulting bone cavities being closed with iodoform filling. The joint cavity itself must be explored for disease foci, and if necessary the head and neck of the femur are resected as well as part of the acetabulm, to which the sawn surface is fitted. In the operation the transverse pelvic muscles must be preserved intact, as they contribute to the fixation of the joint.

## Progress of Medical Science.

*New York Medical Journal, July* 8, 1905.

**Symptomatology of Acute Otitis in Children.**—C. G. Kerley gives his personal experience in seventy-two cases. The only symptom common to all was elevation of temperature. The disease was apparently primary in three. In one, it followed German measles; in two, scarlatina; in seven, measles, and in fifty-eight, grippe or catarrhal colds. In the cases in which the otitis followed, or was not immediately associated with any of the preceding diseases, which was the case in the majority, there was no special temperature characteristic of the temperature range. In some there was the morning drop and the evening rise. With but few exceptions the otitis developed during the convalescence of an acute process elsewhere; and the ear involvement was suspected because of a persistent elevation of the temperature for which no other cause could be discovered. In fifty of the cases there was absence of pain or localized signs by manipulation. The author is, therefore, inclined to believe that evidences of pain are not to be looked upon as a *sine qua non* in this disease as it affects children, but that special importance should be given to a temperature which persists without apparent cause. If a patient is restless, sleeps poorly, and evidences bodily discomfort, and examination reveals a bulging ear drum membrane, it is fair to assume from the relief following its puncture that the source of the discomfort has been discovered. The author's main contention is evident in his closing statement that we have not completed our examination of sick children until there has been a thorough examination of the condition of the middle ear.

**The Early Detection of Uterine Carcinoma.**—D. H. Craig refers to his previous article relative to the proper time for the repair of cervical lacerations, stating that in the investigation on which it was based, he was unable to find evidence of a single case of cervical carcinoma originating in a uterus in which a lacerated cervix had been successfully repaired without a subsequent trauma. He is emphatic in the assertion that there is no characteristic first or early symptom of uterine carcinoma of either cervix or body. He made a careful study of the history of 78 cases of uterine cancer, finding the first symptom to be a non-characteristic leucorrhea in 45; hemorrhage in varying degree in 21, and pain, preceding both leucorrhea and bleeding (often by many weeks) in 12. He urges upon gynecologists the imperative necessity of making a thorough physical exploration of the pelvis, both bimanually and with the speculum, of every woman who has pelvic symptoms. Great care should be exercised in securing suspected pathological tissue for the miscroscope. Manipulation of the marginal area of malignant tissue, and, much more the excision of a wedge-shaped piece increase the danger of dissemination and the patient's consent to immediate radical intervention should be previously secured in view of the possibly unfavorable showing by the miscroscope. Patients should be taught

that a foul discharge is not the only positive sign of malignancy, and that a departure from the normal onset of the menopause is in itself suspicious. Irregular flowings must be carefully investigated and their significance interpreted in the light of the findings by local examination.

*Medical News, July* 8, 1905.

**Syphilis of the Liver, Sclerogummatous Type.**—J. Funke reviews the literature of this subject, his paper being mainly a compilation of the views of various authors. The autopsy findings are given in one personal case. The liver was firm, and scattered over its external surface were subcapsular nodules, extending into the parenchyma of the organ, so far as could be determined, to a distance of about 2 to 4 mm. The organ was found to resist the knife and the cut surface was studded with nodules similar to those described as being present under the capsule. They resembled miliary tubercules in every respect, although it was quite impossible to remove what appeared to be caseous centers. The peripheries of many of the lobules were easily outlined and were slightly depressed; the depressed parts were grayish-white in color and resembled fibrous tissue. The greenish tinge was more pronounced on the cut surface than upon the external portion of the organ, giving the parenchyma a granular appearance. Near the transverse fissure of the organ was a fibrous mass having a dimension of 1 by 2 cm., which incorporated the bile passages, but did not impinge upon the vessels. A probe introduced at the ampulla of Vater would extend a far as the juncture of the hepatic and cystic ducts, where it met with an obstruction and upon dissection of the common duct the lumen was found occluded by the fibrous mass already mentioned. Upon further dissection the cystic duct also was occluded; the right hepatic could not be traced, but the left branch passed near the margin of the fibrous mass. The fibrous nodule extended into the liver for a distance of 1 cm. At no point in the growth could either duct or liver substance be identified, apparently it was fibrous throughout and distinctly circumscribed. The liver was alherent to the gallbladder, the walls of which were extremely thin.

**Some Observations on the Relations of the Gastrointestinal Tract to Nervous and Mental Diseases.**—R. C. Kemp reviews the teachings of modern physiology covering digestion and the general effect of its impairment upon the nervous system. He considers that epileptiform attacks are directly connected with putrefactive bowel states, and that ptosis of the gastrointestinal tract is a powerful factor in the production of many nervous disorders. Thirteen cases of dementia paralytica are studied in some detail, and the histories show the dimensions in the frequency of convulsions, and the lowering of the temperature which followed the regulation of the bowels and treatment of the gastrointestinal tract, according to the individual requirements. Surgery may assist many of the cases in which simple internal treatment fails. The article closes with a description of the methods followed in the care of these cases at the Manhattan State Hospital on Ward's Island.

*American Medicine, July* 8, 1905.

**Apparently Unavoidable Errors in Diagnosis of Psoas Abscess.**—H. Augustus Wilson cites enough instances to show that the diagnosis of psoas abscess is not always easy, and that each case is worthy of the most careful study in every phase presented. The presence of well-marked evidence of spinal caries is sometimes misleading. Great spinal deformity is often present long after the activity of the bone disease has subsided. When conditions more or less closely resembling psoas abscess are also present, the preponderance of evidence is often in favor of psoas abscess when in reality some other disease or condition is present. The knowledge that these errors in diagnosis have occurred under the most critical inspection and elaborate study is convincing that while they are not always avoidable, they should be guarded against as far as possible.

**Treatment of Some Neuralgias by the Röntgen Ray.**—Charles Lester Leonard calls attention to what has been accomplished in relieving intolerable conditions of pain by the use of this agent. The cases which he reports indicate what may be accomplished under favorable conditions, and are not to be taken as a definite measure of an agent with which a measured dose can be applied to accomplish the same result. Each patient and his or her disease, modified by the reaction of the Röntgen ray, must form the individual basis for treatment in each case. So far, no generalizations can be made, nor can definite results be promised. They depend upon the reaction of the patient and the adaptation to each case of the quality of ray necessary to it. Dr. Leonard reports as apparently cured cases of tic douloureux, chronic migraine, and facial neuralgia. These were chronic cases and had remained free from pain from one to two years after treatment. In one or two cases palliative results alone were observed. He concluded that although these few cases are possibly too few and of too short standing from which to deduce any valuable conclusions, they at least demonstrate that in certain conditions of intolerable pain this agent can relieve and produce apparent cures that persist for a considerable length of time. Although it cannot be stated definitely what particular classes of cases will be benefited, there is at least a prospect of temporary relief for all, and a probability that a further development of technic will increase the number of cases in which permanent results can be secured. Neuralgias are not the only painful conditions that can be relieved by this agent, for articular pain, as seen in gout and rheumatism, even after deformity and stiffening has taken place, can in many cases be permanently relieved, while the pain can certainly be decreased.

**Fibromyoma of the Corpus Uteri Coexisting with Squamous Epithelioma of the Cervix.**—B. F. Baer reports a case in which this rare combination occurred. The patient was a mulatto of 41, in whom a diagnosis of uterine fibroid had been made. Upon vaginal examination, however, the cervix uteri was found greatly hypertrophied, roughened, fissured, and with other evidences of malignant change. Under proper treatment the patient's improvement became such that Dr. Baer decided to operate. Only a high amputation was advisable at this time, and even this was rendered most difficult because of the unyielding attachments. Improvement was so rapid after operation, and her general condition so much better that two weeks later she was prepared for abdominal hysterectomy. This proved extremely difficult owing to the firmness and fixation of the surrounding tissues which entirely prevented elevation of the parts. After removal was completed the vaginal raw surfaces were thoroughly cauterized with the Paquelin cautery, and the pelvis closed in the ordinary manner. The patient made an uneventful recovery.

**Traumatic Cerebral Diabetes.**—M. J. Siefert reports a case in a boy of 16 who fell down a 12 feet elevator shaft, striking the floor head first, excoriating the skin over the right frontal and molar regions. He was unconscious 1 hour, stupefied 72 hours. Uranalysis made in less than 12 hours after the accident, showed: Sp. gr. 1.036; sugar, albumin, and blood present. Daily analysis revealed the presence of sugar for 11 days longer. Patient took an easy job 60 days after injury, remaining at work for almost two years. Then the gradually increasing debility, emaciation, polyuria, and depression of spirits induced him to seek medical advice. At that time there was a daily output of between 7 and 30 pints of urine, and sugar varied from a trace to 7 per cent. In spite of all therapeutic measures the prognosis is becoming graver from day to day. The patient is now nearly 20 years of age, and in a deplorable physical condition.

*Journal of the American Medical Association, July* 8, 1905.

**Ainhum.**—A case of this disease, rarely seen outside the tropics and usually occurring in negroes, is reported by N. D. Brayton of Indianapolis. Though so rare in the United States it is so common in India that Crawford found a case in every two thousand surgical patients in Indian hospitals. The absence of pain or inconvenience in many cases also probably prevents their being reported, especially as the patients are not of a class that ordinarily call for the surgeon's assistance. The ultimate result of the disease, which begins as a crack or fissure, is the spontaneous amputation of one or more fingers or toes by a gradual circular strangulation. In Brayton's case, complete amputation of one toe and partial amputation of another had occurred before the patient sought medical assistance or appreciated his condition. It is rare in females, and is almost exclusively confined to the dark-skinned races, only four cases having been reported in whites. Brayton thinks it probably a trophoneurosis of unknown origin. It is certainly not a form of leprosy as some have considered it. The diagnosis of the disorder is discussed. The principal conditions with which it is liable to be confounded are Raynaud's disease and mutilating leprosy. In the former, we have pain and preliminary lesions, such as bullæ and constitutional disturbance. Local lesions also occur in leprosy, but the disease is not likely to be so localized on a certain toe as in ainhum. Paronychia and neurotic ulcer have characteristic symptoms differing from those of this disorder. The treatment is usually unsatisfactory. The cases come too late. If seen early enough, linear incision, curettage, and scarification or incision of the constricting band is indicated, but does not prevent a recurrence. When the condition is of long standing or troublesome amputation is advisable.

**Transmission of Disease by Mosquitos.**—J. R. Taylor gives a good summary of the facts in regard to the transmission of disease by mosquitos, so far as known. He does not consider any of the possible methods practicable for the complete extermination of malaria, but thinks that the disease can be greatly reduced in prevalence. As regards yellow fever, he believes the methods instituted by Gorgas in Cuba, if thoroughly carried out, would exterminate the disease. The same methods will apply for the extermina-

tion, or at least the diminution of filariasis. He believes in quarantine in all possible cases of transmission of disease by vessels, that is, a quarantine based on the natural history of the disease as we know it. The isolation of infected persons is essential. For the destruction of mosquitos, sulphur fumigation is most effectual, but has its inconveniences. The powdered leaves of datura (Jimson weed) mixed with saltpeter and burned, an ounce of the mixture to each two hundred cubic feet of space, is a cheap, safe, and effective method of destroying hibernating mosquitos. Pyrethrum and formaldehyde are said to be effective against hibernating insects, though the former only stupefies the mosquitos which should be swept up and burned after its use. To exterminate the stegomyia or yellow fever mosquito, all water receptacles should be treated with oil or made inset proof, and drainage and flushing of ditches, etc., should be practised. Drainage methods are even more necessary against the malaria-bearing type which breeds especially in swamps.

**The Diagnosis of Cutaneous Syphilis.**—E. A. Fischkin concludes from his observations and studies that the elements of diagnosis in cutaneous syphilis have only an arbitrary value. The element of time is unreliable; it may happen that simple sores with consequent gland swellings will develop in intervals corresponding to the periods of syphilis. Regionary lymphadenitis is not absolutely pathognomonic of syphilis. Indolent and indurated inguinal and cubital glands may follow infection of simple wounds. The ensemble of all syphilitic symptoms may be closely imitated by non-specific dermatoses. Syphilis can only be diagnosed with absolute certainty when based on positive as well as on negative findings, *i.e.* when we not only find the characteristic elements of syphilis, but when we can with certainty exclude all other skin diseases that may appear with similar symptoms.

**Practical Significance of Certain Common Symptoms in the Upper Abdomen.**—J. F. Percy says that the upper right-hand corner of the abdomen is a field of present day investigation, which promises valuable returns for efforts to clear up its symptomatology. The most important symptom he considers is pain, and he calls attention to the various conditions which may cause pain in this region of the addomen. He also mentions the varieties of pain. He describes the different methods of percussing and palpating in order to locate the cause of the pain, and calls attention to the fact that inflammatory processes or ulcerations of the stomach may also cause pain in this region. He states that an important factor is the size of the stomach. If this organ is greatly dilated the patient may suffer for hours before obtaining relief, either by vomiting or by the use of the stomach tube to empty the stomach of the mass of undigested food, which could not be passed into the intestine. Percy relates briefly the history of some illustrative cases and concludes by saying that the internist and the surgeon must work together or the records of both in abdominal diseases will continue to be a page of regrettable failures.

*The Lancet, July* 1, 1905.

**The Influence of Atmospheric Pressure on Man.**—L. E. Hill considers the influence of diminished pressure (mountain sickness) and of increased pressure (caisson sickness and diver's palsy). The important feature in mountain sickness is not so much the loss in quantity of the oxygen in the blood as the lowering of its tension. To maintain the latter at its normal in the alveolar spaces, the mechanism of increased pulmonary ventilation comes into play. The greater the volume of tidal air, the more does the composition of the alveolar air approximate to that of the external atmosphere. A deep breather, therefore, can thus reach far higher altitudes than can a superficial breather. Training in this respect will make an enormous difference with the individual climber, who should have above all things a strong heart. Dwelling in high altitudes increases markedly the respiratory metabolism. The therapeutic effect of mountain climate depends on the purity of the air, freedom from germs and dust, strengthening of the heart and respiratory mechanism, the increased formation of hemoglobin and increased respiratory metabolism. With reference to increased pressure, it is found that the lungs after exposure to high pressure oxygen show congestion of the alveolar capillaries, hemorrhagic exudation, and consolidation. The pneumonia is patchy if quickly and universal if slowly developed. Experiments with animals as to the effects on the number of blood cells contribute but little scientific evidence to the value of oxygen inhalations in pneumonic disease. Compressed air has an effect on the circulation and the author regards all mechanical congestion theories as to the cause of caisson sickness as erroneous. The tension of the carbonic acid gas seems to have an influence on the workers in caissons quite independent of atmospheric pressure. When a tension of four per cent. is reached, dyspnea ensues, but the author adds that any factor leading to the exhaustion of the worker, such as overheated air salinated with moisture, must increase the danger of rapid decompression by lowering the efficiency of pulmonary ventilation.

**A Rational Treatment for the Elimination of Uric Acid.**—R. Fenner believes that in the light of recent research, there is a substance in the body which has such a firm combination with the uric acid that no splitting up into component parts can occur, and consequently no deposit of urates in the tissues and joints. This substance he calls "thyminic" acid. By methods described by the author, this substance can be prepared in the form of an amorphous brownish-yellow powder, soluble in cold water, slightly deliquescent, faintly acid, and almost tasteless. It is given in doses from four to eight grains after meals. He finds that in acute gout the inflammatory stage is quickly cut short and rapid convalescence induced. In chronic cases prolonged administration has been of service in nearly every instance.

**Charcot's Disease of the Ankle in a Case of General Paralysis of the Insane.**—The case reported by W. Billington and A. S. Barnes was that of a dissipated syphilitic man of thirty-seven years, who gave a history of progressive mental impairment, shooting pains and precipitate micturition. Examination revealed Argyll-Robertson pupil, signs of old hemiplegia, and some evidence of general spasticity. These, occurring in a syphilitic patient, suggest to the authors a diffuse cerebro degeneration such as characterizes general paralysis of the insane. The joint disease affected a single large articulation, came on suddenly without signs of acute inflammation, and without marked pain, and at the time when the case came under observation there was great structural change in the osseous and ligamentous components of the joint, which was much enlarged and greatly deformed, and yet was free from pain and tenderness. The chief point of interest was to determine what was the nervous disease underlying the affection of the ankle. The commonest diseases which are associated with Charcot's disease of the joints are tabes, multiple neuritis, and syringomyelia, but a careful examination of the patient sufficed to exclude the presence of these conditions. Clearly the hemiplegia was not a direct causal factor in the joint change, for the paralysis had been confined to the right side, whilst the affected joint was on the left.

*British Medical Journal, July* 1, 1905.

**Cold Affusion in Delirium Tremens.**—William Broadbent describes the treatment that he uses in cases of delirium tremens. The patient is stripped naked and lies on a blanket over a waterproof sheet. A copious supply of ice-cold water is provided, and a large bath sponge dripping with the iced water is dashed violently on the face, neck, chest, and body as rapidly as possible. He is then rubbed dry with a rough towel, and the process is repeated a second and third time. The patient is now turned over, and the wet sponge is dashed on the back of the head and down the whole length of the spine two or three times, vigorous friction with a bath towel being employed between the cold-water applications. By the time the patient is dried and made comfortable, he will be fast asleep.

**Radium Bromide in the Treatment of Rodent Ulcer.**—Alan Reeve Manby reports several cases of rodent ulcer treated by the application of a glass tube containing 5 mg. of radium bromide. He states that the effect on the tissue of the first application of the radium tube usually seems to be nil; at the second or third, marked hyperemia is apparent, and later there comes a peculiar oozing from the previously dry surface, and at this time cicatrization begins and proceeds rapidly. The cosmetic effect is excellent. Radium always maintains itself at a higher temperature than its surroundings, and gives off three different kinds of rays without any diminution of its original bulk. The combination of these rays is powerfully actinic. The little glass tube which contained the 5 mg. of radium bromide is now a rich violet color which is probably due to the action of helium on the manganese in the glass.

**Leucocythemia Treated by the X-Rays, with a Record of Four Cases.**—Charles H. Melland presents various conclusions from his study of these cases. The application of the rays was followed by improvement which was marked. The size of the spleen diminished and the condition of the blood improved. The case in which the spleen diminished most in size and in which the blood underwent the most marked improvement, was kept free from arsenical treatment. The percentage of hemoglobin and the number of red corpuscles increased as the result of treatment, while the number of leucocytes diminished. Of far greater importance, however, was the improvement in the general condition of the patients. The color improved, the weight increased, pain diminished or disappeared, the appetite came back, and a sense of well-being developed while the patients were enabld to resume their daily occupations. The writer states that with all of these encouraging signs, however, it is too soon to assert that permanent benefit has been conferred. Nevertheless, this method of treatment is followed in many cases by great amelioration in the patient's condition, and

even if eventual cure does not come, months or years of comfort may be afforded.

*Berliner klinische Wochenschrift, June* 19, 1905.

**Drowning and Means of Life Saving at the Seashore.**—Margulies, in discussing the question of the proper means of guarding against bathing accidents, analyzes the act of drowning into its different phases and degrees with those observers, such as Bronardel and Loye, who recognize five different stages. The first is that of surprise, and comprises one or two inspirations followed by expirations. This lasts from five to sixteen seconds. Then comes a period with arrested respiration, lasting about a minute, and a stage of deep respiration in which the person takes deep breaths, the eyes are open, and water is swallowed. This lasts from sixty to one hundred and fifty seconds. The fourth stage is again one of arrested respiration in which consciousness is lost and the pupils dilate. This also lasts about one minute and is followed by the last stage, which is that of the terminal respiratory efforts, occupying thirty to fifty seconds. The practical application drawn from this study of the drowning act, as well as from the author's own studies on animals, is that the prospects of saving a drowning person are very good during the first minute, not unfavorable during the second minute, but after the beginning of the third minute they grow more and more dubious. In bathing accidents the catastrophe usually comes very suddenly, so that great promptitude on the part of the life savers is necessary. Death is retarded by the fact that the body usually rises above the surface one or more times, thus giving opportunity for several breaths of fresh air, but it is hastened by any preceding muscular exercise which has led to fatigue, a feature usually present in seashore accidents. It follows that if a bather gets into danger while still near the shore, aid must reach him within one minute, a desideratum easily accomplished if the life savers are so disposed that bathers in the territory permitted to them are never at a greater distance away than can be covered in a minute. For bathers carried out by the tide efficient aid can be given only by swimming life savers to be followed by a boat, as the victim is usually incapable of making use of any ropes, buoys, etc., that may be thrown him. If a bather, fatigued by a long swim, gets into danger far from the shore, even the promptest aid is usually too late, therefore, swimming outside of a certain restricted district should be strictly forbidden.

*Münchener medizinische Wochenschrift, June* 20, 1905.

**The Action of Bichloride Injections on the Urethral Mucous Membrane, and Its Dangers.**—Asch says that the practice of self treatment of gonorrhea is still very prevalent in spite of the wide-spread efforts to disseminate a knowledge of the gravity of the condition. Bichloride of mercury is a widely used popular remedy; but its unsuitability for urethral injection is shown by five cases observed by the author. The antiseptic was used in a strength of from 1:1,000 to 1:500, and gave rise to exceedingly severe symptoms comprising swelling of the penis, a discharge of bloody serum, severe pain, and urinary obstruction due to the formation of localized patches of induration of the urethral mucous membrane giving rise to acute strictures. The author was able to confirm the presence of these latter formations by endoscopy in a case that came under his observation two days after the injection had been made. The treatment usually relieves the acute symptoms in a few days, and includes local applications of lead acetate, warm sitz baths, rest in bed, and the administration of a urinary antiseptic to prevent ascending infection of the urinary tract. Catheterization should be avoided if possible during the first days, but later on the strictures must be treated by gradual dilatation. The urethroscope may also be used in order to make local applications of iodine directly to the infiltrated areas. In conclusion, the author strongly urges the abandonment of bichloride as a urethral application in any strength, and says that oxycyanate of mercury is extremely effective as a germicide without having any irritating properties, even at a strength of 1:2,000 to 1:1,000.

**The Value of Lumbar Puncture in Otology.**—Grunert, who has used this measure as a means of diagnosis in about two hundred cases, values it very highly as a method of differentiating between ear disease alone and that simulated or complicated by meningitis. It is often impossible to tell by the ordinary clinical methods whether certain meningeal symptoms are simply secondary to the aural condition, or whether infection of the meninges has already taken place. Under the former conditions operative intervention may be life saving, but under the latter would serve only to hasten death. By the appearance of the cerebrospinal fluid obtained by lumbar puncture, it is possible to settle this point, and to determine whether or not to operate. Normally, cerebrospinal fluid should be as clear as crystal and should not differ in appearance from a similar amount of plain water held beside it, but if the least clouding is evident meningitis is already present. An otherwise apparently indicated operation should not, however, be abandoned without making a microscopical examination of the fluid, for only the demonstration of bacteria in the sediment renders the diagnosis of a diffuse purulent leptomeningitis incontestible. In two cases death followed lumbar puncture, in one because too great an amount of fluid was abstracted, while in the other, the anesthesia is supposed to have been at fault. Since then the author's punctures have always been done without anesthesia. If increased headache, dizziness, vomiting, irregularity of the pulse, twitching in the extremities, etc., are observed, it is a sign that the fluid is being withdrawn too rapidly or in too great amount, and the flow should be checked. Not more than 40 c.c. should ordinarily be removed at one session.

**A Differential Method Founded on the Occurrence of a Streptococcus in Variola and Varicella.**—De Waele and Sugg review the evidence in favor of Guarnieri's smallpox parasite, and conclude that the question of its etiological significance is still undetermined. On the other hand, they describe streptococci which they have discovered in the blood of smallpox patients, and in the pustules of cases of varicella, to which they attach considerable importance. These are non-virulent, but in each case are agglutinated only by serum coming from patients having the disease in question, and in the case of the smallpox organism, also by the serum of vaccinated persons or of calves. This agglutinating reaction is not observed with streptococci of other origin. Several cases are cited which gave results that the authors think justify them in concluding that the reaction is specific, and that by its means not only smallpox and varicella be excluded in doubtful cases, but these two affections may also be distinguished from each other.

*Deutsche medizinische Wochenschrift, June* 22, 1905.

**The Treatment of Diabetes Mellitus.**—Naunyn says that the first step in the treatment of a diabetic patient is to determine his tolerance for carbohydrates. This is done by putting him on a diet which approaches the normal, but of which the albumin and fat values are known approximately, and the carbohydrates accurately. He is kept on this for a couple of days, and from the amount of sugar excreted in comparison with that taken in the food, the tolerance is determined. In this way the patient's disease may be classified as being slight, moderate, or severe. In the latter case he should receive institutional treatment, but if his diabetes is only slight or moderate in gravity, he may be cared for at home. The next step is to cut down his carbohydrates to such a degree that all sugar disappears from the urine. He is kept down to this for at least fourteen days, and then little by little his dietary is increased until he has reached the maximum that can be allowed without giving rise to glycosuria. In managing this, it is often of great advantage, once a week or oftener, to interpolate a day of complete fasting in which only fluids are taken. In working up to the maximum diet the best way is to make each advance by allowing more milk, and if this is well borne, substituting for it a corresponding amount of some other carbohydrate. Drugs should be used only for special indications, but such accessories as baths, massage, and gymnastics may be found useful, taking care not to permit overfatigue. It is essential to have the patient keep constant watch of the amounts of all the articles of food he is consuming, and that he shall always err on the side of safety. Gaps in the dietary are to be filled with fat and not with meat or other albumins. Even with the strictest attention to diet, acidosis may result, and to guard against this, at every sugar test the Gerhardt reaction should also be carried out.

**The Treatment of Scarlatina.**—Quest abstracts the histories of 21 cases of scarlatina treated by means of anti-streptococcus serum. Eleven of the patients received Bujwid's serum, and ten were given that of Moser. The former is prepared by injecting horses with a culture obtained from a fatal case of scarlatina, and increased in virulence for rabbits by passage through animals. Moser's serum is produced by using for the injections cultures grown on bouillon, using ten to twenty different organisms in order to make the serum polyvalent. The results obtained in these twenty-one cases do not seem to indicate any very great effect on the part of the serum used. Only in a few cases was there any pronounced improvement in the general condition, the eruption was not reduced in intensity, and the inflammation of the pharyngeal organs ran the usual course. The number of published observations is still too small to permit of definite conclusions, but the author is not impressed with the value of either Bujwid's or Moser's serum.

**A New Stain for the Spirochæte Pallida.**—Reitmann says that the methods described by Schaudinn and Hoffmann have not so far rendered the detection of the spirochæta very easy for ordinary observers, and he has evolved a method which he considers more satisfactory. The cover glasses are smeared as thin as possible and are fixed for ten minutes in absolute alcohol. They are then washed in distilled water, and placed in a 2 per

cent. solution of phosphotungstic acid for five minutes. The mordant is then washed out with water and 70 per cent. alcohol, the preparation is returned to the distilled water, and then is stained with the ordinary carbolfuchsin, heated until it steams. It is then washed in tap water and placed for a moment in 70 per cent. alcohol, after which a final washing in water is made until no further color can be extracted. In such a smear the nuclei are dark, the protoplasm is light, and the spirocheta are distinctly and sharply red.

*The American Journal of the Medical Sciences, May,* 1905.

**The Action of Electrically Charged Copper upon Certain Organisms in Water.**—Mary Engle Pennington has made a trial of the action of charged copper plates on B. typhosus and B. coli communis. It was found that copper electrodes carrying a small current are actively germicidal for these organisms. B. typhosus is the more easily affected. The results of the substitution of platinum electrodes proved that it was the copper which played the important rôle. Controls in water alone, showed practically no change at the end of thirty minutes nor after one hour.

**Studies on the Bactericidal Action of Copper on Organisms in Water.**—Nathaniel Gildersleeve believes, after his investigation, that the following conclusions are warranted: Dilute solutions of copper salts have a marked destructive action on many bacteria. Of these salts the sulphate is most active. This is probably due to the fact that it undergoes electrolytic dissociation more readily than the others. The amount of sulphate to be used in the water should be from one part in 250,000 to one part in 100,000, depending upon the character of the water. Colloidal copper will quickly destroy certain bacteria; should copper vessels or plates be used to destroy bacteria in water, they must be kept highly polished or the bactericidal properties will be greatly reduced. The writer has been unable to find evidence of copper, ingested in small quantities for long periods, having a detrimental action on the health of an individual.

**A Study of the Action of Colloidal Solutions of Copper Upon Bacillus Typhosus.**—A. H. Stewart draws the following conclusions: There is a natural tendency for typhoid bacilli to die when the water containing them is allowed to stand for a long period. There may be a temporary increase in the number, but this is followed in several hours or days by a decrease and a final disappearance. Trials were made as to the period of total disappearance of typhoid organisms which had been placed in sterile Schuylkill water, and in that taken directly from the tap, and from the river surface containing large numbers of water organisms. These waters were placed in vessels of glass, porcelain, tin, and copper, and their contents, kept at room temperature, were plated every fifteen minutes for periods ranging from three to six hours. All the experiments were repeated many times. Sterile drinking water in clean copper vessels inoculated with typhoid bacilli invariably showed that the bacilli had all perished in one hour. Water similarly treated in tin vessels, invariably showed living organisms at the end of twenty-four hours. Water similarly treated in glass vessels exposed to light, showed varying results, but in no instance had the typhoid organisms all perished in three hours. Water similarly treated in enamel vessels showed a slight diminution of the number of typhoid organisms in three hours. Water similarly treated in aluminum vessels showed a disappearance of the typhoid organisms in three hours. Raw tap-water in glass vessels showed an increase in the number of organisms in three hours; occasionally there was a slight diminution in their number. Raw tap-water in copper vessels in one experiment showed a diminution from 384,000 germs per c.c. to 18,000 per c.c. in three hours. Usually, the diminution was not so great. Raw tap-water containing large numbers of river organisms and considerable vegetable matter, when inoculated with millions of typhoid organisms and placed in a copper vessel, showed that the typhoid were killed off in one and three-fourths hours to two and one-half hours. Water containing colloidal copper has a more rapid tonic action upon typhoid organisms than upon river-water organisms. The quantity of colloidal copper given off from a one-liter copper vessel in three hours was one part to four million. This amount killed off the added organisms is from one to three-fourths to two and one-half hours, and chemical experience has shown that this amount of colloidal copper is harmless when taken into the human system. In epidemics of typhoid fever, water could be purified of typhoid organisms by allowing it to stand in copper vessels for three hours.

**Purpura Hemorrhagica.**—T. W. Hastings reports a case which he considers to be an example of Werlhof's disease. The patient was an Irish boy sixteen years old. He came to the hospital complaining of weakness and inability to work. These conditions followed closely an attack of severe epistaxis which had occurred without warning, and without apparent cause. The personal history was good. Pallor was noted for the first time after the attack of epistaxis. No soreness of the mouth was complained of on admission, although for several days after the attack of epistaxis slight bleeding had continued "by spells." The gums were found on examination to be in a condition that would have accounted for a moderate amount of "blood spitting." There were at no time chills, rigor, nausea, and vomiting, or headache, which would have pointed to the onset of an acute infection. The boy had little appetite, and had lost in weight. On admission, the right tonsil was swollen. A slight sore throat was not complained of till later. The gums were soft, but only a little swollen. There was neither glandular nor splenic enlargement. From the onset of the illness there was present a purpuric eruption. The bleeding from bowels, gums, and nose was persistent . The writer declares that from the character of the lymphocytes found in the two blood examinations, leukemia seems to be excluded. The mononuclear cells were of the lymphocyte and large mononuclear types found in normal blood. The large lymphocyte with "azur-granules"—Türck's lymphoid marrow cell—was not found in this case. A post-mortem examination was not permitted.

**A Clinical and Pathological Report of a Case of Splenic Anemia.**—H. L. Sanford and David H. Dolley have had this case under their care. The patient was a man twenty-eight years old, who for a long time had suffered from anemia with gastrointestinal disturbances and pain in the splenic region. Shortly before his entrance to the hospital, the patient had had severe and repeated hemorrhages by stool and vomitus. These phenomena followed two accidents in which he had been violently thrown by a horse. Examination of the blood showed it to have the characteristics of that in secondary anemia of chlorotic type without leucocytosis. There was no general lymphatic enlargement. The patient had suffered for some time from frequent urination. Exploratory laparotomy was performed, and the spleen was found to be greatly enlarged and displaced. It was freely movable. After this operation the spleen became increased in size by almost one-half, within about ten days. At a second operation the spleen was found to be lying free in the abdomen without adhesions to the intestines or other structures. Its only attachment was a long pedicle containing four twists which were made up of large congested vessels, some of which contained thrombi. The organ was removed. The patient died seventeen days after operation. At autopsy, the liver was found to be cirrhotic. The writers in commenting on the case, state that it is impossible to decide whether or not all of the twists in the splenic veins occurred at the time of the two accidents. They believe that it is at least more reasonable to suppose that from their multiple character they did not all occur at one time, but that some had existed previously. The thrombosis of the splenic vessels, they think, must have been the cause of the sudden enlargement of the spleen while the patient was in the hospital. The lack of organization in the thrombi of the vessels removed at the time of the splenectomy proves this. The writers regard this case as one of splenic anemia associated with a cirrhosis of the liver, not as a result of the process in the spleen, but rather accompanying it. They add that the enormous elongation and torsion of the vessels associated with the dislocation of the spleen possess a very probable etiological significance in this case.

**The Clinical Aspects and Differential Diagnosis of Appendicitis and Typhoid Fever.**—Charles Greene Cumston declares that there are many cases in which these two diseases assume similar characters and are extremely difficult to distinguish one from the other. These usually represent the forms of medium intensity of both these diseases. Certain symptoms are common to both, especially pain in the right iliac fossa with or without gurgling on pressure, abdominal distention, a rise in temperature on the first day of the disease, enterocolitis and diarrhea. Rigidity of the abdominal muscles, symptoms of peritonitis, and the absence of pulmonary symptoms are in favor of a diagnosis of appendicitis. Bronchitis, severe headache, insomnia, epistaxis, rose spots after the eighth day, and hypertrophy of the spleen, point to typhoid fever. In the majority of cases, spontaneous pain is less frequent and less acute in typhoid. Intestinal gurgling on palpation of the iliac fossa has absolutely no value as a diagnostic sign. It seems probable that at least in the beginning, albuminuria will be more frequent and more pronounced in typhoid than in appendicitis. In typhoid, especially at the beginning of convalescence, there is a considerable increase in the quantity of urine, which corresponds to a discharge of extractive substances from the organism. In appendicitis, the urinary toxicity increases immediately, at the same time that the density increases and its color becomes dark. In inflammatory infections like appendicitis, especially when there is suppuration, the number of leucocytes greatly increases. In typhoid fever without inflammatory complications, the count remains normal. There may even be a hypoleucocytosis. But of all means of investigation at our command, Widal's sero-

diagnosis is the one that gives the most certain results other than the clinical symptoms. In many cases in which there is any doubt in the diagnosis between a typhoid and an abnormal appendicitis, serodiagnosis will clinch the diagnosis. In cases in which the result is positive, this sign has absolute certainty. The writer in conclusion declares that whenever appendicitis exists, either alone or associated with typhoid, operation is indicated. On the other hand, interference is contraindicated only in cases of simple typhoid, or one associated with symptoms arising from the appendix, but which are so slight that they cannot be considered as due to a true case of appendicitis.

**Some Observations on Aneurysm and Arteriosclerosis.**—C. N. B. Camac sums up his findings as follows: Arterial disease appears to be rare, almost unknown in animals. Syphilis being probably peculiar to man is by this observation placed more firmly in the list of etiological factors. Arterial disease in children under six years, even in those who are victims of congenital syphilis, is practically unknown. In those from six to fifteen years it is rare. It is found in the initial stage most commonly between the ages of thirty and forty years. The teratologic factor, though an undeterminable one, is of great importance. Arterial disease seems to be attributable to syphilis in about 32 per cent., to tuberculosis in about 16 per cent. The facts presented go to show that the colored race is affected about four times more frequently than the white. General arteriosclerosis seems to be most commonly found with aneurysm, and its presence may be considered as evidence against the probable development of aneurysm. Staining with selective stains and treating with a chemical which digests tissue shows the elastic tissue to be free of histological alterations, suggesting that this tissue undergoes physical or molecular rather than histological change.

*French and Italian Journals.*

**The Role of Alimentation in Experimental Tuberculosis.**—Richet has recently communicated to the Academy the result of the interesting experiments that he has recently made on dogs which have proved that raw meat has a very favorable influence in cases of tuberculosis, while cooked meat, on the contrary, has very unfavorable effects. In a series of dogs which he had inoculated with tuberculosis, the food given to one set was cooked meat; to another was given raw meat, and to still others was given boiled meat with rice. All of the dogs that were fed exclusively on the baked meat were dead at the end of a month; only one survived, and he had taken raw meat after a few days of the other diet. All of the dogs that had been fed with raw meat, had lived. A few dogs had been subjected to several days of fasting, they did not die, while all of the dogs which had eaten cooked meat for the same length of time had succumbed. Cooked meat produced an intoxication which completely took away the appetite in consequence of which the animals became weak and died. The experimenter simply presents the result of his reasearches without drawing any conclusion applicable to the human subject.—*Gazette des Hôpitaux Civils et Militaires,* June 13 and 15, 1905.

**Tardy Menstruation and Fecundity.**—Albert Chapotin, as a consequence of his researches in this subject, firmly believes that women whose first pregnancy is late are ordinarily those who have menstruated late. His studies included 391 cases. The delay of pregnancy is proportional to that of the first appearance of menstruation; it is also related to the irregularity, to the quantity, and to the duration of menstruation. The abundance of the loss at the menstrual period may compensate for the delay; certain women who menstruate late may have an early pregnancy if their menstruation is regular, abundant and of long duration, the quantity being the most important factor. This compensation in women who began to menstruate at the normal period, that is about 15 or 16 years of age, is habitually noted. It is more rare in women who began to menstruate very late. Sometimes it is noted that women who had their first menstruation at a time nearly normal, but irregular or slight in quantity have in a given time, it may be one child or a small number; while others who menstruated later but regularly and abundantly, have more children in the same period of time. These facts which are of so much general interest are not found in any classic treatise.—*Revue Française de Médecine et de Chirurgie,* May 20, 1905.

**Experimental Reproduction of Cancer of the Human Subject.**—Mayet suggested in 1893 that the white rat offered the most favorable soil for the experimental reproduction of cancer of the human subject. After many negative experiments on the dog, this investigator has obtained a positive result. The dog used for the experiment was in excellent condition, and he received on May 4 and May 14, 1904, respectively, 20 c.c. and 40 c.c. of the macerated tissue of a large uterine myoma which had been examined microscopically. The liquid which was filtered through a porcelain filter, did not contain any anatomical element. This animal became cachectic and died on May 18, 1905. It had a tumor of the spleen of the size of a nut; this tumor was composed of tissue of encephaloid appearance, and was composed of several masses of fusiform cells with one or two nuclei with a relatively large amount of protoplasm surrounded by a zone of embryonic cells (sarcoma). This result confirmed the author in his former theory that the liquid products of tumors can give rise far from the point of injection, to neoplasms having a cancerous structure, but which differ from that of the initial tumor.—*Gazette des Hôpitaux Civils et Militaires,* June 6, 1905.

**Fibromata of the Ovary.**—Puech, in speaking of the prognosis of these neplasms, states that they are generally of slow evolution. It must be admitted that there is a possibility of a sudden growth due to sarcomatous transformation. Every fibroma of the ovary ought to be removed even if the tumor is of small size and does not cause any trouble. Systematic intervention is justifiable on account of the uncertainty of the diagnosis, the simplicity of the operation, and its probable results. The age of the patient, the menopause, pregnancy, cachexia—none of these conditions constitutes a contraindication. Either the vaginal or the abdominal route may be employed. The results of these operations in the cases studied by the writer, have been excellent, and recurrence has never been observed.—*Revue Française de Médecine et de Chirurgie,* June 12, 1905.

**The Endovenous Use of Drugs That Have Bulbar Action.**—Luigi Ferrannini draws our attention to the fact that the endovenous use of drugs was introduced 120 years ago by Hemann. Baccelli, in 1890, introduced the endovenous use of quinine in pernicious malarial fever, on the theory that as the parasite was in the blood, the introduction of the drug directly into the blood current would counteract the activity of the protozoon. This gave most successful results. Since that time it has been used for the administration of many drugs. The author believes that it may legitimately be used for remedies that act on the nervous centers, such as strychnine and caffeine, when an immediate effect is needed. He has injected these two drugs into dogs and rabbits, and has observed the effects on the heart and respiration. Caffeine acts exclusively on the nerves of the heart and the myocardium, and raises the blood pressure, while lessening the frequency of the pulse; later the blood pressure is lowered. The author used the benzoate of sodium and caffeine, injected into the saphenous vein. The sulphate of strychnine was used in the same way. In moderate doses strychnine contracts the arteries, and acts as a bulbar excitant, the pulse being quickened, and the respiration increasing in rapidity, but not altering in rhythm.—*La Riforma Medica,* June 10, 1905.

**Bacteriolytic Action of Bile on Diplococci.**—Edmondo Berger has experimented in vitro, as well as by inoculations of animals, on the effects of bile on diplococci. It has been demonstrated that the bile not only does not act as an antiseptic to many germs, but that it even serves as a good culture medium for some of them. At the same time it has some peculiar effects on the diplococci, and it has been thought that these effects might serve as a means of differential diagnosis between the diplococci. The author concludes as follows: (1) Ox bile has a bacteriological effect on the diplococci; (2) On the typical diplococcus of Freankel the bacteriolytic action of bile is not constant; (3) This action cannot serve as a sure differential criterion between the bacillus of Fraenkel and other forms of diplococci; (4) At the same time it may serve as a means to help in the identification and differentiation of this diplococcus from the streptococcus; (5) Heat does not effect this action of the bile so as to destroy its bacteriolytic power.—*Giornale Internazionale delle Scienze Mediche,* June 15, 1905.

**Can Hernia Be Considered an Accident Due to Labor.**—Cosimo Binda discusses whether the occurrence of hernia in the course of accidents befalling laborers during the performance of their work can be considered as a true result of labor. He limits the discussion to true hernia, with a hernial sac, containing some of the abdominal contents, and a canal in the abdominal walls traversed by the hernia. It has been demonstrated by many authors that the hernia was really the result of the presence of a peritoneal sac, which may penetrate into the hernial locality, and form a canal. Most authors do not admit that a shock or pressure on one side of the abdomen may cause an instantaneous traumatic hernia. Morisani believes that when a laborer is young and strong and accustomed to hard work, and by accident he uses all the force of the abdominal muscles to resist a weight and a hernia occurs, the hernial sac may be of new formation and of traumatic origin. The author cites a case of Morisani's and one of his own to support this view.—*Gazzetta Medica Lombarda,* June 12, 1905.

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**Mud in the Water Pipes.**—A few days ago, through the blunder of an employee, the sediment of the filter bed was pumped into the mains at the St. Louis water works in place of water from the new filter.

# Book Reviews.

Traitement des Ankyloses par la Résection Orthopédique et l'Interposition Musculaire. Par le Dr. Alphonse Huguier, Ancien Interne Lauréat des Hôpitaux de Paris (Médaille d'Argent, 1903), Ancien Aide d'Anatomie á la Faculté de Médecine. Paris: G. Steinheil, 1905.

Although this brochure contains only 140 pages, it gives a thorough résumé of the subject treated therein. The writer first points out the advantages of the use of muscle tissue in cases of ankylosis, following this with a discussion of the indications and contraindications for this treatment. In the second part of the work he considers in separate chapters the operative technique in relation to the jaw, shoulder, elbow, wrist, hip, and knee. A bibliographical index is appended.

A Textbook on the Practice of Gynecology. By W. Easterly Ashton, M.D., LL.D. Philadelphia and London: W. B. Saunders & Co., 1905.

It has been said of late that gynecology is giving up its claim to existence as one of the specialties, and some who have been prominently identified with the subject are now undertaking to allude to themselves as "abdominal surgeons." However that may be, there is still a pretty universal desire to consider the so-called diseases of women in a group by themselves and to describe them in special works. A number of the latter have lately appeared, no doubt in answer to the proper demand. Many of these are old friends in a new dress, others are entirely new and marked by an endeavor not only to present the latest advances in the science, but also to present them in a different form. Of the latter type is the recently published book by Dr. Ashton, of Philadelphia, for which a number of original features are claimed. His book is addressed to the practitioner and the student, and nothing is taken for granted in describing gynecological disease. He not only states what should be done in every case, but gives minute and explicit directions for doing it. This makes the book unusually large and marks it as a treatise rather than a textbook. The medical and surgical aspects of gynecology are each fully considered, the subject being discussed on the basis of the author's own experience, one main plan of treatment being given and then such variations as may be required in atypical cases.

The illustrations represent a departure and deserve a word of commendation. They are 1,046 in number and very extended in scope. In each operation the various steps are separately indicated and also the necessary instruments and other paraphernalia. Half-tones from photos of actual specimens or from artistic drawings are not to be found, which is quite at variance with other recent books on medical topics where elegance seemed to be the key-note which guided the illustrator. The illustrations in this book are all line drawings made under the author's personal supervision, and most satisfactory. An anatomical basis has been adopted in arranging the work, the description of the diseases of each organ being prefaced by the methods of examination employed. This has the advantage of being much less confusing than assembling them all in a single chapter. Particular attention has been paid to certain topics which are not usually considered in works of this character, among them being very detailed accounts of operations, of the repairs of visceral injuries, of the preparation and after-treatment of patients, and of the relation of appendicitis and movable kidney to diseases of the pelvic organs.

The work is essentially a "one man" book rather than a compend, and one is not left in confusion, after consulting it on any given topic, because a multitude of views have been presented.

Tuberkulose-Arbeiten aus dem Kaiserlichen Gesundheitsamte. Heft 4. S. 203. Berlin: Julius Springer, 1905.

As the title signifies, this is a compilation of the medical reports from the various sanatoria in Germany devoted to the treatment of tuberculosis. Much valuable tabulated matter is given, and plans of the structure of various institutions are included.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Opthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to Students and Practitioners. By leading members of the Medical Profession throughout the World. Edited by A. O. G. Kelly, A.M., M.D., Philadelphia, U. S. A., with the collaboration of Wm. Osler, M.D., John H. Musser, M.D., and others. Vol. I. Fifteenth Series, 1905. Philadelphia and London: J. B. Lippincott Company, 1905.

Among the interesting original articles of this issue is one on Skin Grafting in the late treatment of severe burns involving extensive areas, by Archibald Young of Glasgow. It gives the technique quite fully, and a number of pictures in illustration. Dawbarn contributes his method of cutting off blood supply to malignant growths; Durante of extirpation of the larynx. Hibbs writes on the treatment of knee-joint disease, and Gallant on that of Glenard's disease. The "Progress of Medicine" covers the field quite thoroughly, and, taken altogether, the volume is up to the average.

Hautkrankheiten bei Stoffwechsel-anomalien. Referat erstattet dem V. Internationalen Dermatologen-Kongress in Berlin (September, 1904). Von Prof. Dr. J. Jadassohn. Direktor der Dermatologischen Universitätsklinik in Bern. Berlin: August Hirschwald, 1905.

The author has based the present brochure of 122 pages upon his thema presented at the recent Berlin Congress. To the original has been added much that was not suitable for the paper and the literature of the subject from all languages has been gone into. There are no less than 462 literary references, making an addition to a work of value which renders it practically complete for future investigators.

A System of Physiologic Therapeutics. A Practical Expositon of the Methods, other than Drug-giving, useful for the Prevention of Disease and in the Treatment of the Sick. Edited by Solomon Solis Cohen, A.M., M.D. Professor of Clinical Medicine in Jefferson Medical College; Physician to the Jefferson Medical College Hospital, and to the Philadelphia General, Jewish, and Rush Hospitals, etc. Volume XI. Serum Therapy, by Joseph McFarland, M.D. Professor of Pathology and Bacteriology in the Medico-Chirurgical College of Philadelphia. Organotherapy, by Oliver T. Osborne, A.M., M.D. Professor of Materica Medica and Therapeutics at Yale University. Radium, Thorium, and Radioactivity, by Samuel G. Tracy, B.Sc., M.D. Radiologist, New York Skin and Cancer Hospital; Assistant Neurologist, Vanderbilt Clinic, Columbia University, New York City. Counterirritation, External Applications, Bloodletting, by Frederick A. Packard, M.D. Late Physician to the Pennsylvania Hospital. An Outline of the Principles of Therapeutics with Especial Reference to Physiologic Therapeutics, by the Editor, with Addendum on *X*-Ray Therapy, and an Index-Digest of the Complete System of Eleven Volumes. Philadelphia: P. Blakiston's Son & Co., 1905.

When the therapeutic index-digest is extracted from the sum total of pages, this volume is somewhat small (255 pages). One experiences a disappointment in the exposé of the newer methods of treatment by radiant energy, etc. Coming as this subject does at the very end of the series, it would be expected that the whole therapeutic truth would be given. But the section is far from meeting these expectations. The general index is valuable for reference to all volumes, but the impression is made of too much type and paper, where space was needed for the facts of the cae to date. Serum therapy, organotherapy, counter-irritation, all come in for a fair share, and the editor himself has written a worthy chapter on the Principles of Therapeutics.

A Nurse's Guide for the Operating Room. Second Edition, Enlarged and Revised. By Nicholas Senn, M.D., Ph.D., LL.D., C.M. Professor of Surgery Rush Medical College, in affiliation with the University of Chicago; Surgeon-in-Chief, St. Joseph's Hospital; Attending Surgeon to the Presbyterian Hospital; Professional Lecturer on Military Surgery, University of Chicago; Chief of the Operating Staff with the Army in the field during the Spanish-American War; Surgeon-General of the State of Illinois. Published under the direction of the Sisters of Charity, St. Joseph's Hospital. Chicago: W. T. Keener & Co., 1905.

In this little volume will be found all the information likely to be required by the surgical nurse. There is a complete list of the various instruments, appliances, etc., required for different operations; and there are good illustrations of most of the instruments in general use.

Surface Anatomy. By T. Gillman Moorhead, M.D., M.R.C.P.I., Physician Royal City of Dublin Hospital; Late Chief Demonstrator of Anatomy and Joint-Section in Applied Anatomy, T.C.D.; Lecturer in Medicine, Royal Sciences School, T.C.D. New York, William Wood and Company, 1905.

This capital little volume on Surface Anatomy, based on the author's lectures delivered at Trinity College, Dublin, will be found of service by physicians and surgeons. The various regions of the body are systematically gone over, and, where required, illustrations are supplied. A knowledge of deep and general descriptive anatomy is implied, being essential before the facts of surface anatomy can be appreciated. The book is well printed and illustrated, readable and valuable.

# Society Reports.

## AMERICAN MEDICAL ASSOCIATION.

*Fifty-Sixth Annual Meeting, Held in Portland, Ore., July 11, 12, 13, and 14, 1905.*

(Special Report by Telegraph to the MEDICAL RECORD.)

### HOUSE OF DELEGATES.

*First Day—Monday, July 10.*

PRESIDENT, DR. JOHN H. MUSSER OF PHILADELPHIA.

THE House was called to order at eleven o'clock, an hour after the appointed time, delay being caused by late arrival of trains, and many of the delegates were still absent at roll-call.

**The President's Address.**—Dr. JOHN H. MUSSER of Philadelphia then delivered a brief address of welcome to the delegates. He referred to the great responsibility imposed upon the delegates to whom was confided the trust of caring for the material interests of the association, leaving the members in general free to devote their whole time to the scientific work of the meeting. The task was a difficult one, but the consciousness of having fulfilled the trust imposed upon them brought its own reward, sweetening their labors and compensating for many discomforts. The president, he said, stands somewhat aloof from the permanent officers of the association, representing rather the profession at large, if it were allowable to distinguish between their interests and those of the Association. He then spoke in terms of eulogy of the permanent officers, the disinterestedness of whose labors had been questioned, and insisted that there existed nowhere more high-souled honorable men, inspired by more lofty altruistic motives, than those at present laboring so earnestly for the sole good of the organization, without a thought of self. He praised especially the excellent Secretary-Editor, who, with the assistance of the board of trustees, had done, and was doing so much to elevate the American Medical Association—what the association was to-day, it was through his faithfulness to the trust imposed upon him. The speaker praised especially the sincerity of the Secretary-Editor and of the board of trustees assisting him, but remarked that with the increasing power which was being given there was also increasing responsibility. Dr. Musser then cautioned his hearers against disregarding rules in their deliberations. The emotional impulse that often tricks large assemblies of men and drives them to foolish acts should not be suffered to carry such a deliberative body as this beyond the line of calm deliberation. This very assemblage, he said, was held against the advice of the committee on meeting-places and transportation. This exemplified the point that the general body, if it accepted the reports of its committees, should act upon them and hold the committees responsible. He spoke of the opposition that had developed against certain acts of the association, and said that this organization was able to take care of itself and foster the best interests of the profession of medicine, unmoved by outside influences. The association, he held, should represent the entire profession, and not one faction or one locality. The present organization was a recent affair, and all should remember that it might not be perfect or work smoothly at first, and when there was more or less friction they must be patient. The association was under deep obligation to the former president, Dr. Billings, for bringing the plan of organization to its present state. The speaker advised adopting the suggestion of Dr. Wyeth, one of the ex-presidents, that the determination of the place of meeting and the arrangements for the meeting be under the permanent control of the House of Delegates. He urged the members to increased efforts to promote the scientific work of the profession and raise it to a higher plane of excellence, to uphold the hands of those who were laboring in the cause of higher medical education, to bring to a clear realization the ideal of interstate reciprocity in medical licensure. At the same time, the association should not forget its duties to the nation; it should give official support to the medical men of the army, navy, and marine hospital service in their efforts to improve their respective departments. Dr. Musser then closed with a few words, congratulating the association upon the prospects of a large and enthusiastic meeting. He named the usual reference committees.

**Report of the Secretary.**—In this report it was stated that there had been 4,889 new members admitted, 938 had died or resigned, leaving a net gain in membership of 3,951. Complaint was made of the dilatoriness of the secretaries of the county societies in reporting changes in membership to the secretaries of the State societies. Dr. Simmons recommended that a card index be made of all the members of the association so that information of everything of importance regarding them could be had at a moment's notice.

**Committee Reports.**—The Rush Monument Committee reported that its labors were concluded, the monument being in place and paid for. The report was accepted and the committee discharged, with thanks for the completion of its task. The Reed Memorial Committee reported progress, and was continued. The Committee on National Incorporation presented its report in pamphlet form, the conclusions of which were read by the secretary. The discussion on this report was, on motion of Dr. Foster of Pennsylvania, deferred until the arrival of the chairman, Dr. J. D. Bryant of New York.

**Section Representation.**—Dr. E. F. Wells of Illinois offered an amendment to the by-laws that each section appoint a delegate and alternate to represent it in the House of Delegates, such appointments to be made biennially, the appointees to serve for two years. He also offered an amendment that the chairman and secretary of each section should, if deemed desirable, provide for a general lecture on some topic related to the work of the section. These amendments were referred to the proper committee for consideration and report.

**Report of the Committee on Research.**—Dr. STENGEL of Philadelphia, chairman of this committee, made a brief report, in which was recommended a grant of $100 to each of three men making important scientific researches, this grant to become permanent. It was thought this moderate sum would stimulate to work of the highest order. The report of the committee was adopted, and it was moved to request the trustees to comply with the recommendation.

The call for reports of other committees found the chairmen absent or requesting more time. Several members spoke against the plan of holding special meetings on Monday, owing to the obstruction to work caused by the absence of so many delegates and chairmen of committees.

**Report of the Committee on Legislation.**—Dr. C. A. L. REED of Ohio, chairman of this committee, had sent word that he could not attend, so the report was presented in his absence by the secretary. The report dealt with methods of influencing the political leaders of whatever party might be in power, with the status of the profession in relation to the public services, with the duties to the public of physicians in private life, with the necessity of greater independence of the sanitary authorities in the Panama Canal zone, with the pure food and pure drug questions, the whisky trust, the patent medicine trust, etc. It favored all measures looking to the improvement of the naval hospitals and the betterment of the Public Health and Marine Hospital Service, and suggested an investigation by the postal authorities regarding certain alleged medical circulars sent through the mails. It noted the scarcity of medical men in the State and National legislatures, which was regarded as detrimental to the cause of public health reform. Owing to the great expense entailed by the labors of the committee, it was suggested that a Bureau of Medical Legislation be established, with permanent offices in the Association building in Chicago; this bureau could be under the immediate control and supervision of the Secretary-Editor, some person familiar with the work being employed as assistant secretary to carry

out the orders of the chief. The report was signed by Drs. Rodman, Welch, and Reed. On motion of Dr. Wells of Illinois this report was referred to the Reference Committee.

**The Report of the Committee on the Fifteenth International Congress** followed, in which the list of papers so far as yet promised was announced. Dr. Billings moved that the report be accepted, and that $100 be allowed to defray the expenses of the committee. He also moved that the association, in union with other medical organizations, present an invitation at this congress to hold the sixteenth congress in America.

**Proprietary Remedies.**—Dr. Dorsey presented a resolution offered by the Missouri State Society regarding the present status of therapeutic preparations. The resolution, after a preamble that many remedies were in use, the composition of which was known only to the manufacturers, stated that it was the sense of the House of Delegates that the use of these remedies was reprehensible, and that the advertisements of them should not be published in medical journals. Dr. Jones of California moved the adoption of this resolution. Dr. Bacon moved an amendment that it be referred to the committee which had under advisement the report of the trustees. Dr. Harris of New York, in seconding the amendment, spoke of patent medicines as distinguished from proprietary remedies, many of which, he said, were useful. Dr. Petty of Ohio feared the reference would kill the resolution. Dr. Harris thought the wording of it was bad and could be much improved.

**The Journal and Its Advertisements.**—Dr. Philip Mills Jones Editor of the *California State Journal of Medicine*, offered a motion ordering the Editor of the *Journal of the American Medical Association* to obey the resolution adopted by the Association in 1895, which resolution required that the composition and dosage of all proprietary remedies be published with the advertisement, if the latter were accepted for insertion in the *Journal*. This resolution was referred to the same committee for consideration and report at a later meeting.

*Second Day—Tuesday, July 11, 1905.*

**Report of the Trustees.**—After the reading of the minutes of the previous session, this report was presented. In it was embodied the report of the treasurer containing a full statement of the financial affairs of the Association. It was announced with regret that the effort to get new subscribers to the *Journal* by canvassing the subordinate State and county societies, was almost a complete failure.

Dr. Eugene Smith of Detroit presented a preamble and resolution adopted by the Michigan State Medical Society in which strong objection was made against the publication by the Association of a medical directory which contained the names of irregular practitioners. For this reason the Association was requested not to purchase and republish one of the medical directories now in existence in which were to be found the names of all legally licensed practitioners of every school.

**The Report of the Council on Education** was read in part. The committee did not favor the taking of a complete college course in arts by those intending to take up the study of medicine, since the time so spent added to that devoted to purely medical studies and to hospital work would occasion unnecessary and unwise delay in entering upon practical work. It was advised that after 1908 all intending medical practitioners should be required to spend five years in study in a medical school and one in hospital practice. The appointment of Dr. George W. Webster as permanent secretary to the council was recommended.

**The Senn Medal.**—The committee on award of the Senn medal then made its report, awarding the prize to Dr. John L. Yates of Chicago. The conditions of the award were that the successful competitor should be a member of the American Medical Association who had presented the best essay on some surgical subject. The medal is of gold. Last year there were no essays presented in competition for the prize.

**The Committee on National Incorporation** reported that nothing whatever had been accomplished, and that its thanks were due to Senator McComas and to Judge Ray and his son.

**The Committee on Organization** reported a successful year's work. Opposition to the plan of medical federation had been encountered in two States.

Dr. E. E. Harris of New York offered a proposed amendment to the by-laws, placing all arrangements for meetings of the Association in the hands of the board of trustees, and providing that all the expenses of the annual meetings be met by the Association.

Dr. T. J. Happel of Tennessee offered an amendment to this amendment to the effect that the transportation committee should have the power to change the place of meeting at any time prior to three months from the date already set for such meeting.

Dr. Smith of Oregon presented resolutions endorsing the appeal of the physicians of Alaska for legislation establishing a board of medical examiners in that territory.

Dr. W. H. Sanders of Alabama moved that a committee of five be appointed to examine the present method of taking the minutes of the meetings, and to make suggestions looking to an improvement in this respect.

Dr. Smith of Oregon offered a resolution that the American Medical Association should request the National Government to give all possible aid to the Public Health and Marine-Hospital Service in its work of safeguarding the health of the country and prosecuting scientific investigation.

Dr. Harris of New York asked that, until medical union had become an established fact in his State, the present arrangement of recognizing members of either State society as in good and regular standing and eligible for membership in the American Medical Association be continued.

The reference committee were called upon for reports upon the various matters which had been referred to them for consideration, but they had no reports to make.

Dr. Wells of Illinois presented a resolution from the Section on Medicine indorsing the action of the Editor of the *Journal* and of his associates in analyzing proprietary remedies. He moved that the thanks of the Association be extended to the *Ladies' Home Journal, Collier's Weekly*, and other lay periodicals which had done efficient service in exposing the falsity of the claims of patent medicine manufacturers.

**Reports of Reference Committees.**—At the afternoon session the reports of the reference committees were presented. The secretary's request for the establishment of a Section on Electrotherapeutics was approved, the trustees were congratulated upon the increasing income of the Association and their appointment of the Council on Pharmacy was commended. The preamble and resolutions of the Missouri State Medical Society and of the Section on Medicine of the American Medical Association were approved, so also was the motion of Dr. Philip Mills Jones, calling the attention of the editor of the *Journal of the American Medical Association* to the rules of the association regarding the kind of advertisements admissible to the pages of the *Journal*.

**A National Medical Directory.**—The committee advised the publication by the association of an annual directory of all licensed practitioners in the United States, the names of those who were members of the association being indicated by special type. As a basis for this publication, the purchase of one of the existing directories was recommended. This suggestion gave rise to an animated and prolonged discussion, strong objection being made to the admission of the names of any but regular practitioners, and also to the purchase of the directory mentioned.

Dr. T. J. Happel of Tennessee quieted the discussion by stating that the Board of Trustees approved of the measure as proposed in the committee's report, and endorsed the suggestion made.

The committee further aoproved the resolution urging national support of the Public Health and Marine Hospital Service, and also the appeal of Alaska for a Board of Medical Examiners. It was recommended that the effort to secure national incorporation for the association be continued.

**Bureau of Medical Legislation.**—The recommendation of the Committees on Legislation that a permanent bureau be established in the Chicago offices of the association, under the immediate control of the secretary, was adopted. The report of the Committee on Education was also endorsed.

The Committee on Scientific Exhibit made its report, showing much work done. The report was accepted with thanks to the committee and its chairman, Dr. F. B. Wynn.

Dr. A. R. Craig, chairman of the Committee on Amendments, reported as the sense of the committee that most of the proposed amendments be rejected as of minor importance, only those shown to be of absolute necessity being recommended for passage.

Dr. E. F. Wells of Illinois offered a resolution asking that such measures be taken by the officials concerned as would prevent the excessive mortality from disease in camps during war, and also provide for better and more timely care for the injured in battle.

**Honorary Members.**—A request was presented from the Section on Pathology that F. S. Lea and M. H. Fisher of California, and G. T. Kemp of Illinois, be elected to honorary membership in the association, and from the Section on Ophthalmology that Professor Hirschberg of Berlin be made an honorary member. The Section on Pathology also suggested the passage of an amendment to the by-laws, permitting members to read two papers on different subjects in different sections, if they so desired. Amendments of similar tenor were recommended by other sections.

A recommendation, made by the International Academy of Arts and Sciences at St. Louis last summer was presented. This urged that special efforts be made to instruct general practitioners and women regarding the early signs of cancer of the uterus and of the absolute necessity of recognizing the disease in its incipiency when operation offered much greater chance of success.

**Temporary Chairman of House of Delegates.**—Dr. T. J. Happel of Tennessee offered an amendment to the by-laws to the effect that the House of Delegates elect a chairman at the beginning of each day's session in order to relieve the president of the association of the burden of presiding over the deliberations.

A resolution was presented from the Section on Stomatology, opposing the appointment of contract surgeon-dentists in the United States Army.

Dr. F. H. Wiggin of New York offered his resignation as a member of the Judicial Council. The resignation was accepted.

Dr. E. E. Harris of New York offered a resolution that the medical journals of the various State societies be instructed to unite with the Association *Journal* in its efforts to promote the purity of food and drugs.

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GENERAL SESSION.

*First Day—Tuesday, July 11.*

Dr. John H. Musser of Philadelphia, President, in the Chair.

The Rev. A. A. Morrison of Portland opened the session with prayer.

**Addresses of Welcome** were made in behalf of the State by Judge M. C. George of the Circuit Court of Oregon, of the City of Portland by Mayor Henry Lane, M.D., of the State Medical Society by the President, Dr. George F. Wilson, and of the City and County Medical Society by the President, Dr H. W. Coe.

The Report of the Committee on Arrangements was presented by the chairman, Dr. K. A. J. Mackenzie. The President then introduced to the Association Dr. T. Hirschberg of Berlin, who was present as guest of the Section on Ophthalmology.

**President's Address.**—Dr. Lewis S. McMurtry of Louisville, Ky., the President-elect, was then introduced by Dr. Musser, and delivered his address. (See page ???.)

**Oration on Medicine.**—At the evening session Dr. Charles G. Stockton of Buffalo delivered this oration, taking as his subject, "The Delay of Old Age and the Alleviation of Senility." (See page ???.)

**Oration on Surgery.**—Dr. J. Collins Warren of Boston followed with this oration, taking as his subject, "The Surgeon and the Pathologist; A Plea for Reciprocity as Illustrated by the Consideration of the Classification and Treatment of Benign Tumors of the Breast." He introduced his exhaustive discussion of the diseases of the mammary gland by urging closer cooperation between the laboratory worker and the surgeon. The clinician and the laboratory man in these days of specialism seemed sometimes in danger of drifting further apart, and the author says that the moral to be read between the lines of his paper is concerned with this question and the necessity for some sort of a pathological "clearing house" to put things on a more practical basis. It was with this hope of inducing the clinician and the pathologist to unite and put the classification of the diseases of the breast on a more intelligible and practicable foundation that this field of surgery was selected for consideration in the present contribution. The material which served as a basis of this investigation included, in all, 758 cases of diseases of the breast; 658 cases were taken from the records of the Massachusetts General Hospital. The diseases of the male breast were purposely omitted from this table of cases, and of the total number of cases of diseases of the female breast 10 were omitted because of insufficient data to establish a diagnosis. Acute mammary abscess was also excluded from consideration. With these exceptions all cases of disease of the mammary gland were included which entered the Massachusetts General Hospital during the decade from 1895 to 1905. One hundred additional consecutive cases of disease of the breast had been obtained from the author's own private practice, making up the total of 758 cases of all varieties. Pathological reports were available in nearly every case, and in many instances the actual specimens could be obtained and were used for further study and for purposes of illustration. Four hundred and fifty-nine of the hospital cases and fifty-eight of the cases in private practice were cancer of the breast. These were included for purposes of comparison and in order better to establish the significant data for diagnosis. The greater part of the study, however, had been devoted to the benign diseases of the breast, 42 in private practice, 199 in the hospital series—a total of 241 cases of benign diseases of the breast. These were exclusive of reentries or of cases in which two diseases of different types occurred. As an illustration of the confusion in nomenclature, it was stated that in 199 cases of benign disease of the breast occurring in the Massachusetts General Hospital in ten years, 70 different pathological diagnoses appeared on the record books. The anatomy of the breast with especial regard to the formation of new growths was then discussed and the conclusion was reached that a consistent classification of tumors of the breast must take into consideration both the periductal fibrous tissue and the epithelium of the ducts, and the term "fibroepithelial" tumors suggested by Ribbert, best met these indications. Under fibroepithelial tumors of a fibrous character we might distinguish three divisions—the periductal fibroma, periductal myxoma, and periductal sarcoma. Those of the epithelial group could be divided into the fibrocystadenoma and the papillary cystadenoma. In the tumors of the fibrous group the fibrous tissue was the predominant feature of the tumor, epithelium being present, but playing only a subordinate part. In the epithelial group the fibrous tissue was present also, but merely in sufficient quantity as to be regarded as a stroma, the growth of epithelium

being the predominant feature of the tumor. The term hyperplasia was reserved for those diffuse changes not to be included among the tumors, and comprising such conditions as chronic cystic mastitis, diffuse hypertrophy, etc. The chronic inflammatory processes, as well as the non-indigenous tumors of the breast, were included in the table in order to round out the classification of all lesions except acute mammary abscess.

Classification of 758 Cases of Breast Tumor.

| | M.G.H. | Private Cases. | Total. | Per Cent. |
|---|---|---|---|---|
| Carcinoma | 459 | 58 | 517 | 68) |
| *Fibro-Epithelial Tumors* | | | (86) | (11) |
| (1) Fibrous type | | | (70) | (9) |
| 1. Periductal fibroma | 48 | 6 | 54 | 7 |
| 2. Periductal myxoma | 10 | 2 | 12 | 1.6 |
| 3. Periductal sarcoma | 4 | 0 | 4 | .5 |
| (2) Epithelial type (Cystadenoma) | | | (16) | (2) |
| 1. Fibrocystadenoma | 3 | 1 | 4 | .5 |
| 2. Papillary cystadenoma | 9 | 3 | 12 | 1.6 |
| *Hyperplasia* | | | | |
| 1. Diffuse hypertrophy | 2 | 0 | 2 | .2 |
| 2. Abnormal involution. (Cystic, 59) (Proliferative, 56) | 87 | 28 | 115 | 15 |
| *Chronic Inflammation* | | | (28) | (3.7) |
| 1. Eczema of nipple | 2 | 0 | 2 | .2 |
| 2. Chronic abscess | 5 | 0 | 5 | .6 |
| 3. Ductal mastitis | 3 | 0 | 3 | .3 |
| 4 Tuberculosis | 13 | 0 | 13 | 1.7 |
| 5. Single retention cyst | 5 | 0 | 5 | .6 |
| *Non-indigenous tumors* | | | (9) | (1.2) |
| 1. Sarcoma | 4 | 0 | 4 | .5 |
| 2. Lipoma | 3 | 1 | 4 | .8 |
| 3. Lymphangioma | 1 | 0 | 1 | .1 |
| *Supernumerary breast* | | 1 | 1 | .1 |
| | 658 | 100 | 758 | |

This table was followed by a second one to show the incidence of breast tumors by age decades, from which it was made apparent that the proportion of cancer to other tumors of the breast was a constantly increasing one to the end of life, for while between twenty and thirty years of age cancer occurred in only 6 per cent. of all cases, after seventy years the percentage was 100. The periductal fibromata were most numerous in the third decade, and constituted 50 per cent. of all tumors occurring at this time; the cyst adenomata also appeared in the third and fourth decades, with the majority in the latter, while the cyst adenomata belonged to a distinctly later period of life. Abnormal involution was most common in the fifth decade, the inflammatory processes, including tuberculosis, occurred especially in the early decades, while the non-indigenous sarcomata were found rather in the middle period of life. A large part of the very long address was then taken up by a detailed account of the pathological anatomy and clinical characteristics of each of the tumor types classified in the table.

The orator said he had given up exploratory puncture and incision on the anterior surface of the breast in cases of doubtful tumor on account of the uncertainty or disfigurement such procedures involved, and he described a conservative operation which he had used with good effect in seventy-four cases. The steps of this were as follows: The preliminary incision, starting at the lower border of the breast, opposite the middle of the outer, was in the lower inner quadrant, ran along the lower fold and outer margin to the inner border of the axilla, thus severing the lymphatic connections of the breast with the axillary plexus of lymph glands. The incision should be carried down to the lower border of the pectoralis major muscle, which should be freely exposed. The dissection was then carried along through the loose connective tissue which lay between the pectoral fascia and the posterior layer of the fascia in which the mammary gland lay. With the left hand the operator reflected the breast upward and inward so that the posterior surface of the gland became exposed in its entire length. The gland tissue could now be seen through the transparent fascia and easily inspected. If cysts were present they were readily observed, as the majority of them lay in the posterior portions of the gland. Usually there were one or two large cysts lying in the same quadrant. This portion could be removed by a V-shaped incision without opening the cysts. The apex of the V lay directly under the nipple in the central portion of the gland. Radiating from this point, incisions could be carried into the gland tissue in all directions, exposing and bisecting all small cysts so that no cyst, however small, remained that had not been laid open by the knife. A second V incision might occasionally be necessary, but this was rarely the case. The next step of the operation, after arresting hemorrhage from the larger vessels, was to close the V-shaped opening with two rows of catgut sutures, one along its anterior borders, and one bringing its posterior edges into contact. The gland was now released from the hand of the operator and dropped back on to the pectoral muscle, and it would be found that the various incised portions of the gland resumed their natural positions and fitted accurately together. A few sutures would be needed to arrest hemorrhage from small arteries in the gland substance, but this was not usually necessary. The gland should next be anchored to the subjacent pectoral muscle at its outer edge, and still another row of sutures was advisable to hold together the deep layers of the superficial fascia before closing the outer edges of the wound with silkworm gut. The buried sutures were useful in removing strain from the surface suture. The dressing should be applied so as to produce lateral compression of the two hemispheres, as the ordinary swathe tended to tear the buried gland sutures apart. If the breast operated on contained a benign tumor, the tumor could be removed by the V-shaped incision, the double suturing of the gland incision being carried out as before. It was better to make a clean V cut even in the cases of the periductal fibromata, as the capsule of these tumors was more closely adherent to the gland tissue than was usually represented to be the case. In case of exploratory operations for cancer the incision could be carried a little farther from the gland border if necessary and sufficiently deep to sever all lymphatic connections with the axillary lymphatics or those which ran through the pectoral muscle. The incision into the posterior surface of the gland, if cancer were found, should be closed by a single suture before proceeding with the major operation. This operation, the orator said, was attended with little risk or discomfort to the patient, who might be assured that it could be performed without a prolonged convalescence or disfigurement of any kind.

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SECTION ON MEDICINE.

*First Day—Tuesday, July 11.*

Dr. Robert C. Cabot of Boston, Chairman.

**The Incidence of Heart Disease in San Francisco.**—Dr. William Fitch Cheney of San Francisco, based the study presented in this paper upon an examination of the records of 3,648 cases seen in the clinic of the Cooper Medical College during the past five years. He concluded that disease of the heart was a very common malady in San Francisco. Among the valvular troubles the form most frequently encountered was mitral regurgitation; following this was aortic regurgitation; third in the list in point of frequency was mitral stenosis; aortic stenosis came fourth, but along way after the third, being unquestionably a rare affection, at least among the dispensary patients in that city. Myocardial disease was quite commonly met with. Its etiological factors were probably the same as those supposed to lie at the foundation of arteriosclerosis; the latter condition, indeed, was even more often seen than myocarditis.

Dr. W. Ophuls of San Francisco said that he had been struck with the large number of cases of septic endocarditis which are encountered in this city.

Dr. James J. Walsh of New York likened the valves of the heart to certain joints, and said it was his belief that the heart lesions which developed during an attack of acute articular rheumatism should be regarded not as purely rheumatic in nature but as complications of the

original disease. Many of the cases now regarded as of rheumatic origin were really, he believed, septic in character.

Dr. Charles Rollins Grandy of Norfolk, Va., said his experience among the negroes of the South had been rather contrary to the usual teaching regarding the relation of rheumatism and heart disease. In his practice among this class he had found acute rheumatism to be a comparatively rare disease, while valvular diseases of the heart were common. Mitral disease was frequently encountered in those who did severe manual labor.

**The Secret Nostrum Evil.**—Dr. Frank Billings of Chicago read a paper with this title, in which he discussed the causes and the proposed remedies for this condition. The chief and most effective remedy for secrecy manifestly was publicity. No movement ever undertaken by the American Medical Association would be so far-reaching in its effects as this one which had been started to free the profession from the blight of proprietary remedies. He urged the holding of special society meetings to enlighten the profession regarding the evils of prescribing remedies of unknown composition, and advised that no one read any medical journal which contained advertisements of such remedies.

Dr. Alfred Stengel of Pennsylvania presented the following preamble and resolution: *"Whereas,* The fact that the medical profession of the United States has too long neglected to recognize the harm to the public, to the members of the profession, and to scientific medicine from the nostrum evil; and, *Whereas,* The Board of Trustees of the American Medical Association has created a body known as the Council of Pharmacy and Chemistry to investigate and pass upon the various non-official medicinal preparations placed upon the market; be it therefore, *Resolved,* That we individually and collectively heartily indorse the action of the Board of Trustees, and earnestly urge every physician to give this effort of reform his hearty support. *Resolved,* that the reporter of this section in the House of Delegates be instructed to present these preambles and resolutions to the House of Delegates, with the recommendation of this section for its indorsement, and that a copy of the same be sent to the president and secretary of each constituent society of the American Medical Association. *Resolved,* That the Board of Trustees of the *Journal* be requested to effect the removal from its pages of all advertisements of nostrums."

The resolution was discussed by Drs. John H. Musser of Philadelphia, W. G. Moore of St. Louis, Norman Bridge of Pasadena, J. T. Priestly of Des Moines, John A. Witherspoon of Nashville, Joseph M. King of Los Angeles, A. B. Grosse of San Francisco, Thomas McCleave of Berkeley, Cal.; Charles G. Stockton of Buffalo, and Carder of Victoria.

**Effects of the Inhalation of the Fumes of Nitric Acid, with Reports of Cases.**—Drs. J. N. Hall and C. E. Cooper of Denver read a paper with this title, based upon a careful study of sixteen cases. The following were the chief symptoms noted: Dyspnea, in 100 per cent.; coughs, in 93 per cent.; pain, especially in the sides of the chest, the stomach, the lungs, the loins, and the head, in 87 per cent.; dizziness and nausea, in 73 per cent.; cough of unusual violence, in 67 per cent.; vomiting, in 53 per cent. The treatment consisted in stimulation, the administration of oxygen when indicated, atropine for the edematous infiltration, vigorous counterirritation, with eliminative and supportive measures. These procedures offered the greatest hope of success in the treatment of cases seen in the early stages.

## Section on Surgery.

*First Day Tuesday, July 11.*

Dr. Maurice H. Richardson of Boston, Chairman.

**The Chairman's Address.**—Dr. Maurice H. Richardson of Boston discussed the subject of the accidents and mistakes occurring in the practice of surgery. Such unfortunate occurrences, he said, were to some extent inevitable and were bound to happen sooner or later in the practice of every surgeon. In illustration he describes a number of instances in which he himself had, through some more or less uncontrollable circumstances, been led into error, particularly in diagnosis. It was one of the difficulties of the surgeon's position that he was held responsible for every circumstance occurring during the course of a case, and he was blamed for everything going wrong, regardless of the fact that the accident or error might have taken place in such a way as to be entirely out of his control. In speaking of the education of younger surgeons, Dr. Richardson said that he believed that the most satisfactory training was that to be received under the tutelage of some experienced operator, and he urged that recent graduates should spend a number of years assisting prominent surgeons before attempting to begin practice on their own account. This method had its drawbacks, however, and if a man stayed in a subordinate position too long he might be in danger of becoming a chronic student, and so losing confidence in himself.

**The Cure of Inguinal Hernia.**—Dr. Henry O. Marcy of Boston read a paper with this title. He first discussed the history of hernia, its anatomy, and pathology. Any study of the methods of cure of hernia, he said, must involve an analysis of the predisposing and exciting causes, and this aspect of the subject was fully discussed. Coming to the matter of operation, Dr. Marcy first outlined the indications for and limitations of operation for radical cure. The fundamental problem was the reconstruction of the inguinal canal, which must be restored to its normal obliquity. In describing the details of operative technique special stress was laid on the methods of suture and the suture material, the closure of and sealing of wounds without drainage, the subsequent care of hernia patients, and the results obtained by the modern operations for radical cure.

**Fibroid Growths of the Abdominal Wall.**—Dr. Charles A. Powers of Denver in speaking of these so-called dermoid tumors referred first to their infrequency. He stated that they generally occurred in women from twenty-five to thirty-five years old, who had recently been pregnant. The growths were most often found in the region of the right rectus muscle below the umbilicus. He then discussed in detail their etiology form, size, development, pathology, and course. The symptoms, diagnosis of such conditions, and the management of the patients were then described, and Dr. Powers gave his views in the immediate and remote results of operations undertaken for their relief. Post-operative hernia and recurrence of the growths were stated to be serious considerations in deciding on the plan of treatment, and the speaker closed by giving a review of the literature of the subject, and by describing his own cases.

Dr. Robert F. Weir of New York reported having seen two cases similar to those referred to by Dr. Powers.

Dr. Rixford of San Francisco and Dr. C. Glennon of Baltimore also each reported a case of the same sort, and Dr. Connell of Fond du Lac said that he had seen two cases.

Dr. Willoughby of Los Angeles, Dr. Fulton of Astoria, and Dr. L. L. McArthur of Chicago also joined in the discussion and said that the cases reported illustrated the difficulties of diagnosis very forcibly.

The chairman, Dr. Maurice H. Richardson of Boston referred to the use of Dr. Coley's serum in such cases, and said that he had seen considerable benefit result from this treatment.

In closing the discussion, Dr. Powers said that he agreed with Dr. Richardson in regard to the value of Dr. Coley's treatment for such conditions.

**Splanchnoptosis from a Surgical Standpoint.**—Dr. Jas. E. Moore of Minneapolis read a paper on this subject in which he first referred to the many branches of medicine under which this disease might be considered. It might

be claimed as coming under the jurisdiction of several subdivisions of medical practice, but certainly surgical intervention should not be resorted to until intelligent medical treatment had been given a thorough trial, and found unavailing. He then described in detail various operative procedures by means of which he had been able to derive benefit, but he said that surgery should not be held out to these patients as a panacea because there was always a possibility that neurasthenia might persist even after its underlying mechanical defects had been repaired. Some patients were very undesirable because of the extremely stormy convalescence they made, but the immediate prognosis was good. Dr. Moore said, however, that his experience as to end results was too limited to permit him to draw very definite conclusions as to the ultimate fate of these patients.

Dr. Coffey of Oregon then showed a number of illustrations demonstrating what he had accomplished by his work along this line, one of the most important depicting the various methods in which the abdominal organs were suspended.

Dr. A. E. Gallant of New York spoke against the operative treatment of these cases, and argued in favor of postural methods. He also described a specially designed corset by means of which he had found it possible to give relief in many of these cases.

Dr. B. B. Davis of Omaha reported both good and bad results from such operations. In closing the discussion Dr. Moore said that there was not a single case on record in which it had been shown that prolapse of the liver had been caused by traumatism.

**The Early Diagnosis of Gastric Ulcer.**—Dr. H. D. Niles of Salt Lake City read a paper on this subject. He first took up the different symptoms of the affection and analyzed them according to their relative frequency. He then discussed the question of the differential diagnosis of gastric ulcer from other gastric disorders, and advised careful study and grouping of the symptoms before making a positive diagnosis and deciding on exploratory incision.

**Clinical Experiences with the Use of the McGraw Elastic Ligatnre.**—Dr. A. J. Ochsner of Chicago, in his paper on this subject, first described in detail the various steps of the operation as he ordinarily performed it. He then gave the results he had obtained by the procedure in several cases.

**Ulcer of the Stomach and the First Portion of the Duodenum with Special Reference to the Operative Treatment.**—Dr. W. J. Mayo of Rochester, Minnesota, presented an exhaustive paper with this title in which he discussed the subject from the standpoint of the operating surgeon. The first part of the paper was taken up with a discussion of the post-mortem records of gastric ulcer together with the results of the various operative procedures employed for its cure. In the clinical section of the communication he then said that two varieties of gastric ulcer might be described, the medical and the surgical, and these belonged in the province of either the physician or the surgeon. The paper closed with a detailed account of the operation of gastrojejunostomy.

The discussion that followed these papers was very animated, and Dr. Pantzer of Cincinnati said that while he admitted that the various operative procedures proposed had their indications in some cases, they were also open to serious objections, several of which he pointed out.

Dr. A. P. Francine of Philadelphia read a long list of statistics gathered principally from the records of Philadelphia hospitals and bearing on the subject of gastric ulcer.

Dr. George Goodhue of Dayton, Ohio, spoke in favor of Dr. Ochsner's method and called attention to several important advantages which procedure along these lines offered.

Dr. J. H. Carstens of Detroit spoke of the technical difficulties involved in many of these very complicated operations, and said that in order to understand such a manipulation it was essential to see it actually performed, for simply reading a printed description was wholly inadequate.

Dr. Smith of Portland, in speaking of the surgical treatment of those cases, called special attention to the Finney operation, which he said possessed numerous advantages. He also praised the Moynihan operation.

Dr. Mayo closed the discussion by speaking of the advantages and disadvantages of the Finney operation, and he also expressed himself as being much interested by the statistics gathered by Dr. Francine.

**Acid Intoxication and Late Poisonous Effects of Anesthetics.**—Dr. A. D. Bevan of Chicago, in a communication with this title, called particular attention to the effect of chloroform, used as an anesthetic, on the liver. In some instances this was exceedingly deleterious and was a not infrequent cause of death some days after anesthesia. Pathologically considered the condition was as definite an entity as acute pancreatitis or phosphorus poisoning.

Dr. Herbert C. Moffett of San Francisco said that he agreed with the views expressed by Dr. Bevan, and gave the details of six cases which he believed had died from the effects of the chloroform used as anesthetic.

Dr. Harry M. Sherman of San Francisco also referred to some cases illustrating the contentions made by Dr. Bevan.

Dr. Woods Hutchinson of Portland said that he felt that Dr. Bevan's paper would be a great aid in assisting toward the development of the new view regarding the functions of the liver.

Dr. Binswanger of Portland stated that while in the main he agreed with Dr. Bevan, yet he took issue with him in regard to the statement to the effect that the toxins found in the blood were not an essential feature of the clinical picture. On the contrary, he claimed that they were of the greatest importance, especially in such diseases as diabetes.

Dr. A. K. Steele of Chicago reported a case which he considered as being confirmatory of the statements made in Dr. Bevan's paper.

Dr. Bevan, in closing, said that he agreed with Dr. Binswanger's views on the toxins of the blood.

**Perforations in Typhoid Fever.**—Dr. Richard H. Harte of Philadelphia spoke on this complication, which he considered one of the most important features in the management of typhoid fever. He reported a number of cases, which were cited in support of his contention that taken in time perforations were susceptible of cure by surgical intervention. He therefore urged that the condition should be considered as a surgical one, and that surgeons should be called in earlier by medical men to see cases of typhoid fever.

Dr. Lawrence Litchfield of Pittsburg, in discussing this paper, asked Dr. Harte whether he advocated local or general anesthesia or the procedure of choice in operating on these cases. He also asked what had been Dr. Harte's experience as to the value of blood counts and blood pressure determinations as means of diagnosis.

Dr. Chas. A. Powers of Denver expressed himself as entirely in accord with the speaker's views and commented on the excellent results obtained by Dr. Harte in this line of work.

Dr. Manges of New York called attention to the importance of a fall in temperature and increase in perspiration as diagnostic signs in determining the occurrence of perforation.

Dr. Harte, in closing, stated that in reply to Dr. Litchfield's inquiry he would say that he preferred general anesthesia for these operations, and that he had had no experience on the question of blood pressure.

(*To be continued.*)

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**Doyeris Cancer Sernm** possesses no curative virtues, according to the report of a committee of a French Surgical Society, which has been conducting an investigation into its merits.

## THE NEW YORK COUNTY MEDICAL ASSOCIATION.

*Stated Meeting, May 15, 1905.*

THE PRESIDENT, DR. FRANCIS J. QUINLAN, IN THE CHAIR.

**Memorial to Patrick J. Lynch, M. D.**—By Dr. FREDERICK P. HAMMOND.

**The Need of Sexual Education.**—Dr. EDWARD L. KEYES, JR., after calling attention to the frequency of syphilitic and gonorrheal infection, and emphasizing the baneful effects of those diseases, said that the promiscuous sexual congress to which they could usually be traced was largely the result of that old fable about the adult male needing intercourse for his health. Dr. Keyes said he considered promiscuous intercourse was largely a matter of habit, like smoking or drinking, though far easier to begin and far harder to break. The important point was to prevent, if possible, the young man's initial debauch, but how could this be done? One could not teach a boy morals out of a book; he would take it into a corner and make fun of it with his friends. One could not teach him out of the mouth of a woman; his innate sense of decency rebelled at that. One could not lie to him; he would find the lie out. One could not scare him much; he would not stay scared. On the other hand, one could appeal to his manliness, to his inborn sense of decency, to his sense of physical cleanliness or of religion. The appeal had to be made with authority and dignity. It should be directed, as far as possible, to that particular boy rather than to boys in general. This was only one side of the vast subject which the Society of Sanitary and Moral Prophylaxis aimed to attack. Its object was to clear up ignorance of every shade; the ignorance of the prostitute who hoped to rid herself of venereal disease by intercourse with a virgin, as well as the ignorance of the young lad who knew not how to interpret the first stirrings of sexual life; the ignorance of the man who thought he could marry within one year of his chance, as well as the ignorance of the boy who looked forward to his first gonorrhea as the portal to true manhood. The time was ripe for these things. Twenty years ago the discussion of matters sexual was considered too filthy for a medical society; to-day even the laity could take part in such discussions with a clean, intelligent interest. The clergy of every denomination were in sympathy with the movement, but it was for the medical profession to take the lead. As it was the triumph of the eighteenth century to make seduction unfashionable, and of the nineteenth to frown upon drunkenness, so it might become the glory of the twentieth to make the law of public opinion the same for man as for woman.

**Social Prophylaxis and the Medical Profession.**—Dr. PRINCE A. MORROW said he had been asked to present some observations on the character and scope of the work undertaken by the Society of Sanitary and Moral Prophylaxis, which was recently organized in this city. The object of that society, as set forth in its constitution, was the study and application of every means, sanitary, moral, and administrative, which promised to be most effective in limiting the spread of diseases growing out of the social evil. The motive for this organization lay in the fact that there existed a large and important class of diseases which constituted a grave danger to the public health, a serious menace to the health and productive energy of the family, and a powerful factor in the depopulation and degeneration of the race; furthermore, these diseases were eminently contagious, and yet entirely exempt from any semblance of sanitary control, and their existence even was ignored by those officially charged with the care of the health of the people. Venereal infection was the cause, direct or indirect, of fully one-eighth of all diseases which afflicted humanity; it invaded the domain of almost every branch of pathology; it furnished a large contingent of morbidity in the practice of the surgeon, the neurologist, the gynecologist, and the specialist in diseases of the eye, nose, throat, and other organs. Ninety per cent. of all cases of locomotor ataxia; more than 75 per cent. of all ocular paralyses; a large percentage of all cases of iritis, choroiditis and retinitis; a large but indeterminate proportion of general paralysis, paraplegia, and hemiplegia, to say nothing of lesions of the heart, liver, kidneys, and other organs, were attributable to syphilis. The disease was responsible for 48 per cent. of all abortions, and from 60 to 86 per cent. of syphilitic children dead *in utero* or shortly after birth. The pathological liabilities of gonococcus infection were scarcely less formidable. Dr. Morrow said it would be admitted that the problem of prevention was especially difficult from the exceedingly complicated character of the etiological factors. Moral and socio-economic, as well as pathological conditions, were involved. It could not be treated as a purely sanitary problem, since many of the etiological conditions lay entirely without the sphere of sanitary control. This fact, however, did not constitute a valid argument for a continuance of the present policy of entire official neglect. The evil was composite in its causes, and to correct it successfully it was necessary to have the cooperative support of the different social groups which worked for the improvement of social conditions. The Society, therefore, was intended to be composite in character, embracing in its membership medical men, representatives of the clergy, the law, public educators, sociologists, and all public-spirited citizens interested in the social welfare. Whatever might be the ultimate expansion of the Society's work, it was proposed that it should begin along the lines of education and treatment. It was generally recognized that universal elementary instruction was the most valuable of all agencies in the prevention of disease, and especially of those diseases whose causes came within the control of the individual. The prevention of venereal disease was largely a matter of personal hygiene, but it was not to be assumed that environmental conditions did not play an important rôle in their causation. The best prophylaxis was to prevent the exposure of the healthy to infection, and since the incidence of these diseases fell most heavily upon the young, elementary instruction should be particularly addressed to the rising generation. The next prophylactic indication was to prevent those infected from infecting others. In organizing a campaign of education, it was evident that physicians had to be the chief purveyors of this knowledge to the public, and in that connection it might be pertinent to inquire how thoroughly the rank and file of the profession were equipped for this educational work. In general, it might be said that popular conceptions of disease were but the reflected opinions of the medical profession. Many of the views of the laity upon venereal diseases were but the discarded opinions of the medical profession. Such, for example, was the idea, almost universally prevalent, that sexual indulgence was a physical necessity for men. Another popular error was the ignorant contempt of the danger of venereal infection. A most dangerous popular belief was that the treatment of venereal diseases required no special medical knowledge or skill; hence patients had no hesitation in entrusting their cases to the apothecary's clerk, the ignorant quack, or the merest tyro in medicine. The idea that only a modicum of medical knowledge was required for the management of venereal diseases might be traced back to its legitimate source in the low standard set by our medical schools in not demanding a knowledge of those diseases as a condition of graduation. Venereology had always occupied a subordinate position in the system of medical instruction, and even at the present day, when medical education was planned on a broader and more complete basis and a higher standard of attainments was required, it was questionable whether those diseases received the recognition their superior importance demanded.

DR. EGBERT H. GRANDIN said that while preventive medicine had made surprising advances during the past quarter century, it remained for the Society of Sanitary and Moral Prophylaxis, founded by Dr. Morrow, to impress

upon the medical profession that it had yet to fight the worst of all the scourges to which humanity was subject. It had been shown that yellow fever could be practically stamped out in localities where it had been endemic for centuries; diphtheria had lost its terrors, and the battle was on against the great white plague; yet it remained for this Society to grapple with a greater problem still, and that was the destruction of the gonococcus. Syphilis was curable, but when once the gonococcus had extended beyond the internal os of the woman, she could not be cured, so far as our present knowledge went. Dr. Grandin said that sixty-six and two-thirds per cent. of his operative work would not exist were it not for the gonococcus. Recently a great deal had been written and said on the subject of race suicide; men, it was claimed, were unwilling to procreate, and women were unwilling to bear. This was only a minor phase of the subject. The chief phase was the prevalence of gonorrheal infection. The community at large had always been kept in ignorance in regard to the importance of this subject. Sexual matters had been tabooed; gonorrhea and syphilis had been styled "private diseases" instead of foul and loathsome diseases. The fathers and mothers should first be instructed on this subject, and they, in their turn, should impart the knowledge to their children. The physician could not find a more appropriate place to begin this crusade of education than his own family. The father should instruct the boys regarding the use and misuse of the general organs; the mother, the girls. The community should be put on its guard against the men who carried these infections, and who were just as guilty and even more dangerous than the female prostitute, toward whom alone, from time immemorial, the finger of scorn had been pointed.

The Rev. Father Lavelle, Vicar-General of the Archdiocese of New York, said he was heartily in accord with the work undertaken by the Society of Sanitary and Moral Prophylaxis. In the Catholic Church the confessional brought the clergy in very close personal relation to the people, and exerted a powerful influence as a deterrent of crime. In the church with which he was connected no public instruction on sexual questions had ever been given, the idea having generally prevailed, perhaps erroneously, that such teaching would prove injurious rather than beneficial. Personally, he had been ignorant of the extent of the class of diseases under discussion; their remarkable prevalence and serious consequences were a revelation to him, and would influence his conduct in dealing with the subject in future.

Dr. Herman G. Klotz said that in his practice he had long ago become conscious of how much mischief and misery was caused by the fact that public opinion and human society ignored and refused to recognize the existence of the venereal diseases. The work of the Society founded by Dr. Morrow would necessarily be difficult, and its progress slow. The medical profession could do much to aid it and further its purposes. A very easy way to do this was to become a member of the Society, and take an active part in its work. The most important part that the medical profession could take in the combat against the venereal diseases would consist for a long time in the rapid and safe removal of all direct sources of infection by intelligent and conscientious treatment. In dealing with this class of diseases, the physician should not make light of them, nor, on the contrary, should he paint them in too dark colors. If, on the one hand, he treated them too lightly, the patient would do likewise; if, on the other hand, he treated them too seriously, the patient might become unnecessarily frightened, or consider that the importance of his trouble was exaggerated, and either neglect himself or turn to quacks. Another way in which the medical profession could promote the Society's purposes would be by influencing the administrative bodies of the private hospitals to provide accommodation for patients of both sexes affected with venereal disease. Only a few hospital beds were now available for this class of patients, and even those few were unsuitable for the majority of the patients who would appreciate them most. Special hospitals would not be advisable, on account of the unavoidable stigma that would cling to their inmates. Dr. Klotz said he was not at present in favor of the proposition of having venereal diseases reported to the health authorities, as he did not believe that such a measure would accomplish any good. It would drive patients into the hands of quacks and incompetent advisers, with disastrous results. And even if they were reported, what could the public health authorities do? It would be practically impossible to enforce isolation or quarantine in a class of diseases which, even if they could be cured, lasted often for years and perhaps a lifetime. Another effective bar to isolation would be that no island was large enough and no country wide enough to accommodate them all.

Dr. L. E. La Fétra called attention to the prevalence of gonorrhea and syphilis among children, who acquired these diseases innocently. At the Vanderbilt Clinic, where about 3,000 new patients were seen yearly, from six to ten per cent. were syphilitic patients, while from one to two per cent. suffered from gonorrheal infection, exclusive of gonorrheal infection of the eye. The speaker said he found it necessary to establish a special section in his clinic for the treatment of gonorrheal vaginitis in children. The hotbeds of this disease, which was very intractable to treatment, were the day nurseries. The disease was very contagious, traveling from one bed to another one scarcely knew how. The most important factor in the prophylaxis of the venereal diseases was the education of the parents and children. Boys and girls were naturally good; if they could be taught early in life something about sexual physiology, then the curiosity that often led them astray would be done away with. If they did not get this information from proper sources, they would get it from improper ones.

Dr. L. Bolton Bangs said the subject under discussion was such a complicated one that it was difficult to make any suggestions as to how an educational crusade should be carried out. The freedom with which the subject had been presented for discussion was certainly gratifying, and showed a wonderful and healthy advance in our ideas on sexual education. It would be difficult to overcome the ignorance of the illiterate, and the prejudice of those who still wallowed in the traditions of olden times. Each class would have to be educated along different lines, and in this work the physician could take an important part, although in so doing he would undermine, to a certain extent, his own occupation.

Dr. Edward L. Keyes said that when Dr. Morrow recently approached him regarding the formation of a society for sanitary and moral prophylaxis, he felt exceedingly skeptical about it, and to a certain extent he still felt so. The proposition was very far-reaching, and entirely at variance with our ideas of the control of other contagious diseases. Diphtheria, scarlet fever, etc., were usually acquired without any voluntary act on the part of the recipient, and were not the result of a natural sexual prompting, as was largely the case with the venereal diseases. The speaker said he was in favor of educating boys and girls along these lines. They would certainly acquire the knowledge somewhere and somehow, and it was better that they should get it from proper sources and in a proper way. Dr. Keyes said that at a recent meeting of the Society of Sanitary and Moral Prophylaxis, he had read a paper upon the subject of the sexual necessity, and he was absolutely, positively, and honestly convinced that sexual exercise was no more of a necessity for the male than for the female. No one would uphold that sexual exercise was necessary for the female, and the same could be applied to the male. The work undertaken by the Society was certainly in the right direction, and every honest and self-respecting citizen would lend his influence towards its furtherance.

Mr. Champe S. Andrews, of counsel for the Medical

Society of the County of New York, said there were many charlatans still unconvicted in this city who, through their misleading newspaper advertisements, their false methods of diagnosis, and their keeping alive and even aggravating certain symptoms, were extorting large sums of money from patients suffering from venereal diseases. Some of the more reputable newspapers and magazines now refused the advertisements of these quacks, and were even exposing their methods. Mr. Andrews said he hoped the Society, along with the rest of the work it had in view, would succeed in having a bill passed in the State of New York similar to one enacted in Michigan forbidding the newspapers to publish advertisements of this character.

Dr. Andrew H. Smith said the freedom with which this subject had been discussed was a very hopeful sign. It had formerly been surrounded by too much secrecy and mystery, which was unfortunate and should be entirely done away with.

Dr. Boleslaw Lapowski wished to emphasize the fact that gonorrhea in the male was not always a curable disease.

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## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Stated Meeting, Held May 22, 1905.*

Dr. Henry S. Stearns in the Chair.

**The Treatment of Diarrhea in Children.**—Dr. Joseph E. Winters read this paper. He said that diarrhea in children was the result of mismanagement in feeding and was a frequent cause of death, especially among young children, and it was infamous and iniquitous that such should be the case. In treating such diarrhea there were two indications, namely, removal of the cause and food adapted to the condition. Fermenting food was, as a rule, the cause of the diarrhea, and its removal was necessary. There were numerous folds in the intestines for the purpose of impeding the progression or propulsion of the food, and this made it more difficult to drive out the irritating material, such as cow's milk curds, sour milk, sausages, cheese, sauerkraut, etc., entrapped by these folds. After thrusting out the irritating material then the parts must have a period of rest, and this rest must be unquestioned and should be had until fermentation ceased to injure the irritated membrane, and all the valvular pockets healed. It was a prerequisite that during this period of transition, or period of probation, nothing be allowed to pass through the digestive tract but water; while there was any trace of disturbance food was like striking a match on a powder magazine. Castor oil was needed to get rid of the offending material. Not infrequently the irritating mass was incarcerated in a pocket, and sometimes, therefore, opium was indispensable. After the detergent action of the castor oil at the end of twenty-four hours only water should be given. Feeding while the disorder lingered was a fatal error. When there was a high temperature cold water was very grateful and was of therapeutic value. If hot water was given from a dropper, three or four drops at a time on the tongue, it would show almost a magical effect in checking vomiting. The food when about to be given must be modified and weakened; that is, the food that would be physiologically adapted for a well child of the same age must be weakened. The giving of barley water and dextrinized cereals was bad. Proteid excess was a peril to the child in summer. After clearing out the bowel with castor oil milk with its proteid content minimized was the only sure, safe, and unfailing recourse for children under one year. With regard to irrigations, he said they were overrated in the treatment of diarrhea in children. Repeated irrigations were exhausting and seldom advisable.

Dr. Arthur V. Meigs of Philadelphia opened the discussion and said that the management of diarrhea in young infants should be dietetic, for infants who nursed seldom had diarrhea; therefore, it seemed to him to indicate that the disease was largely a preventable one by the proper management of the diet. Imitating the human milk had accomplished much good. He agreed with Dr. Winters that when young infants were taken sick it was desirable to dilute the proteids, and at the same time all the other constituents of the milk should be diluted. The important thing to do was to give the infant that which was known to be the most digestible food, and a single article of diet, one that could be depended upon, was milk. It was a mistake, in his opinion, to give a child suffering from diarrhea anything except milk and, under ordinary circumstances, diluted. The cereals were poor substitutes for milk under any circumstances. Milk, the most digestible food and the only known perfect food, contained all the solids necessary for nutrition, and it did not seem to him necessary to attempt to withdraw them. Diluted milk was the sheet anchor in children suffering from diarrhea. With regard to the therapeutic management of diarrhea, particularly in young infants, he could not say how it was possible to make any distinction in the treatment when there was some irritating material in the bowel which required to be removed by purgatives. If castor oil was to be used it should be with judgment, because often this agent added fuel to the flame and had a deleterious effect unless rightly used. He preferred relying upon opium and astringents more than upon purgatives.

Dr. William H. Wells of Philadelphia did not believe that any food should be given children with diarrhea when there were acute symptoms of dyspepsia or indigestion present. He said he had had good results from a limited flushing of the intestines with the so-called normal salt solution, but he did not believe in the continuous irrigation of the intestines for long periods of time. He had been in the habit of giving castor oil as a purgative and in the dose recommended by Dr. Winters. He had also used calomel with good effect. During the early part of the attack he did not use opium, but during the later stages with stools containing mucus and blood the giving of opium would produce good results. Hypodermoclysis in many cases would save lives. He did not believe in giving large quantities of water by the mouth. He did not believe in giving cereals to children under nine months of age. Egg water and animal products in many instances were of value, but should not be too long continued. He had had good results from both the sweetened and unsweetened condensed milk.

Dr. A. D. Blackader of Montreal was unable to be present, but his paper was read by the secretary. He said that cereals could not be digested by very young children and, therefore, should not be given. When young children were afflicted with diarrhea only pure water should be given by mouth.

Dr. E. M. Buckingham of Boston said he felt that it was audacity on his part to appear before the Society to discuss the papers because he was not in accord with the gentlemen in New York on this subject. Anatomists and physiologists had taught that a child's muscles and glandular apparatus were weak, and this was one explanation why mother's milk agreed with these infants better than anything else in the way of food; if substitution was to be had for mother's milk the milk of some other animal should be given. A modified cow's milk made the nearest approach to human milk. It should be remembered that too much fat would do as much harm as too much proteid, a fact not always appreciated by pediatricists. Cereals might be used as food or as a drug. If children were fed with cereals, starch would appear in the feces, made manifest by the reaction when iodine was added, forming the blue iodide of starch. Starch was not fully digested until the child was at least one year old. What was done in the test tube was unreliable for comparison with the changes that occurred in the intestinal tract because there was no secreting surface, or any absorbing power, etc. It was astonishing how long children could go without food. In

the commencement of an attack of diarrhea it was his habit to empty the bowel at once with some oil or with calomel. It was very desirable that water should be given by the nursing bottle. If the intestines were much irritated opium in some form should be administered. He could see no value in the giving of irrigations except when used as an ordinary injection to clean out the lower bowel.

Dr. John Lovett Morse of Boston said that two years ago at the meeting of the American Medical Association he gave his opinion on this subject and had seen no reason to change it since. There were two classes of diarrhea in children, those that were bacterial and those that were not. Those that were not due to bacteria were due to causes which acted through the nervous system, such as cold, vertigo, improper food, etc., and were easily treated by the removal of the cause. The vast majority of the cases of diarrhea occurring in children were due to bacteria. The most important part of the treatment of acute diarrhea in infancy was to provide pure and fresh milk, and there would result no harm if the milk was pasteurized. As a rule the treatment of diarrhea could be divided into four stages, as follows: (1) purgation; (2) starvation; (3) feeding; and (4) drugs. The best purgative was castor oil and the next best was calomel. While it was well to wash out the stomach in the beginning, especially if vomiting was present, it was also wise to irrigate the colon once. After purgation there should be a period of starvation, but the baby should have as much water as it was accustomed to take under normal conditions, if not more. The object of this starvation was to starve out the bacteria. Personally he believed that in the majority of the cases, especially the severe cases, it was better not to begin feeding with milk, but with some substituted food. He divided the bacteria which caused diarrhea into two classes, first, those which grew on proteid foods and, second, those which grew on carbohydrates. If the stools were sour it showed the bacteria were growing on carbohydrates; if foul, the bacteria were growing on proteids. Therefore, if the stools were foul, administer carbohydrates; if sour, administer proteids. He did not believe in abstaining from food until the baby was well. In all cases the fat should be kept low. In cases of ileocolitis one should give a food that had as little residue as possible, and this was an argument against employing milk as a food under such conditions. Give whey which was absorbed high up. Opium should never be used in acute diarrhea in infancy unless there were such a large number of stools that were wearing on the child's strength. In cases of severe diarrhea serious results might happen in one of the following four ways: (1) excessive vomiting; (2) hyperpyrexia; (3) marked nervous symptoms; and (4) collapse. The elimination of the toxins might be aided by the subcutaneous employment of salt solution. Excessive vomiting might be treated by washing out of the stomach. Treat the hyperpyrexia with cold and the nervous symptoms by morphine. Collapse should be treated by stimulation and the atropia subcutaneously.

Dr. R. C. Newton of Montclair said that the nearer the baby was to the cow, when mother's milk was not to be had, the less danger was there of diarrhea happening, and in the country a fatal case of diarrhea was practically never met with. Cases in the country could not be compared with those met with in the cities, because of more sunlight, fresh air, and freedom from excitement and other disturbing influences.

Dr. John Dorning said that more could be done for these cases of diarrhea occurring in infants and young children in the first twelve hours than during the next twelve days. The bowels should be cleared out with castor oil or small doses of calomel. Absolute starvation was necessary, in his opinion, to save these children. He approved the administration of water. A child at the fourth month could digest a moderate amount of starch. During the last part of the year dextrinized starch was of value. He said that more attention should be paid to the baby, and the baby studied more carefully. What was one baby's food was another baby's poison. He did not use opiates at present. The one remedy of great value was bismuth subnitrate in large doses. A three-months-old baby could take five to ten grains; this should be repeated every three or four hours, with good results. Irrigations, he believed, had been greatly overdone. Cleanliness was very important. The value of fresh air in these diarrheas was very great.

Dr. Floyd W. Crandall referred to the adverse opinions of the gentlemen who had so far spoken in regard to the treatment of diarrheas in infants and young children. He believed that all milk should be stopped and the baby starved to a certain extent, giving barley-water. If plenty of fluid be given a baby the child could go without any food for a long time. He used dextrinized cereals. A baby with diarrhea should not be given milk. A patient with typhoid fever or appendicitis would not care to take the food, such as potatoes, beefsteaks, etc., that he was accustomed to in health; neither would a baby care to take milk when sick. In the treatment of these diarrheas it was very necessary, if a successful outcome was to be had, to begin the treatment early.

Dr. Walter Lester Carr referred to the statistics of 1903 showing the marked difference in the mortality rate among babies who were breast fed and those who were bottle fed with starchy foods, etc. He thought that all would agree that the great object to be obtained was to get a milk, or prepare the milk, in such a way that the baby could care for it.

Dr. J. Milton Mabbett referred to the conflicting views that had been expressed on the treatment of diarrheas in children and young infants.

Dr. Winters closed the discussion, and said, regarding the use of cereals, that all would arrive at the same results except that he used water with a large proportion of lime water. The laboratory results showed a slight curd when lime water was mixed with milk and the cereal. All knew the effects of lime water in causing light, loose, floculent curds. He did not mean to say that milk was harmful during the second year, but that milk with large proteid content could not be introduced without disturbing the digestive tract. Again these infants should have as much lime water as possible. What he knew regarding the proteid content of milk and the use of lime water he said he had gained from reading the letters of Dr. Meigs of Philadelphia. The fact taught by Dr. Meigs that milk contained one per cent. of proteid had been his guide in the feeding of infants, sick or well.

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**Congenital Ulcer of Stomach, with Report of a Case.**—J. N. Hall and Thos. H. Hawkins report this interesting case. The patient was a baby girl sixty-seven hours old, well developed and of normal appearance at birth, excepting for a moderate pallor. The delivery had been normal. Within twelve hours after birth fluid regurgitated from the stomach and excoriated the right cheek and ear over which it flowed, so that they were covered on the second day with an almost continuous scab. There was no bile in this fluid. It was strongly acid to litmus paper. There was much black vomitus during the first four days. About forty-eight hours after birth a drachm or more of pure, bright red blood was thrown up from the stomach. During the second forty-eight hours this occurred on five other occasions. From the first the stools were black and tarry, evidently from old blood clots. It seems evident that hemorrhage had occurred in the alimentary tract before birth. The temperature was subnormal, the pulse was very weak, and collapse was severe. Although the abdomen was rather rigid, no especially tender point was found. The diagnosis of ulcer of the stomach was made. Treatment consisted of half-grain doses of bicarbonate of sodium with bismuth every hour. Soda was also given in the drinking water and lime water in the milk. Upon the occurrence of bleeding doses of 1/10 minim of 1:1000 solution of adrenalin were given every fifteen minutes. No hemorrhage occurred after the sixth day, and the baby is now entirely well and normal. The prognosis in such cases seems to be better in children than in adults.—*Denver Medical Times.*

# Medical Items.

**Contagious Diseases—Weekly Statement.**— Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending July 8, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 447 | 16 |
| Diphtheria and Croup | 261 | 20 |
| Scarlet Fever | 74 | ..... |
| Smallpox | ..... | ..... |
| Chickenpox | 24 | ..... |
| Tuberculosis | 305 | 167 |
| Typhoid Fever | 59 | 13 |
| Cerebrospinal Meningitis | 27 | 29 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | ..... |
| Totals | 1,187 | 245 |

**Cessation of Epilepsy Consequent on Removal of Adenoids.**—St. Clair Thomson reports this case. The patient was a girl six years old, who had been subject to fits for two years. The child had a marked adenoid facies. She was deaf, so that whispered speech was heard only at a distance of two yards. The membranæ tympani were very translucent; they were only slightly retracted, and the pink injection of the inner tympanic wall was easily visible, shining through the drum membrane. The writer notes that in children this appearance is very characteristic of eustachian and middle-ear catarrh from adenoids. With digital examination these growths were found to be plentiful in this case. There were no palatine tonsils present. The writer removed a large mass of adenoids. Within two weeks the patient had ceased to be a mouth breather. The membranæ tympani no longer looked pink, and the child heard a whisper at four yards. She was much brighter and slept quietly, but the fits continued. It was not till four years later that the writer heard again from the parents of the child. They reported that the fits had ceased within a few months of the operation and had not recurred. Her weight is sixteen pounds above the average. She has no trace of adenoids and her hearing is perfect. There is no marked arching of the hard palate. She is now nearly thirteen years of age and has had no fits for seven years. Although the writer does not claim that the patient is permanently exempt from recurrence, since relapse is said to occur after the lapse of nine years, especially at the onset of puberty, still he declares that the relief seems fairly attributable to operation. The improvement that it has wrought in the child's appearance and in her general physical and mental well-being cannot be doubted.—*The Practitioner.*

**A Possible Mode of Action of the X-Ray Upon Cancerous Growths.**—William Clifton Lyle believes that while it is possible, and, in fact, probable that there is an electrolytic action present in the use of the *x*-ray, it is a purely chemical one that exerts a curative effect. He gives as his reason for this belief the fact that there is nothing in the pathological conditions present in these growths of a malignant character to discredit an opinion that some biochemical process may be the principal factor in their etiology; and if so, any chemical measure that would tend to neutralize this action or restore proper function, would of itself effect a cure. He has observed that after a few *x*-ray exposures of such growths, even where the integument was intact, there was a more or less profuse exudate of a clear, transparent, lemon yellow fluid of a specific gravity of about 1.060, with distinctly alkaline reaction; so strongly alkaline, indeed, as to act as a caustic. This exudate crystallizes readily upon exposure to the air, and occurs in all cases of carcinoma. There is always during treatment a more or less mild form of toxemia due to absorption, the writer believes, of this product of chemical decomposition. This is especially marked in cases in which drainage is imperfect. He has noted several cases in which death has resulted from this cause, occurring in patients with malignant internal growths without external drainage. Consequently, he declares that internal growths of considerable size should never be treated by the *x*-ray unless drainage is established in some way. He suggests as the possible exception to this rule cases of inoperable cancer accompanied by intense pain. For in such instances the danger from toxic effects may be more than offset by the relief experienced.—*The Georgia Practician.*

**A New Method of Separation of the Urine by Massage.**—Drs. Giordona and Nicolich, of Triest, obtain the urine from either kidney without the use of a ureteral catheter. Giordono observed during a nephrectomy that the urine in the manipulated kidney was pressed out, so that the first urine passed after the operation contained morbid products. Following this hint, it occurred to him that the urine might be expressed for diagnostic purposes by massage. The procedure is very simple. The bladder is first emptied, and then one of the kidneys and its ureter is massaged through the lumbar and abdominal regions. The resulting urine in the bladder is withdrawn, the bladder again carefully washed, and the same process applied to the remaining kidney. A number of diagnoses arrived at by this procedure were later confirmed by nephrectomy. The simplicity of this method will commend it to physicians, owing to the fact that to catheterize a ureter, especially in the male, requires special skill, and it is a question of grave importance whether or not a catheter, after passing through an infected bladder, ought to be inserted into a healthy ureter.—*Indian Medical Record.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, Public Health and Marine Hospital Service, during the week ended July 8, 1905:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| Illinois, Chicago | June 17–July 1 | 37 | 4 |
| Massachusetts, Lowell | June 17–July 1 | 5 | .. |
| Montana, Butte | June 18–25 | 1 | .. |
| Ohio, Toledo | June 17–24 | 1 | .. |
| Pennsylvania, York | June 24–July 1 | 2 | .. |
| South Carolina, Greenville | June 17–24 | 2 | .. |
| Wisconsin, Milwaukee | June 17–24 | 6 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Argentina, Buenos Ayres | Mar. 1–31 | .. | 54 |
| China, Shanghai | May 24 | (Present.) | |
| France, Lyon | May 27–June 3 | 1 | .. |
| Great Britain, Birmingham | June 3–17 | 10 | .. |
| Cardiff | June 3–17 | 2 | .. |
| India, Bombay | May 23–June 6 | .. | 43 |
| Karachi | May 21–June 6 | 9 | 2 |
| Madras | May 20–26 | .. | 5 |
| Italy, Catania Province | June 8–15 | 17 | .. |
| Cosenza Province | June 8–15 | 5 | .. |
| Lecce Province | June 8–15 | 6 | .. |
| Messina | June 3–10 | 3 | .. |
| Palermo | June 3–10 | 4 | .. |
| Mexico, Mexico City | June 3–10 | 4 | 4 |
| Russia, Moscow | May 27–June 3 | 28 | 10 |
| Odessa | May 27–June 3 | 9 | 3 |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| British Honduras, Belize | June 15–22 | .. | 1 |
| Guatemala, Livingston | June 10–22 | 5 | 4 |
| Panama, Colon | June 16–21 | 6 | 2 |
| Corozal | " | 2 | .. |
| Empire | " | 1 | .. |
| La Boca | " | 2 | .. |
| Panama | " | 10 | 1 |
| Venezuela, Maracaibo | June 16 | (Present.) | |

CHOLERA.

| | | | |
|---|---|---|---|
| India, Bombay | May 23–30 | .. | 1 |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Hawaii, Honolulu | July 5 | .. | 1 |
| Olaa | June 30 | .. | 1 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Egypt, General | May 20–June 3 | 17 | 12 |
| India, General | May 13–20 | 41,213 | 35,102 |
| Bombay | May 23–June 6 | .. | 708 |
| Karachi | May 21–June 6 | 183 | 166 |
| Madras | May 20–26 | .. | 3 |
| Japan, Chiba, Ken | May 20 | .. | 1 |
| Tokyo | Apr. 18–May 30 | 8 | 6 |
| Peru, Callao | June 11 | 1 | .. |
| Payta | June 12 | (Present.) | |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 4.
Whole No. 1811.

New York, July 22, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### THE INFLUENCE WHICH THE ACQUISITION OF TROPICAL TERRITORY BY THE UNITED STATES HAS HAD, AND IS LIKELY TO HAVE ON AMERICAN MEDICINE.*

By GEORGE BLUMER, M.D.,

SAN FRANCISCO.

It is a custom in many universities, both in this country and in Europe, to allow each professor leave of absence during every seventh year of service. This custom is doubtless based on the Sabbatical year of the Pentateuchal codes, an institution which demanded that the fields be allowed to lie fallow every seventh year. It is a question whether the Sabbatical year, as an institution, could not with benefit be introduced into matters medical, and whether we might not profit by resting every seventh year, and devoting our time, not to the strenuous throes of medical existence, but to a calm, dispassionate review of the progress of medicine in the preceding septennate, and the factors which have influenced that progress. With this idea in view I have chosen to speak to-day on an aspect of our medical progress which is now in its Sabbatical year.

It is at present almost exactly seven years since, by the terms of treaty following the Spanish War, the United States came into possession of tropical territory in both the eastern and the western hemispheres. It is unnecessary and inappropriate to discuss here the general significance of this territorial acquisition, its bearing on politics, its effect on commerce, its influence on public affairs in general; it is sufficient if we, as the representatives of the medical profession of this country, take stock of the medical questions involved, discuss their significance, and gauge the effect which they exert on American medicine in general. No doubt many of our hyperopic brethren foresaw, seven years ago, some of the effects which our acquisition of Porto Rico and the Philippines was to have on American medicine. There is just as little doubt that some of the results were entirely unlooked for, and have been complete surprises. It might appear at first sight that, from analogy, we should have been able to foretell the influence which increased commerce with our tropical territory, and the return of our soldiers and sailors with tropical diseases would have on medicine in the United States. Obviously one would look to the experience of European countries, and notably of England, to form a basis for judgment, for these countries have had tropical possessions for generations. It must not be forgotten that the physical conditions here are different from those in Europe, for while Europe is almost entirely within the temperate zone, portions of this country are semi-tropic, and a few very small areas are actually within the tropical belt. The United States, therefore, presents a much more favorable soil for the transplantation of tropical diseases than does Europe. Realizing this, numerous American writers on tropical diseases have sounded, in the last seven years, notes of warning and alarm. Their apprehensions are based more on theoretical grounds than on observed facts, but for all that are worthy of our most serious consideration. The object of this inquiry is to determine, if possible, how great this danger is. What are the prevailing diseases of our tropical possessions? Which of them, if any, has appeared among us; which, if any, has gained a foothold on our soil; and which may possibly become widely distributed? Aside from endeavoring to answer these questions, we may with profit glance at the effect which the study of tropical diseases has had on the comprehension of cognate diseases in the United States, and also observe that it has led to the recognition in this country of unsuspected diseases of wide distribution, and great economic importance.

**Uncinariasis.**—Perhaps one of the most startling results of the increased interest in tropical diseases has been the discovery that large sections of the southern portion of this country are infected with the hookworm, and that large numbers of the inhabitants are suffering from uncinariasis (ankylostomiasis) or hookworm disease. The starting point of this remarkable discovery was, almost certainly, the work of Ashford in Porto Rico in 1900. This observer noted the great frequency of the disease in that island, and pointed out that, to a large extent, the disability and wretched condition of many of the natives was due to it. The credit for drawing attention to the probability that the disease was widespread in our southern states is due to Charles Wardell Stiles, the zoologist of the Bureau of Animal Industry, and to him also is due the credit of amply proving what he at first brought forward merely as a probability. It would be out of place here to go into details as to the clinical history of this disease, or the minute structure of the parasite which causes it. Mention must be made, however, of Stiles' discovery that the American uncinaria differs from that of Europe. It will be of interest to consider the geographical distribution of uncinariasis in this country, the main facts connected with the method of its spread, and the evidence as to the likelihood that it will become more widely prevalent than it is at present.

Up to the year 1900, not more than ten authentic cases of uncinariasis were on record in American literature, though there are statements by southern physicians in the writings of the early part of the nineteenth century which leave little doubt that the disease was then prevalent. During 1900 and 1901 only nineteen cases of the disease were reported, but in 1902, following the publication of Stiles' monograph on "The Significance of the Recent American Cases of Hookworm Disease in Man," the number

*Oration on State Medicine at the Fifty-sixth annual session of the American Medical Association, Portland, Oregon, July 11-14, 1905. From advance proofs by courtesy of the *Journal of the American Medical Association*.

of reported cases rose at a bound to 524. In 1903, 273 cases were reported; in 1904, 334; the number this year will probably not be so large, as the disease is no longer a rarity to southern physicians, and they will not be so apt to record cases. Prior to 1900, then, possibly ten authentic cases of hookworm disease had been reported; since this date I have been able to collect from the available American literature 1,212 cases, of which 1,095 originated in the United States, and 117 were imported from other countries, mainly from Porto Rico and the Philippines. Of the latter, 62 are reported by Gunn, and occurred in San Francisco, mainly among Porto Ricans.

If we separate the domestic from the imported cases we find that this disease is distributed mainly through the southern states along the seaboard from Virginia to Texas. But it is not confined to the seaboard states, for Missouri and Tennessee are also infected. The states in which the disease is known to be indigenous, and probably widely distributed, are Virginia, North and South Carolina, Georgia, Alabama, Florida, Louisiana, Texas, Mississippi, Missouri, and Tennessee. This list of states includes only those in which definite evidence of the presence of the disease has been furnished; it does not include, I think, all of the infected states. Taking into account the similarities of soil and climate, any one who will take the trouble to make a map of the known infected area will feel convinced that Arkansas, Indian Territory, Oklahoma, West Virginia, Kentucky, and the southern portions of Illinois, Indiana, and Ohio are also probably infected. The physicians in some states have shown a lamentable lack of enterprise in investigating this disease, while in other states extensive and valuable studies have been made of it. As I have already stated, 1,095 cases of domestic uncinariasis have been reported since 1900, 824 of these have been observed in three states, Georgia, Alabama, and North Carolina. This has been due to the interest and energy of single physicians: in Georgia of Claude A. Smith, Warfield, and Harris; in Alabama of E. D. Bondurant, and in North Carolina of Nicholson and Rankin. A knowledge of the distribution of the disease is not merely of academic importance, for the economic aspects of uncinariasis are paramount. There is little doubt that the stigma of laziness and general inefficiency which has attached for generations to the so-called "poor whites" of the South has been earned by them not as a result of qualities due to innate "cussedness," but because a large percentage are suffering from uncinariasis with the resultant physical and mental deterioration. This being the case, a plotting out of the infected areas is one of the first steps which must be taken preparatory to stamping out the disease. This is only one step, however, the others depending on our present conception of its method of spread. At present there are two main theories as to the means by which the parasite gains entrance to the body, the one presupposing that it enters through the alimentary canal, the other that it gains entrance through the skin. The advocates of the former theory hold that polluted drinking water, and food soiled by dirty hands are the means of introduction, the advocates of the latter, that the so-called "ground itch" is the point of entrance of the *Uncinaria rhabdites*. There is a good deal of evidence in support of both views, though the work of Claude A. Smith, and that of Nicholson and Rankin favors the idea that the cutaneous form of infection is the more important. In view of this the wearing of shoes, especially during the rainy season, becomes the most important prophylactic measure, though the necessity for pure water supplies and the proper disposal of excreta still remains of great importance. In all such matters the enforcement of hygienic laws can never be obtained without education of those who are at fault. As uncinariasis is essentially a country disease (I have not been able to find on record a single American case which originated in a city), the question is one which must be dealt with by the country physician, on whose back falls a heavy load of responsibility. The stamping out of this disease is, of course, of great economic importance to the South, but, further than this, the question arises whether it may not be of importance to other parts of the country. Is there any chance that uncinariasis may become more widely distributed than it is at present? The question is a hard one to answer. While there has not been a lack of physicians who have predicted such a spread, it cannot be said that there is much actual evidence that it has occurred. There are a few instances in American literature in which the evidence plainly points to infection of natives from imported cases. Such for example, are some of the cases reported by Möhlau in Buffalo, where Polish and Italian laborers contaminated a brickyard. That such sporadic outbreaks can and will occur cannot be denied, and physicians all over the country should be on the lookout for them. Whether the disease will ever become widespread outside of its present habitat is quite another story. It must not be overlooked that a variety of circumstances are necessary for its spread: the right kind of soil, sufficient heat, and enough moisture for the parasite, and a lack of certain hygienic precautions on the part of the inhabitants of the area to be infected. The absence of any one of these conditions may be fatal to the dissemination of the disease. Considering the fact that uncinariasis has existed in the South for at least 100 years, and probably longer, it does not seem very probable that it will ever extend much beyond its present limits. What is needed at present then, is a more accurate knowledge of its distribution, and the inauguration of an educational and sanitary campaign to effect its extermination.

**Dysentery.**—One of the first diseases which the American army surgeons in the tropics had to confront was that scourge of camps, dysentery. The study of the acute form of the disease had received a great impetus from the work of Shiga in Japan, and the investigation of this condition in the American troops in the Philippines, instigated by Flexner, has since been carried on by Strong and Musgrove, J. J. Curry, and Charles H. Craig. It can fairly be said, I think, that our conception of the etiology of dysentery, and particularly of the tropical form, has been completely revised in the last few years, and this revision has depended, in no small measure, on the work of American investigators. So far as tropical dysentery is concerned, the studies of recent years have taught us to recognize two distinct forms, the bacillary and the amebic. The bacillary form, of which the acute dysentery of the tropics represents the most common type, is due to an organism first described by Flexner, and closely allied to the bacillus described by Shiga in the epidemic dysentery of Japan. In the chronic forms the ameba seems to have held its ground as the main causal agent, though the earlier investigators in the Philippines seemed inclined to think that it was usually a secondary invader. Our knowledge of the life cycle of the ameba, of the differentiation of pathogenic from non-pathogenic forms, and of the cultivation of the organism, has been achieved in the past few years, and is associated with the names of Craig, Strong and Musgrave, and Caspar Miller. A more exact knowledge of the complications of dysentery has also resulted from the

work of our army surgeons, and it is to be especially noted in this connection that the so-called "tropical" abscess of the liver is nearly always due to the amebic as opposed to the bacillary form.

The most surprising and unlooked-for result of the stimulus given to the study of dysentery has been the discovery that the same group of organisms which are responsible for tropical bacillary dysentery are also concerned in dysentery in this country, and in certain forms of the summer diarrheas of infancy. The first steps in determining these relationships were taken under Flexner's guidance during 1902. In that year Vedder and Duval published the result of their work on the dysentery of the United States, work which was based on both sporadic and epidemic cases, and which showed that certain types of dysentery all over the world were due to the Shiga group of bacteria. In the same year Duval and Bassett published their preliminary announcement of the isolation of bacteria of the same group from cases of infantile summer diarrhea. Subsequent studies, conducted mainly at the large centers in the East, have, in the main, confirmed these observations, and have led to more accurate knowledge of both the clinical and bacteriological aspects of these two classes of disease. Since 1903 investigation has been mainly focussed on the summer diarrheas of infancy, the scourge of the tenement districts of the large cities. These studies have resulted in the classification of the *Bacillus dysenteriæ* into three main types, a differentiation which was suggested in part by Gay and Duval in 1903, and which has since been rendered more exact by the work of Hiss and Russel, and that of W. H. Park and his associates. On the clinical side it has been shown that all classes of summer diarrhea are not due to organisms of the dysentery group, but that certain types marked by the presence of mucus and blood in the stools are nearly always associated with them. It has also been shown that these organisms, like the pus cocci, may give rise to primary infections, or may play the rôle of secondary or terminal invaders. Mild cases without blood in the stools may also be due to this group of organisms, accurate and early diagnosis only being possible in any type of case by means of a bacteriological examination of the feces. The serum reaction, while of some value, appears late in many cases, and is not available for early recognition of the disease.

In his report on Philippine dysentery Flexner suggests the possibility of serum therapy in these cases, and the discovery of the relation of the *Bacillus dysenteriæ* to infantile summer diarrhea led to attempts at the production of a curative serum. During 1904 such a serum was used in a number of outbreaks of dysentery and summer diarrhea. The results, as a whole, have been disappointing, but will probably improve as we gain in experience. As Booker pointed out in 1903, little is to be expected from the serum in cases in which marked anatomical lesions are present. The work done at the Rockefeller Institute and summarized by Holt shows that the serum to be of value must be used early and in repeated doses. Judging from the results of Shiga in Japan more is to be expected for the serum treatment, and, as a matter of fact, it has not yet received a fair trial in this country. At present we need more knowledge regarding the natural history of the dysentery germ, its method of introduction, and the distribution of this form of infection in the United States. As regards the means by which the germ is introduced into the body there is already some evidence, both from the Philippines and this country, that contaminated water is at fault, but the whole matter needs more thorough investigation. The distribution of this form of infection has hardly been studied outside of the large cities of the East, and although the severe forms of infantile diarrhea are almost unknown on the Pacific Coast, there is little doubt that they exist in the South and Middle West.

**Yellow Fever.**—At the time that the Island of Cuba was occupied by American troops in 1898, yellow fever had been endemic there for 130 years. The disease was not widespread, but was mainly confined to the coast towns, and was particularly prevalent in Havana, the continuous stream of non-immune Spanish immigrants serving to keep up the infection. A great deal of study had been devoted to the disease at this time, and in the years immediately preceding the Spanish war renewed interest had been awakened by th work of Sanarelli, who claimed to have found the casual agent in his *Bacillus icteroides*. His claims had met a good deal of opposition, especially from Sternberg in this country, and many yellow fever experts did not accept his results. In view of the prevalence of the disease, and the constant menace which it offered to our southern states, a commission composed of Walter Reed, James Carroll, Jesse W. Lazear, and Aristides Agramonte was detailed to Cuba still further to study it. The commission presumably started out with a disbelief in Sanarelli's work, for certain of the members had published investigations showing that the *Bacillus icteroides* was closely allied to, if not identical with, the hog cholera bacillus. While Sanarelli's work was repeated as a necessary precaution, and was proved to be erroneous, the commission concentrated its efforts on the investigation of the relation of the mosquito to yellow fever, a relationship which had been insisted on by Carlos Finlay of Havana for nearly twenty years, and which the work of Carter on the time limit between primary and secondary cases rendered probable.

It is not necessary to go into details as to the methods used by the commission in their work, further than to state that they were scientifically above reproach. It will be of interest, however, to consider their results, and the influence which they have had on the practical aspects of yellow fever quarantine. Briefly stated these results were as follows: The proof that Finlay's conception that yellow fever is conveyed by a certain variety of mosquito (*Stegomyia fasciata* of Theobald) is correct. The demonstration that a certain time must elapse after the mosquito is infected before it can transmit the disease; that the causal agent is in the blood during the first few days of the disease; that it can be destroyed by heat, and that it can pass through filters which hold back some of the smaller forms of bacteria. The explosion of the old idea that the disease can be conveyed by fomites, unless these are of a character to allow of transmission in them of infected living mosquitos. These are the main results, and they have led to greater accuracy in our knowledge of the incubation period of yellow fever, increased study of the yellow fever mosquito, and an entirely new conception of the prevention of the disease. Since the original work of Reed, Carroll, Lazear, and Agramonte several independent observers have confirmed their findings, notably Guiteras in Cuba, Marchoux, Salembini, and Simonds in South America, and the working parties of the United States Public Health and Marine Hospital Service in Vera Cruz, Mexico. The investigations carried on under the Public Health and Marine Hospital Service have also supplied many details extending our knowledge of mosquito transmission, of the life history of the yellow fever mos-

quito, and of quarantine methods against the disease. Few discoveries in medicine have led to more rapid and more brilliant practical results than those above cited. The story of the remarkable change in the yellow fever history of Havana achieved by the work of Gorgas reads almost like a romance. When we consider that the annual number of deaths from yellow fever in Havana for the ten years preceding the establishment of the mosquito theory averaged about 500, and that under Dr. Gorgas' administration they were cut down in two years to nothing, we can enthusiastically echo the sentiments expressed in a resolution of the conference of State and Provincial Boards of Health, in which they say: "We regard (it) as one of the most brilliant achievements of the application of sanitary science to public health work ever accomplished." Judging from recent reports it seems likely that Gorgas will repeat his Havana success in the Isthmian Canal zone. We have still to discover the cause of yellow fever, and we have still to ward off its advances in our southern states. So long as our Central and South American neighbors pursue their present lax sanitary methods we are liable to have sporadic outbreaks of the disease in those regions in which the *Stegomyia fasciata* can multiply. As Carter and Howard have shown, this mosquito is widely distributed in the subtropic portions of our country, and it behooves us to continue with the work of mosquito extermination, to increase its range as rapidly as possible, and to keep up with its oldtime strictness the quarantine of vessels, especially sailing vessels, from infected ports. The protection of our land boundaries to the south will, of necessity, be much more difficult, and judging from the recent experience in Texas, it is by this route that infection is now most likely to reach us.

**Malaria.**—The soldiers returned from Cuba and Porto Rico, and later those from the Philippines, offered an opportunity for the study on a wholesale scale of certain aspects of malaria, an opportunity which was grasped by both military and civilian physicians. During and immediately following the Spanish war the accomplishment of greatest importance resulting from this study was the overthrow of the refuge of the careless diagnostician, typhomalarial fever. Those physicians who had studied malaria and typhoid fever carefully before the war, and who had controlled their diagnoses by blood examinations, had always been skeptical about the existence of combinations of the two diseases, and had published from time to time protests against the indiscriminate use of the term typhomalarial fever. It needed the studies of the camp fevers, however, to prove to the satisfaction of most physicians that the combination was exceedingly uncommon, and that when it occurred the malarial fever preceded, or more commonly, followed the typhoid fever. In his remarks on the subject, based on the examination of the blood of 159 typhoid cases at Camp Wikoff, Ewing says: "In no case of undoubted and established typhoid fever were malarial parasites found in the blood in connection with any of these sudden rises of temperature (in typhoid), but only at the onset of the disease or during convalescence," and later in his article, "In short, in spite of painstaking effort, the attempt to find a case of typhoid fever and active malaria progressing simultaneously was unsuccessful." Aside from this, the clinical study of the disease has received but few important additions since 1898, though mention must be made of the valuable studies of Craig on latent and masked malaria, studies which showed how great the danger to a community might be from soldiers returned from the tropics. In his article published in 1904 Craig states that 25 per cent. of the soldiers returning from the Philippines show latent or masked infections, and in a large percentage of these cases the parasite is the estivoautumnal crescent, a stage of the organism capable of development in the mosquito. The same observer cites one company of 60 men, of whom 41 had parasites in their blood, and yet but 14 complained of illness.

As far as the parasitology of malaria is concerned, the past seven years have been marked by great simplification in staining methods, but discoveries of paramount importance have not been numerous. The studies of Craig on estivoautumnal fever have tended to confirm the views of the Italian school as to the duality of its parasite, and the work of Ewing on the tertian parasite has thrown light on its early sexual history in the circulating blood. Working Party No. 2 of the Yellow Fever Institute has been able to show that at the time of the malarial chill there is present in the blood a toxin, and have been able to produce a chill by the intravenous inoculation of filtered blood extracted during the paroxysm.

The study of the distribution of the malarial mosquito has been carried on in a few places, in Boston by Theobald Smith, in the Valley of the Androscoggin by Jordan, and in Baltimore by Hirshberg and Dohme, but the amount of work which has been accomplished in this direction, and the time and money which have been expended in the attempt to exterminate the malarial mosquito, are almost infinitesimal when we consider the territory affected by the disease, and the losses resulting from it. Woldert estimates the annual financial loss in Texas alone at over $5,000,000, and if all the infected zones in the United States are considered the loss must be appalling. Like yellow fever, malaria is a perfectly preventable disease, but to stamp it out requires either destruction of malarial mosquitos, or protection and sterilization of infected individuals. In this country mosquito extermination has always been the favored plan, but before it can be accomplished a much more complete knowledge of the distribution of the anopheles is necessary, and much more thorough education of the public as to the necessity of the work. The danger that the disease may be introduced into uninfected areas by soldiers returning from the tropics is a real one, though, as Theobald Smith has shown, it is unlikely that the estivoautumnal parasite will be introduced into the northern states. Still, we have plenty of southern territory not yet infected, and the extermination of mosquitos would prevent the possibility of such contamination. The question is one which has not yet been seriously considered in large sections of the country, but is, nevertheless, of the greatest importance.

**Filariasis.**—The work of Ashford in Porto Rico, and of Calvert in the Philippines has shown that filariasis exists in both places. In Porto Rico it is probably widely distributed, as Ashford found it in 30 out of 250 soldiers in the Porto Rican regiment. Cases of Gunn and of Brown have shown that infected individuals from this source have already reached this country. In the Philippines the extent of the disease is doubtful. Calvert found the filaria in only two out of 426 Filipinos, but it is to be noted that both of these individuals came from the same district, and it is likely that the disease is much more prevalent in some places than in others. In this country several domestic and imported cases have been reported since 1898. It seems extremely likely that the disease is much more common in the South than the literature would indicate, and that it is often overlooked. The fact that one man, De Sassure, of Charleston, was able to report 22 cases, most of them originating in the United States, is pretty strong evidence that the

disease is much more prevalent than is generally supposed. It is certain that there are present in this country varieties of mosquito capable of transmitting the filaria. As these generally belong to the *Culex* family, which is widely distributed throughout the United States, it seems possible that there is real danger of new districts becoming infected by returning soldiers or Porto Rican laborers. Before the matter can be definitely settled we need more information as to the exact varieties of mosquito which can transmit filariasis, and their distribution in this country. At present it is quite generally assumed that a number of varieties of *Culex*, and at least one of *Anopheles* can transmit the disease. We believe it was Myers who brought forward evidence to the contrary, and the matter is one which needs further investigation.

**Malta Fever.**—The fact that Malta fever was present in Porto Rico was first demonstrated by Musser and Sailer, and later by Cox and Curry. In 1900 Strong and Musgrave called attention to its occurrence in the Philippines, and still later cases occurring in returned soldiers were described by Curry and Craig. The number of cases which have been described is small, and practically all of them are in soldiers and sailors. In the seven years which have elapsed since the first case was reported in this country, no case originating here has been described, and it seems that there is little likelihood of the disease becoming disseminated in the United States. It is within the bounds of possibility, as Curry pointed out, that it already exists in the southern states. In its acute form it is easily confounded with malaria, and in its chronic stage it is generally diagnosed at first as chronic rheumatism. The serum reaction of the disease is so reliable, and the test is so easy of performance, that all cases of doubtful fevers in the southern states should be subjected to it. It seems highly probable that if this is done systematically the disease will be found to be present.

**Trypanosomiasis.**—The relation of trypanosomes to animal diseases was observed in the middle of the last century, and renewed interest has been awakened in these parasites in recent years by the discovery of new forms of animal trypanosomiasis, and by the observations on human trypanosomiasis initiated by the work of Dutton. The presence of the trypanosome infection known as surra among horses and buffalo in the Philippines was noted soon after the American occupation, and the results of American researches on this disease may be found in the valuable monograph of Musgrave and Clegg. Up to 1903 attempts to isolate trypanosomes in pure culture had been ineffectual, but in that year McNeal and Novy published the results of their work on the rat trypanosome. They were able to obtain the first successful pure culture of a pathogenic animal parasite with the absolute demonstration of its causal relation to the disease. Up to this time many observers believed that the different forms of animal trypanosomiasis were due to the same organism, but during 1903 and 1904, Novy, McNeal, and Ward were able to cultivate the trypanosome of nagana or tsetse disease, and also that of Philippine surra, and could demonstrate that the parasites from these different diseases showed variations in structure and mode of growth, Later Lewis and Williams succeeded in cultivating the frog trypanosome, showing that this also differs from the other forms. Some forms of animal trypanosomiasis have appeared in the United States, dourine having been observed in Nebraska. Whether there is any possibility of the introduction into America of human trypanosomiasis will be difficult to determine until we know more of certain forms parasitic in man, and the method of their spread. The form of the disease which is found in the Philippines, and hence most likely to appear in this country, is the affection known in India as kala-azar or dum-dum fever. The parasite of this disease, usually spoken of as the Leishman-Donovan body, has recently been shown by Rogers and Chatterjee to belong to a sub-family of the trypanosomes. The method of transmission of this form of the disease to man is not definitely known so far as we can determine; it is probably transmitted like nagana by an insect, most likely a mosquito. The possibility of its introduction into this country will probably depend on the presence or absence of some insect host.

**Dengue.**—A disease which does not seem to have received the study which it merits, considering its frequency, is dengue, or break-bone fever. The reports of the Surgeon General of the Army for 1902 and 1903 show that in the Philippines it caused, in the former year, 31.67 cases of sickness per 1,000 of strength, and in the latter year 171.39 cases per 1,000 of strength. Presumably it has not been carefully studied in the Philippines, or in the South where it also occurs, on account of its short duration, and the almost absolute lack of fatalities. In the Isthmian Canal Zone it has been studied in the last two years by Sutton and Carpenter. They have shown that it is probably not of the malarial class of diseases, but that it may, as Graham claimed, be transmitted by the mosquito. Their studies of the blood show that it is one of the diseases accompanied by leucopenia and relative lymphocytosis, and their bacteriological studies suggest that a bacillus similar to the influenza bacillus may be the cause. The disease is one which, judging by its past history, is unlikely to spread beyond the southern parts of this country. It is worthy of more extended study by modern methods than has yet been devoted to it, and American physicians in the Philippines and the Isthmian Canal Zone will probably have excellent opportunities to clear up many moot points in connection with this disease.

**Asiatic Cholera.**—During 1902 Asiatic cholera appeared in Manila, spread to the neighboring island, and caused over 90,000 deaths before it was stamped out. The incidence of the disease among the whites was comparatively small, but among the natives it ran rife, owing to their lack of hygienic precautions and the favorable temperature conditions. In many instances the disease was not carried. as usual, by contaminated water, in fact, in the large cities indirect contact through food was a much more frequent method of spread. On account of the violent local reaction produced by Haffkine's cholera prophylactic the natives objected to its use, and as the scattered distribution of the population made it almost impossible to control them, this method was given up. The objections to Haffkine's prophylactic led R. P. Strong to attempt the production of a protective serum lacking in the the irritating properties of those hitherto used. By a process of bacterial autolysis followed by filtration of the culture he was able to produce a practically non-irritating protective. From the experimental standpoint Strong was able to show that animals and men treated by this method presented but little local reaction, yet developed in their blood substances strongly bactericidal to the cholera spirillum. As the cholera had practically disappeared from the Philippines at the time that Strong's work was completed there has as yet been no opportunity to put his method to a practical test. From what we know of

the disease there is little likelihood that it will ever get a foothold in this country under our present quarantine regulations.

**Plague.**—The appearance of plague in several parts of the civilized world in 1900, and especially its appearance in San Francisco and the Philippines, called the attention of American medical men to this disease. Luckily, but few of them had an opportunity to study it, and most of the American work on this disease has been done in the Philippines, where, according to Munson, 970 cases with 812 deaths occurred between January, 1900, and September, 1903. It cannot be said that anything startlingly new was discovered during this period, but a good deal of valuable confirmatory work was turned out. In this connection must be mentioned the work of Barker, Flexner, and Novy on various aspects of the subject, the work of Calvert and Ewing on the occurrence of plague bacilli in the circulating blood, and the work of Herzog and Hare on latent and ambulatory plague. The outbreaks of the disease in Australia, in Honolulu, in Glasgow, and in San Francisco have served to warn us of the necessity of being constantly on guard against its insidious approach. The recent outbreak in Leith, in which, as in the San Francisco outbreak, the origin of the disease was in doubt, shows us that at all our seaports constant vigilance must be maintained, and this must be the case so long as endemic foci are present in Asia. In the preventive work in this country, in this as in other infectious diseases, too much praise cannot be given to the officials of the United States Public Health and Marine Hospital Service, who, besides having to bear the burden of their appointed work, have often also to suffer the slings and arrows of outrageous politicians, and the contumelious taunts of misguided citizens.

**Conclusion.**—We have now considered the more important of the tropical diseases which occur in Porto Rico, the Philippines, and the newly acquired Isthmian Canal Zone, the effects which their study has had on American medicine, and the chances of their becoming domiciled in this country. It has been possible to touch on many important subjects but lightly, and I ask your indulgence for the sketchy manner in which the subject has been treated. Of necessity a number of tropical diseases have not been mentioned, tropical ulcer, frambesia, bilharziasis, and blackwater fever, for example. These diseases are all present in our tropical possessions, but are of relatively minor importance, and as yet have received but little attention from American observers. Two general conclusions are forced on us as a result of this study, one being that many of the so-called "tropical" diseases are widely scattered through the subtropical portions of this country, the other that the acquisition of tropical possessions by the United States has had a markedly stimulating effect on American medicine, and has led to valuable work, some of it of the very first rank, all of it showing evidences of earnest and painstaking effort.

## SEA AIR TREATMENT OF SURGICAL TUBERCULOSIS; WITH REPORT OF CASES.

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This preliminary report has been prepared for the purpose of acquainting the profession with the progress of the work carried on at Sea Breeze, Coney Island, an experimental hospital for the sea-air treatment of surgical tuberculosis.

The institution has only been in operation one year, consequently complete results cannot be offered, but very much has been done toward proving that it is possible to more rapidly cure advanced cases of surgical tuberculosis by salt air treatment.

Forty-three cases have been under treatment in the hospital, and in selecting them we did not make it a rule to take only incipient or beginning cases, but accepted many advanced cases in such desperate condition that their improvement alone could leave no doubt as to the efficacy of the treatment.

It will be seen from the table that not all our cases have been under treatment an entire year. We were able to admit the patients only as the money for each new bed was forthcoming, so the full capacity of our hospital was reached only on the tenth of May last. Thus we have the opportunity of judging the immediate effects of the cure, as well as the effects of prolonged treatment.

There are four factors in our treatment, namely: (1) Sea air night and day. (2) Cheerful, normal surroundings. (3) Ample, nourishing food. (4) Orthopedic treatment.

The greatest and most successful European hospitals of this class, for we have no American example for comparison, are upon the seashore, for European authorities have experimented and found that there is some curative quality in the sea air which is wonderfully efficacious in the treatment of surgical tuberculosis. Sea water contains 3 per cent. of saline matter, chlorides of sulphur, sodium, sulphate of magnesium, muriate of magnesium and of calcium, and salts of iodine and bromine. (W. M. Powell, M. D., "Sea Air and Sea Bathing in Convalescence." American Textbook of the Diseases of Children, p. 65.) The winds blowing over an ocean, impregnated with all these beneficent chemicals and carrying the spray to the land, together with the large quantity of ozone which we know the sea air to contain, have a stimulating influence upon the general condition, a curative effect upon the local tuberculous lesions, and a sedative effect upon the nervous system. That the sea air does have this wonderful effect upon this class of patiens has been a common observation for years at the Hospital for the Ruptured and Crippled, for in the summer, when some of its tuberculous patients have been sent to inland fresh air homes, others to seaside homes, those returning from the seashore have shown a marked improvement over those coming from the country.

We give our children all of the sea air possible; rain or shine they are out of doors the entire day except for two hours in a tent school on the beach, and at night they sleep in wards where all of the windows are open during even the coldest weather, 12° F. being not an uncommon temperature here in winter. They are, of course, amply protected against the cold by many blankets, and wear warm hoods and jackets over flannel night gowns, also mittens and woolen bed slippers. The same rule about open windows prevails in the dining hall. The patients in the non-ambulatory class spend their days in bed upon the second floor veranda. Under all this radical treatment the children are happy and comfortable. After a few days of gradual acclimatization they become accustomed to the out-door life and do not mind the cold. There has been only one slight case of bronchitis, and coughs and colds are unknown.

The children owe their cheerful, normal surroundings in part to the informal, homelike atmosphere of the hospital, and in part to their free and natural life out-of-doors upon the beach. The nurses are chosen not alone for their professional ability, but for their interest in the children, and they try to give

the individual attention that a child needs. They see to the perfect fulfilment of physical needs, encourage him to do his part toward the harmony of the whole, try to cultivate a cheerful, hopeful outlook by the aid of games and songs and other simple amusement that shall take his thoughts away from himself and his suffering or his deformity. On the beach, they constantly lead the normal child's life. There are all the wonderful things the sea throws up for their amusement and delight. There are the games and sports that children invent, and if one could see the activity of these little patients in their games upon the beach, one would wonder if they were really cripples and if they could possibly be invalids. It would be hard to realize that many of them come from hospitals or tenements where they have hardly been out of doors for months and where their lives have been dullest monotony. They come to us pale and languid, with no desire to be active or to indulge in a child's natural sports; but after a few days they are taking their part in the life on the beach and their cheerfulness and interest react upon the body and hasten the progress of the cure.

The dietary is abundant and of the best. There are five meals a day—breakfast, dinner, supper, and two luncheons. A half hour before arising the windows are closed and the wards warmed for dressing. At half after six the children arise, and breakfast at seven on a cereal, bread and butter, and milk, and a choice from either broiled minced beef, or eggs, or baked potatoes and bacon, or stewed fruit. After breakfast they are out of doors until nine o'clock, when they go to school in a tent on the beach for two hours, with a recess at ten, during which a luncheon of milk and crackers is served. Then they play and have short calisthentic exercises, all out of doors. At twelve they have dinner, consisting of a choice from either roast beef or lamb, or stewed beef or lamb, or chicken and rice, or broiled fresh fish, or minced fresh beef, with two vegetables chosen from the following: Peas, beans, potatoes, rice, spinach, carrots, and macaroni. They always have an unlimited quantity of bread and butter and milk with cream. For dessert there is either some milk pudding, or ice cream, or baked apples and cream. After dinner the children play out of doors until supper time, with a luncheon of milk and crackers and fruit at three. At five they have a very light supper of bread and butter and toast and milk, with either stewed fruit, or eggs, or a cereal. Directly after supper, the babies from three to seven years of age are put to bed, the older children going at seven, the windows being closed in the ward for undressing.

As to the treatment, there is a staff of four graduate nurses and a night nurse. As there is no interne, the head nurse does all the dressings, finishing them by 10.30 in the morning. They are done in rotation, each child coming in his turn from school or play, the non-ambulatory cases being given the preference, and immediately taken after dressing to their beds upon the open veranda.

The medical treatment is in the hands of Dr. Lindsly R. Williams who has, however, never adopted any definite plan of treatment and believes in as little medicine as possible. The advisory board consists of Drs. Walter B. James, Herman M. Biggs, Virgil P. Gibney, John Winters Brannan, E. G. Janeway, Lawrence F. Flick, Newton M. Shaffer, and E. L. Trudeau.

As to orthopedic treatment, the methods are the same as those in general use, but it seemed wise in view of the character of the surroundings and a desire to encourage getting down close to the beach, to introduce one or two modifications of hospital treatment. For example: I have found the American hip brace and the Thomas knee brace unsuccessful because their cross-bars sink deeply into the sand, causing the patient to walk, practically, upon the diseased extremity. I have, therefore, depended more upon plaster of paris for fixation of the parts than upon braces. Whenever plaster of paris has been impracticable, on account of numerous sinuses, an especially strong steel foot-plate, six by four inches, has been attached to the bottom of the stem to take the place of the cross bar. In all cases of disease of the hip and knee, when there has not been more than one sinus, plaster of paris has been used, as it gives better fixation to the part, and a window has been cut over the sinus to permit of the application of the dressing. The ordinary orthopedic treatment is used for disease of the shoulder, ankle, and back.

My experience with these cases at Sea Breeze has tended to prove that tuberculous sinuses heal more readily and permanently when all packing and drainage tubes are omitted and only a sterile absorbent dressing applied. As the general irritability of these cases is such as to cause them almost to collapse at the thought of having their wounds probed and packed, it led me to believe that they would gain strength and local resistance if they were not nervously upset each dressing time. In the beginning, in order to ascertain whether there would be full drainage, the amount of discharge upon each dressing was carefully noted for several days previous to omitting the packing, and compared with that of the succeeding days when packing was omitted. As there was no diminution in the amount of discharge, I concluded that packing or tubing was not essential to drainage. There was also less danger of infection. In no case have we had an infected wound, nor has a sinus healed when it still contained pus. Thirty-four per cent. of the sinuses have healed, and but one has reopened. This treatment is put forward, however, merely as a suggestion, inasmuch as the experiment has not been of sufficient duration to give conclusive results. With the exception of sinuses leading directly to the abdominal cavity, this procedure is being applied at the present time to all sinuses.

We have, during one year's experiment, taken cases regarded as hopeless by the best city surgeons and within a remarkably short time have obtained results beyond all anticipations. Sinuses of long standing have healed, acute pain has rapidly subsided, and, as the summary shows, all but one of the patients have gained in weight in amount varying from thirteen ounces to twenty-four pounds, eleven ounces. In reading the tables one will note the difference in weeks of treatment. One striking gain being that of the child, Annie M——, from the tenements, who has gained three pounds and fourteen ounces during a stay of but three weeks. She had been taken home from the ward of one of the large city hospitals by her father, who said that he wanted to take her home to die, as she seemed to be in a hopeless condition and growing worse. She came to us on May 10, 1905, suffering from tuberculous hip. She was remarkably emaciated, having nine sinuses, all discharging freely, and acute pain. She was immediately put to bed on the second floor veranda, and the ordinary routine and orthopedic treatment was pursued. In less than one week all evidence of acute pain had subsided, and her general condition began to improve, together with a marked improvement of her mental state. It was believed by the attending physician previous to her admission that it was practically hopeless to attempt to improve

| Name | Date of Birth | Family History | Diagnosis | Date of Admission | Condition on Admission. General | Weight | Local | No. of Sinuses | Treatment on Admission | Present Treatment | Present Condition. General | Weight | Local | No. of Sinuses | Duration of Treatment | Gain in Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | lb. oz. | | | | | | lb. oz. | | | Wks dys. | lb. oz. |
| Mariano A. | Oct. 14, '02 | No tuberculosis | Tuberculous ankle | June 10, '04 | Poor | 64 4 | Chronic | 2 | Dressing | Double upright brace | Fine | 70 12 | Improved | 1 | 50 6 | 15 8 |
| Margaret D. | Feb. 5, 01 | No tuberculosis | Tuberculous ankle | Sept. 2, '04 | Poor | 24 7 | Chronic | 5 | Dressing | Thomas knee brace | Good | 35 3 | Improved | 1 | 38 6 | 10 12 |
| James B. | Mar. 28, 04 | No tuberculosis | Tuberculous ankle | Jan. 30, '05 | Poor | 45 11 | Acute | 0 | Thomas knee brace | Plaster paris | Good | 50 0 | Improved | 0 | 17 3 | 4 5 |
| Nathan S. | Jan. 8, 99 | No tuberculosis | Tuberculous ankle | Feb. 22, '05 | Poor | 32 8 | Acute | 1 | Dressing | Thomas knee brace | Good | 38 0 | Improved | 1 | 14 1 | 5 8 |
| Phillip F. | Feb. 29, '01 | Mother tuberculous | Tuberculous shoulder | June 6, '04 | Poor | 21 0 | Chronic | 1 | Dressing | Dressing | Good | 26 12 | Improved | 1 | 51 3 | 5 3 |
| Willie H. | Apr. 15, '05 | No tuberculosis | Tuberculous shoulder | Aug. 24, '04 | Good | 57 8 | Chronic | 2 | Dressing | No treatment | Fine | 63 9 | Healed | 0 | 40 1 | 6 1 |
| Bennie M. | Dec. 25, '96 | No tuberculosis | Tuberculous elbow | June 10, '04 | Poor | 38 8 | Chronic | 1 | Dressing | Plaster of paris | Good | 44 8 | Improved | 0 | 50 6 | 6 0 |
| Frank T. | July 27, '01 | No tuberculosis | Tuber. finger, eye, and rib | July 25, '04 | Emaciated | 21 11 | Chronic | 2 | Dressing | Dressing | Good | 30 5 | Improved | 1 | 44 3 | 8 10 |
| Philamina C. | July 31, '01 | No tuberculosis | Tuber. rib and frontal bone | June 14, '04 | Poor | 30 8 | Chronic | 3 | Packing and dressing | Dressing | Good | 39 14 | Improved | 1 | 50 2 | 6 6 |
| Bessie O'B. | Apr. 29, '01 | No tuberculosis | Tuberculous gland | June 6, '04 | Emaciated | 77 0 | Chronic | 2 | Dressing | No treatment | Fine | 101 11 | Healed | 0 | 51 3 | 24 11 |
| George G. | Aug. 5, '05 | No tuberculosis | Tuberculous gland | June 6, '04 | Poor | 53 0 | Chronic | 4 | Dressing | Dressing | Good | 61 0 | Fair | 1 | 51 3 | 8 0 |
| Pietro A. | July 21, '97 | No tuberculosis | Tuberculous glands | June 6, '04 | Poor | 42 12 | Chronic | 3 | Dressing | No treatment | Fine | 51 0 | Healed | 0 | 51 3 | 8 4 |
| George L. | Feb. 15, '02 | Mother tuberculous | Tuberculous glands | June 6, '04 | Poor | 16 11 | Chronic | 0 | Irrigation | Irrigation | Fine | 23 1 | Improved | 0 | 51 3 | 6 6 |
| Lucy B. | July 13, 06 | No tuberculosis | Tuber. glands and jaw | June 14, '04 | Fair | 43 12 | Chronic | 2 | Dressing | Dressing | Improv'd | 51 8 | Improved | 1 | 50 2 | 7 12 |
| Ellen F. | Aug. 15, '00 | Mother tuberculous | Tuberculous glands | Aug. 10, '04 | Poor | 27 15 | Chronic | 3 | Dressing | Dressing | Good | 53 12 | Improved | 1 | 42 1 | 5 13 |
| Marie B. | Apr. 17, '05 | No tuberculosis | Tuberculous glands | Oct. 17, '04 | Fair | 59 4 | Chronic | 2 | Dressing | No treatment | Good | 64 2 | Healed | 0 | 32 3 | 4 14 |
| Tom S. | Dec. 5, 98 | Father tuberculous | Tuberculous glands | Aug. 21, '04 | Fair | 44 0 | Chronic | 0 | No treatment | No treatment | Good | 47 8 | Healed. Dec. | 0 | 40 4 | 3 8 |
| Joe W. | Feb. 25, '99 | No tuberculosis | Tuber. spine, elbow, and jaw | June 14, '04 | Fair | 27 0 | Acute, glut. ab. | 2 | Dressing (facial) | Plaster jacket and elbow dressing | Improv'd | 34 12 | Subacute abscess opened | 3 | 50 2 | 7 12 |
| Margaret B. | Oct. 7, '07 | Father tuberculous | Tuberculous spine | June 6, '04 | Poor | 33 9 | Subacute | 0 | Plaster jacket and head spring | Plaster corset | Good | 38 8 | Improved | 0 | 51 3 | 4 15 |
| Florence H. | June 30, '97 | Uncle tuberculous | Tuberculous spine | June 6, '04 | Poor | 33 3 | Subacute | 0 | Plaster jacket and head spring | Plaster corset | Good | 43 3 | Improved | 0 | 51 3 | 10 0 |
| Kate F. | Feb. 1, '00 | Father tuberculous | Tuberculous spine | July 11, '04 | Poor | 34 2 | Acute | 0 | Plaster jacket | Plaster jacket | Good | 39 14 | Improved | 0 | 46 3 | 5 12 |
| Madeline G. | July 6, '99 | Father tuberculous | Tuberculous spine | July 11, '04 | Fair | 25 14 | Subacute, abscess | 0 | Plaster jacket | Plaster jacket | Good | 35 4 | Abs. opened, Improved | 1 | 46 3 | 9 6 |
| Albert G. | Jan. 19, '01 | No tuberculosis | Tuberculous spine | Jan. 27, '05 | Fair | 32 0 | Subacute | 0 | Plaster jacket | Modified Bradford frame | Good | 35 3 | Improved | 0 | 17 6 | 3 3 |
| Max G. | Oct. 6, '00 | No tuberculosis | Tuberculous spine | Feb. 22, '05 | Emaciated | 26 4 | Subacute 2 l. abs. | 1 | Plaster jacket and dressing | Modified Bradford frame and dressing | Worse | 23 8 | Abs. opened | 3 | 14 1 | Loss |
| Minnie M. | July 12, '05 | No tuberculosis | Tuberculous spine | Mar. 5, '05 | Very poor | 44 8 | Subacute | 2 | Plas. jack. & dressing | Plaster jacket | Improv'd | 51 7 | Improved | 1 | 12 4 | 6 15 |
| John G. | 5 yrs. old | Father tuberculous | Tuberculous spine | Apr. 8, '05 | Fair | 31 0 | Subacute | 0 | Plaster jacket | Plaster jacket | Improv'd | 31 13 | Improved | 0 | 7 5 | 0 13 |
| Dave G. | Dec. 15, '94 | No tuberculosis | Tuberculous hip | June 6, '04 | Emaciated | 44 5 | Chronic | 3 | Thomas brace, bed, and crutches | Thomas brace and crutches | Improv'd | 46 6 | Improved | 2 | 51 3 | 2 1 |
| Bertha M. | Feb 24, '03 | No tuberculosis | Tuberculous hip | June 19, '04 | Poor | 68 4 | Acute | 0 | Crut. and Am. brace | Plaster spica | Good | 77 0 | Good | 0 | 49 4 | 8 12 |
| Chas. O'C. | Sept. 15, '96 | Father tuberculous | Tuberculous hip | July 26, '04 | Poor | 35 0 | Acute | 1 | American brace | American brace | Good | 41 10 | Improved | 1 | 44 2 | 6 10 |
| Freddie S. | May 17, '01 | No tuberculosis | Tuberculous hip | Aug. 21, '04 | Good | 31 6 | Acute | 0 | American brace | Plaster spica | Good | 33 2 | Good | 0 | 40 4 | 1 12 |
| Robert M. | May 6, '98 | No tuberculosis | Tuberculous hip | Aug. 22, '04 | Fair | 35 12 | Subacute | 1 | American brace | Plaster spica | Good | 38 4 | Good | 0 | 40 3 | 2 8 |
| Nathan N. | July 17, '99 | Father tuberculous | Tuberculous hip | Aug. 22, '04 | Emaciated | 28 8 | Chronic | 2 | American brace | Plaster spica | Improv'd | 30 12 | Improved | 1 | 46 3 | 2 4 |
| Emil H. | May 25, '02 | No tuberculosis | Tuberculous hip | Jan. 17, '05 | Emaciated | 58 10 | Chronic | 7 | American brace | American brace | Stat'n'ry | 60 13 | Improved | 5 | 19 2 | 2 3 |
| Jessie C. | July 15, 01 | Uncle tuberculous | Tuberculous hip | Feb. 0, '05 | Fair | 31 8 | Acute | 0 | Plaster spica | Plaster spica | Subacute | 32 4 | Improved | 0 | 16 0 | 0 12 |
| Elsie K. | Dec. 1, '94 | No tuberculosis | Tuberculous hip | Feb. 17, '05 | Emaciated | 52 12 | Chronic | 4 | American brace | American brace | Improv'd | 53 3 | Improved | 4 | 14 6 | 0 6 |
| John W. | Jan. 3, '97 | No tuberculosis | Tuberculous hip | Apr. 8, '05 | Moribund | 29 10 | Acute | 2 | Thomas brace bed weight, and pulley | Thomas brace bed | Improv'd | 34 0 | Improved | 2 | 7 5 | 4 6 |
| Annie M. | Dec. 1, '98 | No tuberculosis | Tuberculous hip | May 10, '05 | Emaciated | 27 2 | Chronic | 9 | Bed weight, and pulley | American brace bed | Improv'd | 31 0 | Improved | 0 | 3 1 | 3 14 |
| Morris L. | Oct. 31, '99 | No tuberculosis | Tuberculous knee | June 14, '04 | Poor | 31 4 | Acute | 3 | Thomas knee brace | Thomas knee brace | Improv'd | 37 13 | Improved | 2 | 50 2 | 6 9 |
| Kate B. | Dec. 18, '96 | No tuberculosis | Tuberculous knee | July 11, '04 | Poor | 43 14 | Acute | 0 | Thomas knee brace | Plaster of paris | Good | 49 0 | Improved | 0 | 46 3 | 5 2 |
| Kate W. | Aug. 3 '98 | No tuberculosis | Tuberculous knee | July 20, '04 | Good | 38 0 | Subacute | 0 | Thomas knee brace | Plaster of paris | Good | 43 6 | Improved | 0 | 43 6 | 5 6 |
| Mary McG. | May 5, '96 | Grandparents tuber. | Tuberculous knee | Jan 17, '05 | Emaciated | 38 6 | Acute | 2 | Thomas knee brace | Thomas knee brace | Improv'd | 45 5 | Improved | 2 | 10 2 | 6 1 |
| Mary McC. | Dec. 29, '97 | No tuberculosis | Tuberculous knee | Jan. 28, '05 | Emaciated | 42 8 | Subacute | 2 | Thomas knee brace | Thomas knee brace | Improv'd | 43 13 | Improved | 2 | 17 5 | 1 5 |
| Mary J. | Apr. 16, '02 | No tuberculosis | Tuberculous knee | Feb. 22, '05 | Good | 26 0 | Acute | 0 | Thomas knee brace | Plaster of paris | Improv'd | 31 4 | Improved | 0 | 14 1 | 5 4 |

Summary of Cases Treated to June 1, 1905.

her condition, yet the table shows what has been done.

We would also note three other patients—Mary McG——, Emil H——, and Elsie K——, who have been admitted since January, all of whom came to us in a very advanced stage, and another patient, John W——, being especially advanced and in a moribund condition. Of these cases, Mary McG——, who is suffering from tuberculosis of the knee, after having been retained in the ward of a city hospital for several months and having steadily grown worse, came to us in such condition that she could hardly walk, with support; yet in a few weeks this same girl was singing and romping with the other children. She has gained six pounds and fifteen ounces, and all pain has left her knee.

The next case is that of Emil H——, who went about the wards of the city hospital in what is known as a "banana cart." Although suffering from a very chronic form of hip disease, complicated with amyloid degeneration of the liver, and having seven sinuses, yet a few days after coming to Sea Breeze he was walking about the verandas, and has gradually gained in strength and local condition, though not so much in weight, owing to his complications.

Elsie K—— came to us in a very weak, emaciated condition and could walk but poorly, yet she goes about now with ease and enjoys her life on the beach, and has gained much in strength, though her weight improvement is only six ounces.

The last is John W——, a most extreme case, in moribund condition, who was admitted April 8, 1905, only upon the urgent request of Dr. Virgil P. Gibney, who said that if we could improve this boy the success of our experiment would be proven beyond a doubt. It seemed hopeless, indeed. The little patient was a mere frame of bones and was suffering acutely. At first, on account of this acute pain, we continued to make use of the weight and pulley which he wore on admission, but within the short space of two weeks this was removed, and he is now absolutely without pain, and wears only a Thomas hip brace. He has gained four pounds and six ounces in seven weeks and five days, and his mental condition is most remarkably improved. I have cited these cases to call your attention to the fact that we have not selected only those of a favorable prognosis.

We feel that we have proven beyond any question that out-of-door treatment in surroundings normally adapted to child life is more effective than the best possible treatment in wards. Fresh air is an essential in surgical tuberculosis as it is in pulmonary tuberculosis.

Whether out-of-door salt air is more efficacious than out-of-door inland air it is the object of this experiment to prove.

There are from 4,000 to 5,000 cases of surgical tuberculosis among New York tenement children alone, and from 50,000 to 75,000 little sufferers from the same disease throughout the country. If we have demonstrated that such cases can be cured if taken into the fresh air and given cheerful surroundings, we have accomplished great good. If comparison of results at Sea Breeze with results in inland hospitals indicates that sea air is preferable to inland air for such patients, we feel confident that the generosity of the American public and the progressfulness of American surgeons will shortly lead to placing the work upon a permanent basis, commensurate with the needs of the American children.

We look forward to the time when there will be a score of places on the American seashore that will make it henceforth unnecessary to look to European sanatoria for proper treatment of surgical tuberculosis.

126 East Thirty-fourth Street.

## THE PREVENTION AND MANAGEMENT OF SUMMER DIARRHEA AMONG THE TENEMENT CHILDREN.*

By CHARLES GILMORE KERLEY, M.D.,
NEW YORK.

Preventive medicine is at the present time engaging the attention of the best minds of the medical profession. The intestinal diseases of infants in summer, classed under the comprehensive term of "summer diarrhea," offer a better field for work in the line of prevention than any other disease of childhood. Considering the high mortality of intestinal disease in the young, there is no disease which deserves more of these efforts. The most potent factors, others than climatic conditions, and environment, in the causation of infant diarrhea are: First, a susceptible, easily infected gut; second, infected food; third, faulty feeding methods.

Sixteen years ago, when a junior member of the house staff of the country branch of the New York Infant Asylum, I gained my first knowledge of the disease in question. While making the rounds one morning early in June, the matter of the summer mortality among the infant population was being discussed with the resident physician, the late Dr. Clarence E. Kimball. I asked, I remember, why they had such a large summer mortality in an institution situated as it was at a considerable elevation, in the open country, constructed on the cottage and dormitory plan, with the additional advantages of good milk, good air, good general surroundings, good nursing, and good medical attendance. His reply was: "Take your pad and write, as we go through the wards, the names of the children that I indicate." I did so, and at the completion of the rounds, he directed that I should keep the list, of thirty names, and remarked that those children would probably be dead before August 1. Seeking an explanation, I remarked that these children were not delicate, nor athreptic. "Yes," he replied, in his characteristic, terse manner, "they may look well; but they have got fool mothers and susceptible intestines. They have had frequent attacks of indigestion and diarrhea during the winter and spring. The mothers cannot be made to feed them according to our directions—they bring all sorts of food from their own tables and give it to their children. On visiting days, when the mothers' friends come and bring cake, candy, and fruit, these children get their share of the cake, candy, and fruit; and I cannot prevent it. These children have but little intestinal resistance, and will furnish us our first fatal diarrhea cases when the hot weather is upon us." I kept my list, and found that the accuracy of his prediction was startling—but four of the children named survived the summer.

During the past twelve years, at the out-patient services of the Babies Hospital and the New York Polyclinic, I have had opportunity to come in close contact with a great many tenement mothers and tenement children. At these institutions we have a clientele fairly regular in their attendance, year after year, as one baby after another appears in the family. At these dispensaries we have a surprisingly low summer diarrhea mortality—about 4 per cent. Why? Because we teach these mothers how to feed and how to take care of their children all the year round.

*Read by invitation before the Society of Health Department Inspectors.

They are taught how to keep the child well. They are given pamphlets of instruction and oral teaching bearing on these points. They are instructed in the care of the bottle and the milk. In case a special article of diet is to be given they are taught how to prepare it. Written directions are given covering the point; nothing is left to the memory. Each mother is told, further, that she must wash her hands with soap and hot water before touching the baby's food or feeding apparatus for any purpose, and that there must be a covered vessel in which the soiled napkins are to be kept until washed. At the first signs of intestinal derangement she is taught to stop milk at once, give a cereal water and a dose of castor oil. It is impressed upon her that a green, watery stool means that the baby is sick and needs treatment, regardless of the season of the year. When the mother learns the above lesson for December, January, and March, she will not forget it in July. Further, as a result of the immediate correction of slight digestive disorders during the cold months we have a much less fertile field for pathogenetic bacteria during the hot weather.

You gentlemen of the Health Department have not made any tremendous impression upon the infant mortality of our city. Your number is increased by the summer inspectors, each man for a given district. The district is too large, and you reach it too late in the season. You are there two or three months in a year. The unsuitable food, faulty feeding methods, and indigestion, are there all the year round; and when you arrive with the hot weather the field is already ripe and you can do but little.

My experience has demonstrated that these mothers are anxious to learn to do their best for the baby; but they are absolutely ignorant of child management. The reduction of the large infant mortality during the summer is to be accomplished by the education of the mothers and by the possibility of their procuring a reasonably pure milk supply. The Health Department should have greater opportunities through a much larger appropriation. The time will come, I hope, when the tenement districts will be dotted with municipal milk depots in operation twelve months of the year under the management of the Health Department, where safe milk may be obtained at small cost. Given such safe nutrition, with the necessary instructions of an adequate number of Health Department physicians and visiting nurses, we soon would find the summer mortality appreciably reduced.

Comparatively few of the cases have pronounced toxic symptoms at the outset. At first there are the evidences of a mild infection; there may be vomiting, with several green, watery stools and an elevation of the temperature of a degree or so. Or the symptoms may be milder still—one or two loose, green defecations. Prompt treatment at this time, even in a crowded tenement, usually means prompt recovery. When the treatment is delayed, or is improper, when the administration of milk is continued, severe toxic manifestations and intestinal lesions are the result almost invariably.

There is one standing order in every household of children in my care, whether in private work in the hospital or in the dispensary. It is as follows: With the first appearance of intestinal derangement give two teaspoonfuls of castor oil and stop milk. Give barley water or rice-water until further advised by me. Our further treatment is simple. The child should be kept as quiet as possible and in the coolest room in the house, and the quarters as spacious as are to be had. Boiled water is given as a drink, and frequent spongings during the very hot days are advised. The cereal water, plain or dextrinized, is to be continued until the acute symptoms have subsided in large measure, regardless of the age of the patient. Barley-water or rice-water is given in the strength of one-half ounce of the cereal to the pint of water. When milk is resumed it is given skimmed, in small quantities, in cereal water; never more than a half ounce in the feeding. If the stools and the continued low temperature are favorable, the milk strength is gradually increased. For some years it has been my practice, in cases which cannot bear even small quantities of skimmed milk, to use condensed milk as a sick diet. This can often be taken and digested without inconvenience, when fresh cow's milk would cause a return of the trouble. From one-half to one drachm is given in a feeding of cereal water. After a few weeks the condensed milk is discontinued gradually by the substitution of one feeding daily of weak and skimmed cow's milk.

Stomach washing is used if there is repeated vomiting.

Various drugs have been used from time to time. The tannin preparations have been tested, and during my four years resident service at the country branch of the New York Infant Asylum almost every known drug that seemed to warrant a trial was given in a series of cases. In the year that followed I had the privilege of attending the clinics of Ranke and Zeitz in Munich, and of Monti and Wiedehoefer in Vienna, where many cases were treated daily. During the twelve years that have intervened in private practice, at the New York Polyclinic, at the Babies Hospital, and at the city department of the New York Infant Asylum, many hundreds of cases have been conscientiously watched and followed day by day. I have learned that there are just four drugs which may be relied upon to serve us in diarrhea. These are calomel, castor oil, bismuth, and opium. Castor oil is given at the onset by preference, the calomel being used only when oil is not retained. In such instances it is given in from one-tenth to one-twentieth grain doses at half-hour or one-hour intervals until one grain has been given. Bismuth subnitrate in not less than ten-grain doses at two-hour intervals, has given most satisfactory results. In order to be of service it must produce black stools—in other words, if some of it is not converted into sulphide of bismuth in the intestine it is without avail. If it passes through the bowel unchanged, no influence whatever will be exerted upon the intestinal contents. This happens in a small precentage of cases. In such the sulphur is supplied by the use of precipitated sulphur, a one-grain powder being given with each dose of the bismuth. The bismuth is continued in the large doses until the child is ready for milk, and then the dosage is diminished one-half and continued until full milk feeding is followed or until constipation necessitates its discontinuance. Opium in diarrhea must be used with caution. I employ it when there is tenesmus with frequent, large, watery stools. Opium should never be given when there are four or five medium-sized discharges in the twenty-four hours. This number is required to maintain drainage. It should never be given in combination with other drugs, for when the stools are reduced to one in four or five hours it should be lessened or discontinued. If it is used injudiciously, in too large doses or continued too long, the cessation of the stools will often be followed by a rise in temperature, prostration, and other evidences of systemic poison due to the retention of the intestinal contents which should be removed. If opium is to be given, I prefer Dover's powder one-quarter to one-half grain every two or three hours for a child one year of age.

As in the case of all good measures, irrigation of the colon has been overdone. Because a baby has diarrhea it does not follow that the colon must be washed out. The child who is having from ten to twenty loose watery discharges in twenty-four hours is quite effectually washed out, and does not require more. The cases which are benefited by the washing are those who have a moderate number of green, loose, mucous stools, with or without blood. In short, the cases to be washed out are those which have something to be removed. I never wash the colon oftener than once in twelve hours—usually once in twenty-four suffices. Various solutions have been used for the irrigation. One is as good as the other if you have enough water; for it is the *cleansing* of the bowel that benefits the patient. I generally employ the normal salt solution; using it warm unless it is desirable to exert an influence upon the temperature. I have used it as cold as 60° F; in cases of very high temperature—105° or 106° F.; while if the patient is very weak, with subnormal temperature and marked prostration, I have used the solution at a temperature as high as 110° F. The irrigation is carried on as follows: A soft rubber catheter, No. 14, English, is attached to a fountain syringe, the bag of which should be held three or four feet above the patient's body. The child must lie on the back or left side, with legs well drawn up. The tip of the well-oiled catheter is passed into the rectum. When an introduction of two inches has been effected, allow the water to pass in slowly. The water will distend the parts and facilitate the further introduction of the tube. Press the folds of the buttocks together until the colon is filled. This in a child eighteen months of age will require twenty-four to thirty ounces of water. When this, or a lesser amount, at least one pint, has passed in, allow the solution to run in and out at the same time.

The treatment and the management of the summer diarrhea in the tenements is more important than its management in the homes of the well-to-do. It is in the tenements that the great mortality of the disease occurs. But a few of the children can be removed to the country. The hospitals cannot care for them except in ridiculously small numbers. They must live or die in their tenement homes. Accepting this fact and knowing how to care for the children we are in a position to advise intelligently. Those so situated should bring this matter to the attention of the Municipal Government. The Board of Health stands between the Municipal Government and the child of the tenements. The Department must have means and power adequate to meet the requirements of the condition.

132 West Eighty-first Street.

## THE TREATMENT OF ACNE.*

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Before taking up the immediate subject of this paper, the treatment of acne, it may be of advantage to review a few points in the pathology and etiology of the disease; for by so doing we may get a clearer insight into its clinical relationships with other inflammatory conditions, and also into the theoretical conceptions upon which we base our therapeutic measures.

The earliest true acne lesion is the comedo, but the comedo itself is a development of a still earlier form, the enlarged pilosebaceous follicle, pouring its thin, oily secretion over the skin, and forming the essential lesion of the seborrhea oleosa. The condition is familiar to all—the thick, coarse, shiny, greasy skin, noticeable particularly on the middle of the face, over the sternum and between the shoulder blades, losing gradually its characteristic features and becoming more and more nearly normal toward the lateral surfaces of the body. A closer examination will show the enlarged openings of the sebaceous follicles, and from each of these a soft, thin, wormlike body can be expressed. In any case of acne, before the conditions have been changed by treatment, this exaggerated production of sebum may be demonstrated easily by drawing the edge of a microscope slide over the nose, with moderate pressure, or by pressing a small bit of skin between the thumb nails. If some of this sebum be squeezed out thin between two slides, the fat removed by washing with a little ether, and the smear then stained with a basic dye, like polychrome methylene blue, the preparation will show countless millions of a very small bacillus, the microbacillus of seborrhea of Sabouraud. And if only the middle of the fat-cylinder has been used, this bacillus will be unmixed with other bacteria.

In many patients this condition of seborrhea oleosa persists unaltered, but in many others there is a gradual change. The superficial epithelium becomes thicker, encroaching somewhat on the follicular openings; while that lining the follicles shares in the same process, constantly exfoliating and constantly renewing itself from beneath, and this mass of partially cornified cells, pushed toward the surface by the overflowing sebaceous matter, is thrown into folds and wrinkles which finally block up completely the mouth of the follicle. This is the beginning of the comedo. But the formation of sebum and the proliferation of the cells continues, until often the diameter of the mass is many times that of the original sebaceous plug. This comedo, the common blackhead, still contains in its center a pure culture of the microbacillus of seborrhea; but secondary infections with other organisms soon occur, the most common and the most important of which is the morococcus, a micrococcus which grows into gray colonies when cultivated. Coincident with the growth of this coccus the papule changes into a pustule—superficial if the inflammation spreads from the upper part of the comedo, deep if it spreads from the lower. This coccus is found in the majority of fresh acne pustules, but sometimes, especially in deep lesions, and more especially in old deep lesions, the microbacillus is found by itself, without any secondary infection whatever; whether in such cases the suppuration is caused by the microbacillus itself or by cocci which have died and disappeared after doing their work, is still undecided.

These secondary affections, which are an essential part of every case of acne except the simple comedo, show the intimate relationship between acne and dermatitis seborrhica, for the morococcus, the commonest of the bacteria of the secondary infections, is almost universally found in dermatitis seborrhica, and may perhaps be its cause. The importance of this fact will become more apparent when we take up the question of treatment.

In this hasty sketch of the pathology of acne reference has been made repeatedly to the bacteria which are always present. Their presence is undisputed: everyone knows they are there, and investigators are fairly in accord as to the particular varieties most often found. But the interpretation of this fact is a very different matter, and here there is a great split in the ranks of dermatologists. Some claim that the

*A lecture delivered at the New York Skin and Cancer Hospital, February 8, 1905.

bacteria are the one and only cause of the disease, and that any constitutional symptoms noticed are purely accidental, or even, as some claim, the result of autointoxication by the products of the growth of bacteria in the skin. A second group of clinicians see in the bacteria only harmless saprophytes; they say that similar bacteria are present in every skin, and that the true cause of the disease is to be found in some disorder of the system which injures the integument by interfering with its normal innervation or blood supply, or by bringing to it the toxines formed in other organs. There is a third group who find some truth in both views; these believe that for the development of acne there must be some sort of predisposition, it may be from indigestion, from constipation, from nerve exhaustion, or from some other general disorder, but this predisposition by itself is not enough to produce acne; there must be also the bacterial infection.

Let us examine these opinions a little more in detail. The first point in favor of the bacterial origin of acne is the presence of a certain definite bacillus in all the lesions. Not only is the microbacillus found in all the lesions, but in the early stages of the development of the disease it is found in pure culture. Various other bacteria are found in the pustules and other involution forms of acne, but none other is found in all the forms. A second point is the striking similarity between the course of an acne pustule and that of other lesions admittedly bacterial, such as a boil or an affection with anthrox. A third point is the result of the test of treatment, for the effect of local antiseptic measures is a matter of common knowledge; time and again, with no internal treatemnt at all, the inflammatory nodules and pustules fade and shrivel under thorough applications of sulphur or of the bichloride of mercury. But against the exclusively bacterial origin of acne stands the certain fact that this so-called microbacillus of seborrhea is present in every oily skin, and may exist there for years, with no development of acne whatever.

Consider now the theory of the constitutional nature of acne. In favor of this is the development of the disease at puberty, and its gradual amelioration or disappearance as adult life becomes fully established. It is impossible to believe that the bacteria happen to reach the skin only at that particular period of life. Secondly, indigestion and constipation, with the accompanying disturbances of circulation and innervation, and the absorption into the blood streams of various toxic materials are extremely common forerunners of an outbreak on the cheeks and forehead. The connection is unmistakable. We meet repeatedly with patients whose complexion is usually good, but in whom every attack of intestinal constipation and indigestion is followed by the development of one or two inflamed papules, which disappear as the intestinal condition improves. Gilchrist has suggested that the indigestion, sluggish circulation, etc., so often seen in acne patients may be caused by the absorption of toxines from colonies of bacteria in the skin, but in the cases I have in mind, the skin is apparently healthy—certainly it shows no sign of inflammatory action—and it is only after some constitutional disturbance that any cutaneous lesions appear. Thirdly, any disturbance of the uterine function is very often accompanied by acne, and in many healthy women, with normal menstruation, each period is accompanied by an outbreak, especially on the chin. Other abnormal states, as cachexia, nervous exhaustion, and the tuberculous diathesis, are so commonly associated with acne, that one cannot avoid the belief in a causal relationship; it is impossible to believe that chance only is concerned in such coincidences. And the internalists, as well as the externalists can appeal to the test of treatment, for many a patient has improved or recovered under purely internal medication. Yet, the effect of all these facts, as arguments in favor of a purely internal causation of acne, is weakened, or shattered even, by certain analogies with other diseases. Ringworm of the scalp, tinea tonsurans, is as purely a parasitic disease as we know, and no one at present doubts that it is caused by the growth of the tricophyton fungus. Yet as a rule tinea tonsurans cures itself spontaneously at puberty; and this being the case, why may we not believe that a disease which begins only at that time is also essentially parasitic in origin? Again, tuberculosis is essentially a parasitic disease, yet it does not develop in every one exposed to it, and is many times observed to follow some failure in the general health.

The third view of the etiology of acne acknowledges both causes, and combines them, but it places them on entirely different planes, and does not consider them at all as mutually exclusive. The acceptance of the belief that the microbacillus is the active essential pathogenic agent in the production of the lesions, does not in the least involve the denial of the equally great importance of the constitutional state. This view is, I believe, the true one. There can be no acne without the growth of some definite microorganism, probably the microbacillus of Unna, Gilchrist, and Sabouraud, any more than there can be ringworm without the growth of the tricophyton fungus, or consumption without the tubercle bacillus. A constipated, or cachetic, or scrofulous, or neurotic individual may have various eruptions, with or without other bacteria, but unless this particular organism is present, that eruption does not take the form of acne. And, on the other hand, no matter how common this organism may be, no matter how diligently it is spread over the surface of the skin, there will still be no acne unless the constitutional state is such as to permit it to develop and to show its specific effect. This predisposition may depend on some evident fault like autointoxication, or it may be so elusive that the most careful search, with our present knowledge, fails to discover it; but it is there, somewhere. In other words, neither growth of bacillus nor constitutional fault is by itself enough to produce acne, but when they are combined in the same individual, they work together to produce the papules and pustules with which we are familiar.

This brings us to the question of therapeutics, for it is in this double origin that we find the key to the correct management of each case; we should correct every general fault discoverable, and at the same time attack the lesions by local measures. Sometimes the one part of the treatment, sometimes the other, will be the more important, depending partly on the departures from normal in the general health and in the personal resistance, partly, it may be, on variations in the virulence of the infecting organism.

It is beyond the scope of this paper to take up in detail the treatment of all the conditions which predispose to acne. Such an attempt would involve writing a treatise on general medicine. But a few suggestions on the management of some of the commoner associated diseases may not be out of place. And here, as everywhere in medicine, the secret of success lies in thoroughness, in a careful inquiry into the previous personal history, and even into the family tendencies of the patient, into his present mode of life, his hours of sleeping, of working, and of eating; the character and quantity of the food taken, the amount of water drunk, and the indulgence of tea, coffee, chocolate, and alcoholic beverages of any kind, the amount of tobacco used, and

its apparent effect, the exercise taken and the time spent in the open air, the question of fatigue, the character of sleep, and whether it be refreshing or no. Systematic investigation of the entire physical condition of the patient should then be undertaken, in a conscientious endeavor to find the weak spot. This may seem to be a great expenditure of energy for a comparatively trivial affection, but it is the method that leads to the best results.

Of all the predisposing causes of acne, the one most commonly met with is indigestion, and particularly indigestion accompanied with constipation. The treatment of the condition is the same, whether acne is present or not. In no case are careful inquiry and rational management more necessary, for often the fault lies in some error of diet or some faulty habit of eating of which the patient is unconscious. The meals may be taken too rapidly, the interval from a light meal to a hearty one may be too long, or that between two hearty ones too short, or the evening meal may be too hearty and taken too near bedtime to allow full digestion. The diet must be adapted to each patient—some must be very careful, others may be liberal. If the digestive organs are competent, any food may be taken, while if they show any weakness, certain articles are apt to give trouble, among these are oatmeal, cream and sugar taken with cereals, fresh hot bread, fried food of all kinds, especially if poorly fried so as to be soaked through and through with grease, pastry and cake, griddle cakes, candy, nuts, cheese, and chocolate, while an excessive amount of meat is sometimes equally bad. Regular habits of going to stool must be insisted upon. Some medicinal treatment also will usually be necessary, but details on the subject may be obtained from textbooks of general medicine.

In women, disease of the sexual organs is a very common cause of acne, and in many women with no apparent disease, or with dysmenorrhea only, each return of the menses is marked by a fresh outbreak as is noted above. Such cases are extremely rebellious to treatment, unless the sexual disorder be first corrected. In many cases, some preparation of ergot, or of hydrastis, or of viburnum, or regulation of the stomach and bowels will relieve the menstrual disorder, and at the same time the acne; in others, more radical measures will be necessary; but in all, until the sexual functions are normal, local treatment of the acne will be followed by temporary improvement only.

Another very common type of patient is the scrofulous. Whatever one's conception of the etiology of the pathology of this condition, it is represented by a distinct group of cases, showing very definite symptoms—a thick, oily, pasty skin, a plentiful growth of hair, a rather thick neck, lymph glands slightly enlarged, or enlarging on slight provocation, frequently with deposits of lymphatic tissue elsewhere, as in the pharynx, usually a mild grade of anemia, and more or less physical and mental lassitude. To get the best results in this class, general measures must go hand in hand with local. They should be kept out of doors as much as possible and preferably at the seashore, and their rooms should be kept thoroughly aired. Exercise, but never to the point of fatigue, must be insisted upon. The diet should be liberal but simple. Of drugs, iron, arsenic, the iodides, and cod-liver oil, will be found the most useful.

The anemic cases also demand their appropriate treatment. In addition to the above classes, where some definite fault is evident, there is a large group in whom it is difficult or impossible to find any one organ or system which we can hold responsible for the general ill-health; the whole organism is less vigorous than it should be, and liable to suffer in any of its parts from the slightest causes. Here the problem becomes more difficult, and for that very reason it is the more important to take the utmost care in directing the daily life, and in using such tonics and alteratives as experience teaches us will be useful—quassia, cinchona, nux vomica, the hypophosphites, mineral acids, sometimes alkalies.

But the local treatment is after all the most important, and here, even as in the internal treatment, the master-word is thoroughness; go into every point in the care of the skin, and go over every part of the affected skin in making applications. The patient should wash the face two or three times each day with cold water, without soap, using no washcloth, but the bare hands, and then dry thoroughly with brisk rubbing. If there are acutely inflamed points, these should be avoided in rubbing, and protected from irritation of all kinds, and especially should never be squeezed or pricked by the patient, as such traumatism only increases the irritation and spreads the infection. The cold water and the friction are both powerful stimulants, and in all ordinary cases their cleansing action is quite sufficient. Hot water, applied at night for a very few minutes only in cases with much inflammation, is often of great service, but its routine daily use by the patient is not advisable, as it is apt to leave the skin coarse and relaxed; and soap also, though very valuable in some cases, is generally to be avoided. The face should be protected also against undue exposure, especially to strong winds, to dust, and to hot, dry air, as over a fire. The effect of this last agent, in conjunction with dust, is seen, apparently, in parts of the Southwest, where acne seems to be unusually common.

The topical applications used must be varied to suit the stage of the disease and the natural quality of the skin. If this is very sensitive, or if there is much inflammation, it is often advisable to begin with a soothing lotion, like milk of magnesia somewhat diluted, or one containing calamin, zinc oxide, and lime-water. After a few days of this treatment, and from the start in ordinary cases, the stronger applications should be used. The basis of most of these, the drug most generally useful in acne, is sulphur. Its action may be varied enormously by using powder, lotion, or salve, by using different strengths of each, by leaving them in place a longer or a shorter time, and by alternating with bland applications. The familiar lotio alba is as useful a preparation as any. For routine use, dissolve one drachm of potassa sulphurata in two ounces of rosewater, one drachm of sulphate of zinc in two ounces of rosewater, and mix the two solutions, when a white or slightly yellowish precipitate of sulphur will be thrown down. It should be used as follows: Shake the bottle thoroughly, pour out a little into a saucer, and with a piece of clean cloth, such as an old handkerchief, sop it all over the diseased area, and let it dry on. Let the patient do this every night on going to her room, and again just before getting into bed, leaving the double coating in place all night. In the morning, let her wash with cold water, dry with brisk rubbing, and immediately apply the lotion as above. The white powder is somewhat unsightly, but it should be allowed to remain as long as possible, the excess being wiped off, if necessary, with a moist cloth. For each application a fresh portion of lotion should be poured out, and a fresh piece of cloth used, for the sake of cleanliness and to prevent any reinfection. I have mentioned these details because in practice just such careful directions are necessary, and the difference between success and failure lies in attention to such minutiæ. The above

formula is a good one for average cases. If the skin be very sensitive the amounts of the ingredients may be diminished; if it be resistant, they should be increased, or fortified by the addition of a drachm or more of precipitated sulphur. If the patient object to the white powder left on the face, a half drachm to one drachm of calamin may be added. If the lotion makes the skin too dry and harsh, a quarter or a half a drachm of glycerin may be added to each four ounces, or the lotio alba may be used at night and a soothing lotion in the morning.

Throughout the treatment, at each visit, all comedoes should be removed by some form of comedo extractor—a small silver tube, with rounded edges at each end, is as good as any—for if allowed to remain, they are not only unsightly in themselves, but form the starting points for papules and pustules.

For many of the severer lesions, large inflammatory masses, the ordinary lotio alba is not sufficiently strong, and for these a lotion containing sulphur pdecip., 1 drachm; ether, 4 drachms, and alcohol up to 4 ounces, may be used in the same manner as the preceding. These applications, with attention to the general health, will reduce the inflammation in nearly every case, but a few will require severer measures. The large, deep, indolent dermal abscesses which sometimes form are little or not at all affected by external applications. They may dry up and resolve if the general treatment be efficient, but even so, their course is sluggish in the extreme, and quicker results are obtained by lancing them and evacuating their contents. A word of caution is here necessary in regard to all such treatment. It must be remembered that acne is not a fatal, not even a disabling disease; patients suffering from it come to be relieved, not of pain and discomfort, but of disfigurement, and any treatment which replaces a temporary disfigurement by a permanent one is worse than useless. The incision, therefore, must be small, and its axis must follow the natural lines of cleavage of the skin, that the resulting scar may be as inconspicuous as possible. After gently expressing the pus, the wound may be left to heal by itself, or a small cotton and collodion dressing may be applied; and this will often end the matter; but occasionally the cavity will refill, and in such cases, in addition to reopening, the interior should be cauterized with a little pure carbolic acid. Such a procedure is very seldom necessary, however, and should be followed only when clearly indicated, simpler means being employed as long as they give any hope of success.

When the active inflammation has subsided, the face will often show the pinkish scars of old lesions, large pores and a few comedoes and indolent papules. At this stage, massage and stimulation are very valuable, removing the dead skin and hastening the formation of new, and by increasing the circulation, favoring the removal of waste products and improving the local nutrition. A good lotion for the purpose contains: borax, 2 drachms; glycerin, 4 drachms, and rosewater up to 4 ounces; while if the skin is very coarse a more stimulating preparation is required, and the official tincture of green soap, first diluted with four or five parts of water, and then used in increasing strength will serve admirably. These lotions should be rubbed into the skin vigorously with a piece of flannel once or twice a day, and the use of the lotio alba continued, for acne is an obstinate disease and any relaxation of treatment is only too often followed by a relapse. If the massage is found too irritating, it should be stopped and soothing lotions applied till the use of stronger methods may be resumed.

One other point should always be considered, and that is the condition of the scalp. We have seen above that the commonest organism of secondary infection is acne, the one responsible, apparently, for most of the inflammation and suppuration, is the morococcus, and this same organism is exceedingly common, if not universal in dermatitis seborrhica. The conclusion is obvious: an acne of the face is almost sure to relapse as long as the focus of infection in the scalp remains. The combination is a very common one, and in all such cases treatment of the scalp should go hand in hand with the other measures, if the best and surest results are to be obtained.

The above scheme considers only a single line of external treatment, and the preparations mentioned are purposely limited, not because the other methods may not be equally useful, but because much better results will be obtained by adopting a single drug as the main reliance, and studying its possibilities in various forms and strengths, than by shifting perpetually from one thing to another in the search for a universal panacea which does not exist. The formulas may be varied enormously; salicylic acid or resorcin may often be added with advantage to any of the above; or the sulphur may be used in an ointment, with or without resorcin, and rubbed carefully into the affected skin. Or, if sulphur is not well borne or does not prove effective, it may be dropped entirely; and after careful cleansing, mercury may be tried and used in any one of almost countles ways, the bichloride in lotions and the red sulphide in ointments being about as useful as any. Such formulas may be found in any textbook of dermatology, and are beyond the scope of this paper, whose chief object is to insist upon thoroughness in the search for and correction of all possible predisposing causes, and upon the necessity for minute detail in all efforts at treatment.

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## TREATMENT OF PERTUSSIS IN RELATION TO ETIOLOGICAL FACTORS.

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In the Nineteenth Century no year has passed without one or more communications on large or small epidemics of whooping-cough. The outbreaks of our day in civilized countries act within always lessening circles, and assume such an indefinite origin that the disease seems to be quite endemic, and would rarely be spoken of as epidemic pertussis, were it not for the fact that here and there in newly settled countries, the *tussis convulsia* transmitted by past ages has been revivified and has become again capable of epidemic ravages.

A disease presenting such distinctive symptoms and so characteristic a course could not be overlooked by so vigilant a mind as Hippocrates and those observing men since his time who correctly diagnosticated the most masked ailments and clearly differentiated so many different diseases. The history of pertussis, therefore, begins with its first unequivocal description, and as long as the earlier physicians had failed to produce in their writings an indubitable impression, we must refer its commencement with certainty to de Baillou, who, in 1578, reported on an epidemic which spread over Paris during that year. Then omitting records of smaller epidemics, we find admirable reports on the large epidemics of 1749 to 1764 in Sweden by von Rosenstein, 1755 in Switzerland by Swinger, 1763 on the Island of Oeland by Wahlbom, 1769 in Germany by Mellin, 1770 in Brunswick by Holdefeund, 1815 in Milan by Ozanan. Yet the origin of the disease must

remain shrouded for all time, since we have received not the slightest conjecture from de Baillou, his contemporaries, or successors, as to how the focus from which the Paris epidemic of 1578 originated. It is certain that at that time it was not observed with epidemiologic interest. At the time of Thomas Willis, pertussis was a well known pest in England; still he did not discuss its origin, and his writings show no concern as to the history and spread of diseases in general.

A collection of records of those times presents undoubted confirmation of those writers who asserted that the home of the virus is in the North Coastland of Europe. Perhaps, too, as Schönlein insinuates, foci arise in the fresh water basins of Switzerland, like intermittent fever or cholera, and spread thence along the course of the rivers by traffic on them. In 1658, 1669, and 1670, whooping-cough raged in London. In 1724 it was observed in Germany and parts of Switzerland. In 1732 and 1733 it spread over the whole of Europe and was carried by English ships to the coast of the American continent. At the middle of the Eighteenth Century, we find pertussis a well recognized disease on the European continent, as well as in America and other extra-European countries. In our times the disease has continued to extend its area of prevalence. Yet it always appears to prefer northern to southern Europe. In North and South America, as in northern Europe, whooping-cough has become an annually recurring disease. According to Danish reports, it is endemic in Greenland (Hirsch). Since 1846 it has been found epidemic in California. The elevated plateaus of Texas seem to be immune. To-day we find an annual endemic recurrence in all known regions, with exacerbations both in morbidity and mortality, every three or four years.

In the hypotheses of all writers concerning the cause of whooping-cough, nothing approaching the positive has been ascertained. However, three dogmatic assertions cover this question; namely, pertussis is an infectious disease; it is a neurosis; it is a laryngotracheal catarrh. Few physicians endeavor to combine the three. Many, in fact the majority of physicians to-day, believe it necessary to defend one or other of these propositions. Yet does it not seem natural to say: whooping-cough is an infectious disease as regards its external cause; it is a neurosis in relation to its most prominent symptoms; and a catarrh in the anatomic localization of its most marked disturbances? To decide this question is not a matter of indifference, since on it depends a rational treatment. Infection would require specific treatment, local treatment would be required for local irritation, and psychic treatment for the psychonervous cough to meet the *"indicatio causalis."* It is generally conceded that pertussis is an exogenous disease, produced by a specific exciting cause, the exact nature of which is not yet known.

When we compare whooping-cough with tetanus, it must be regarded as an infectious disease, attacking particular parts of the nervous system. Compared to an ordinary catarrh due to "cold," there remains to be explained why the typical coughing paroxysm occurs in one and not in the other; but take the disease as one which seems to make the particularly predisposed individual susceptible to the mimicry of coughing, and to its extravagant explosions, and it appears as an epidemic of hysteric convulsive attacks produced in nervous subjects through a psychic contagion, with the catarrhal stage as an accidental forerunner. However, whooping cough is without doubt primarily a catarrh of the upper respiratory tract; during the convulsive stage, it is unquestionably an irritative condition of the nerves presiding over or concerned in the respiratory function. We cannot advance further than this at the present time. Further advances may be made according to the methods of modern neurology, if in all studies of the question the possibility *a priori* be conceded and it be remembered that the original localization of the disease may be different from the seat of the later symptoms, namely, the paroxysms.

Preventive measures against whooping-cough are at present lacking, but to seek a means of protection is not at all unreasonable. Unfortunately, Jahn's words are true to-day: "No dietetic precaution, no purification or strengthening by internal or external remedies, no adjunct, can be mentioned which will prevent whooping-cough, if it is necessary to remain within the limits of the epidemic and of the contagium." The question, then, is: Is there any means by which the disease may be cured, shortened, or its course made milder?

In the treatment of the disease, after so many commendations of different remedies and methods, we can only conclude that every physician is handiest with his own tools. In one work alone, to which I made reference, I found no less than fifty-four different remedies recommended. For those whose work has been met with contradiction, the words of Frederich Hoffman should be borne in mind: "If you wish to understand my arnica, then learn my methods."

Prophylaxis is naturally the first essential, and the first essential of phophylaxis is the avoidance of contact with whooping-cough patients. Schools, playgrounds and kindergartens are most commonly the foci from which the contagion spreads. Therefore, in severe epidemics, these must be closed if prophylaxis is to remain no empty word. Undoubtedly the greatest risk of contagion is during the catarrhal stage, and although at the height of the convulsive stage patients are seldom dangerous, they should be avoided as long as they cough. Very young children should be carefully protected, as should also a child who appears predisposed by heredity, constitution, or previous disease, to a severe course. It is not uncommon, however, for intelligent parents and physicians to leave healthy children exposed in case of a mild epidemic, that they may be immune in case of a more severe outbreak in the future. Yet children under four years, or of consumptive parents, or scrofulous and rachitic children, should be protected in every possible way. Also avoid exposing children who are at the time sick with the measles, especially during that season in which experience has shown serious complications occur most frequently—namely, the end of winter and autumn. Avoid taking cold, since in an epidemic every cold predisposes by making the individual more susceptible to the disease. Removal of sputa and excretory matter away from contact with individuals is a very sensible procedure. In whooping-cough all these rules should be put in force, independent of every theory of the disease.

Mohn, of Norway, insists that he has repeatedly cut short whooping-cough by a thorough disinfection of the room in which the patient lived with sulphurous acid. Bed, clothing, linen, toys, in short, everything with which the patient came in contact, were fumigated for six hours with sulphurous acid, for which twenty-five grams of sulphur were reckoned for every cubic meter. The room was then aired, the patient covered with fresh linen and put to bed. The next day showed the disease to have disappeared. This satisfactory report was confirmed by Schönberg, of Christiana.

Drug treatment, which possesses for the theorist the advantage that its use opposes in no way the

hypothesis of a miasm or contagium, comes to us strongly recommended, and may be tested by any physician. To Binz we owe the general reputation and proper employment of quinine, which to-day stands in the first place among drugs in the treatment of whooping-cough. This drug, properly employed, without doubt diminishes the violence of the attack, and has the reputation of considerably shortening its course. There is one objection to quinine which to some seems insuperable in children's practice, and that is its terrific taste. The physician need not be surprised at his failure in children's practice if from high Olympus he writes his prescription for quinine and hurries away saying: "Now see to it that he gets his medicine. I have something more important to do." Children, however, especially the very young ones, are not so sensitive to the taste of quinine as adults, and the difficulty proceeds not so much from the child as from the physician, who diligently warns about its taste, and the mother, who says, just before giving it: "Poor child—to have to take such medicine." Quinine hydrochlorate is to be preferred to the sulphate, on account of its greater solubility. It can be given in enemata if necessary, but there are many ways of concealing or disguising its taste. Many preparations are on the market to-day which effectively do so. It should be given about three times a day, as many decigrams as the child is years old, or as many centigrams as the child is months old. This is a good general rule to follow. Camphor holds a high place in the opinion of many as a therapeutic agent in pertussis (Jacobi). Given in doses of 0.5 to 2.0 g. daily, it seems to act as a strong restorative in progressive exhaustion and thus affects the course of the disease. The coal tar products are recommended. They are less favorable than quinine properly administered and are frequently dangerous.

In treating pertussis we are obliged to regulate diet. Overfilling of the stomach during the spasmodic stage is an evil, as it provokes cough and vomiting. Consequently, frequent administration of small amounts of concentrated nourishment seems rational, and experiment has proved it so. Pertussis children seem to thrive best on milk gruels of oatmeal, rice, barley and sago. For older children, boiled or roasted beef, boiled or stewed fish, and preparations of malt are excellent. In the case of milk, the addition of a little lime water prevents coating of tongue and buccal cavity, and a little salt retards too rapid coagulation of milk in the stomach. Broths are sometimes excellent for feeble subjects. In irritable stomachs equal parts of whey and egg water. Naturally, constipation produces an increase in paroxysms. Treat this by enemata, suppositories, or small doses of calomel. Symptomatic treatment should be carried out on the principle that each and every symptom should be combated if it threatens, but left to nature if it can be borne without harm or disadvantage. This is worthy of special emphasis. Bronchitis and catarrhal pneumonia are complications in case of full-blooded children which should be guarded against in the catarrhal state. Here emesis is often indicated and justifiable. Tartar emetic in the form of an antimonial wine, a teaspoonful every ten minutes till it acts, is usually sufficient. An enema should be given before emetics are used in children. An expectorant in nauseating doses may be exhibited in the same class of cases.

There is no specific for the prevention of the paroxysm. We can mitigate it, but any and all our means of doing so may fail at any juncture. Special drugs as palliatives have been recommended, as belladonna, morphine, strophine, etc. For violent vomiting, tincture of opium in drop doses is used. Psychic or suggestive therapy in the form of threats and commands has been highly recommended by certain physicians for the paroxysm. Felix Niemeyer tells us that he has heard the wife of a Prussian general, who was a resolute though tender mother, say whooping-cough could be cured only with a rod. This conclusion naturally gave offence here and there, and even aroused public indignation. Yet, supported by the experience of this man and the confirmation of intelligent physicians, this advice must be regarded with considerable emphasis, except in the case of rough and ignorant parents, when it is naturally not suitable. The violent paroxysms of whooping-cough demand palliative treatment. We must realize how much would be accomplished if only this symptom could be combated. Belladonna and, next to it, opium, or its alkaloid morphine, are most highly recommended. The so-called specifics in paroxysms, of which the extract of hyoscyamus received the most attention for a time, are not as efficient as either opium or belladonna. The same may be said to be true of other drugs, as conium, nicotiana, musk, etc. Moreover, many of the modern remedies deserve no more than a passing mention, with the exception perhaps of bromoform, which in a measure replaces chloroform inhalations, which naturally are inexpedient. Bromoform in the form of bromoform water or emulsion is used with quite satisfactory results by many. All preparations containing this drug in solution should be thoroughly shaken up before giving, because of its insolubility and very high specific gravity. Several cases of bromoform poisoning have occurred from ignorance of this fact.

The desire of many physicians to "do something," on becoming discontented with the results of internal medication, or being enticed by the theory of the localization of the disease in the upper air passages, has led to attacks directly on the hypothetic *locus morbi* to prevent the paroxysms. As a result we have reports of cures in eight or ten days by cauterization of the throat with lunar caustic. Inhalations of tannin, opium, carbolic acid, and potassium bromide have been advised. Some have painted the throat with cocaine with good results. The nose has been treated by cauterization and insufflations. The treatment through the ear by means of cotton plugs saturated with camphor should have a passive mention. Any one who has seen the benefit that quickly results from this method of administration of medicine in toothache cannot consider the trial of this simple and harmless method in whooping-cough as frivolous, though absolute results are not to be expected.

Recently Kilmer of New York has reported a series of cases treated by elastic abdominal belts with gratifying results. In controlling the excessive vomiting, as well as decreasing the number and violence of paroxysms, this method is certainly worthy of study and trial. He has shown that the simple wearing of the elastic abdominal belts has cut short certain cases of whooping-cough. The belt simply puts the stomach and abdomen in a splint; it supports the abdominal walls and prevents the relaxation and discomfort so common to all diseases which produce distressing cough. In my own experience I have employed the abdominal belt but twice, and in one of these cases it was used, not because I hoped to benefit the course and severity of the disease, but because the subject was rachitic, with the characteristic pot-belly, and the belt was applied in the hope that by compression and support I could alleviate somewhat the distressing discomfort incident to the cough in such a condition. To my surprise and satisfaction, vomiting ceased almost immediately and the paroxysms were reduced in number and severity to

such an extent that I was forced to conclude that the child was convalescent. I kept this belt on for several weeks after the child had apparently ceased all coughing, and the results, I must admit, were something more than mere coincidence. The second case on which I applied the belt was even more satisfactory, because of the fact, I suppose, that I applied the belt as soon as I was well convinced of my diagnosis. This same means has been used of late to control the vomiting of pregnancy and also of phthisis.

"A method for the treatment of whooping-cough," writes Kilmer, "which will reduce the total number of vomiting spells from 3.951 a week to 463 a week (as was done in his series of cases above referred to), thus showing a reduction of 89 per cent. in vomiting, certainly should be given a fair and impartial trial." Of Kilmer's series there was but one failure to benefit vomiting. Positive good effect on coughing was shown in 66 per cent. of the cases in the series. Positive good effect on vomiting was shown in 94 per cent. of the cases in the series.

## THE MENTAL SYMPTOMS OF NEURASTHENIA.

By EDWARD LIVINGSTON HUNT, M.D.,
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Neurasthenia is a condition in which the exhaustion of the neurones, coupled with their perverted reaction to stimuli, gives rise to symptoms, both physical and mental, varying in character, degree, and intensity. It is also a condition which is preeminently dependent on the two great factors of life —heredity and environment.

Beard defined it as a neurosis, and as such it has been recognized for a quarter of a century. Of late years, however, the conception of neurasthenia has somewhat changed. There has arisen a tendency to lay more stress on the mental side, and, as a result, an effort has been made to classify it among the psychic disorders. This, while being an advance, and a step in the right direction, seems to me somewhat too radical, and I am disposed to agree with the classification given to it by Kraft-Ebing, who has been most happy in calling it a neuropsychosis.

It is possible to have a case varying anywhere from just beyond the normal to one which is so affected with the doubts, the phobias, and the depressions as to catalogue it among the insanities. The one is almost normal, the other is almost insane. Between these two poles, very nicely balanced, are found the neurasthenias.

The mental symptoms are these: (1) Mental irritability; (2) weakened attention; (3) depression, deep pessimism; (4) introspection; (5) slow cerebration; (6) loss of memory; (7) obsessions, imperative ideas, and impulses; (8) the phobias, morbid, and anxious; (9) temptation to do wrong; (10) impaired judgment; (11) nagging and fault-finding; (12) excited emotional outbreaks.

Mental irritability is an invariable accompaniment of neurasthenia. At times it becomes so great that even those dearest to the patient annoy and irritate. Every subject brought up in the family circle is the cause of heated discussion and argument. So slight a thing as the tone of the voice is taken to denote controversy. Nothing can be spoken of calmly. The asking of a single question opens the flood gates of temper and irrascibility. This irritability is a fairly constant symptom, even in the mild cases. It is one of the most trying and one of the most deserving of sympathy. Perhaps it is the one which the physician most rarely sees. It is especially marked after exhaustion, undue fatigue, or excitement.

Weakened Attention.—Another fairly constant symptom. The patient finds great difficulty in listening to any prolonged discourse, even in following ordinary conversation. The interest may be fervent, but the attention flags. Common accompaniments are gaping and yawning.

Depression, Deep Pessimism.—The consumptive and the victim of cancer are blessed with hope. Their state is one of optimism. Not so the neurasthenic. His state of mind is one of profound depression and deep pessimism. He is hopeless. Even the recital of a parallel case showing complete recovery still leaves him doomed, the one exception. It is a depression of varying degree, at times more profound than at others. The state of the atmosphere and the time of the day are factors in determining its intensity. A dark day, in the forenoon, is apt to cause the deepest depression. On the other hand, the greatest irregularity may prevail, and I have known a patient to be equally depressed on a bright morning. The difference between the depression of the neurasthenic and that of the melancholiac is difficult to define; it is really only one of degree.

Introspection.—If there is one symptom beyond all others which belongs to neurasthenia it is introspection. With the first appearance of neurasthenia comes introspection—indeed, it is often the forerunner. The patient studies himself, with great care he observes each one of the bodily functions, he measures the urine, he saves the fecal matter, he examines the saliva. He watches the physician in his routine examination, and himself quickly learns to note the color of the mucous membranes, the whiteness of the cornea, and the clearness of the tongue. It is quite usual for many patients to take the pulse, while others keep a clinical thermometer and each morning record the temperature. The introspection is, I might say, an almost universal symptom and seems to be among the first, if not the very first, evidence of a disordered nervous system.

Slow Cerebration.—The neurasthenic thinks slowly. He becomes easily confused and agitated and with difficulty can carry out a train of thought. The condition is very constant, and, with varying degrees, is found in almost every case.

Loss of Memory.—The symptom of loss of memory is, I believe, more common among women than men. This may be due to the fact that of the two, the male mind is the better trained. It is fairly constant, although not always present in mild cases. It is of great irregularity, in that on some days it is much worse than on others. It is more a loss of memory for recent events and things, than for those more remote or of childhood. It seems to be largely due to imperfect cerebral coordination, to slow cerebration, and to a lack of receptivity, combined with a weakened attention. As a symptom it strikes great terror to the patient and does incalculable harm in advancing the case.

Obsessions, Imperative Ideas, and Impulses.—These are frequently found among the almost normal, among the neurasthenics, and among the insane. According to Berkeley, they are more common in neurasthenia than in insanity. Heredity and environment can best explain their presence. To the neurasthenic the obsessions present themselves in many and varied forms, and for the time being take complete mastery. They come unexpectedly and, therefore, inopportunely, and demand complete attention, as well as absolute obedience. Unless yielded to, the patient remains in a condition of great unrest and mental distress. They vary in degree and extent from the simple form, in which the patient fears that he may have failed to put out the gas, that he may have forgotten to bolt the door, that he may have mailed the wrong letter, to the more serious

phobias, and the *délire du toucher et du doute,* of which I shall speak next. The neurasthenic is aware of their presence, recognizes them, and, to the best of his powers of resistance, strives against them. Just what causes them is not quite evident. As I have said, heredity and environment are the predisposing, but the exciting cause is not so clear. Kraft-Ebing says they may result from an astounding event, some word, a contrast of ideas.

A patient of mine once wished to return to a suburban town, a distance of twenty miles, where she was staying. She went to the station, bought her ticket, and seated herself in the train. Just before the gong rang she began to question whether it was right to go. She accordingly left the train and came to my office. It so happened that I was out, and she well knew that it was an hour at which I was never at home. Accordingly she returned to the railroad, but this time got only as far as the concourse and did not pass through the gates. She was unable to go any further, and a second time returned to my office. Upon my reassuring her and advising her, she promptly left on the next train.

The Phobias.—It is but a degree from the imperative ideas to the phobias. There are simple fears without either delusion or hallucination. They may be limited to one particular thing or may embrace a group of kindred subjects. The most common and best known are the fear of closed places, the fear of disease, and the fear of contamination. They have been admirably classified by Beard.

The anxious fears are those in which the patient anticipates trouble, in which he expresses a fear of anxiety in the little episodes of every-day life. He is fearful lest he be late for his appointment; he is fearful lest he may have to wait; he is fearful lest the car may be crowded.

Temptation to do Wrong.—A symptom occasionally found.

Impaired Judgment.—An impaired judgment must of necessity follow such a train of symptoms as I have enumerated. The patient does not often display this impairment, however, as his mental attitude is such that he has lost confidence in himself, is unwilling to trust to his judgment, and, therefore, rarely if ever exercises it.

Nagging and Fault-finding.—These two symptoms really belong under the heading of mental irritability. They are well known and well recognized, and exist more especially among men. I have in mind a patient who, whenever he becomes neurasthenic, makes his family miserable by his constant fault-finding. Yet this same man, when in a more stable equilibrium, never criticises.

Excited Emotional Outbreaks.—The mood of the neurasthenic is emotional; he is ever ready to display his feelings, ever ready to have them displayed. As in the case of the imperative idea with no exciting cause beyond a word, a look, or an idea, he suddenly breaks out into an emotional or excited state.

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**The Mechanism of the Aortic Valves in Health and Disease.**—R. J. Ewart describes and figures an apparatus he has employed in studying this matter. He finds that under normal conditions the valve during the height of blood flow lies some distance from the aortic wall. As to the comparative elasticity of the aortic valves and corresponding aortic wall, experiments show that during the height of the systole the distance between the highest points of attachment of the valve along the aortic wall is some two or three millimeters greater than by the free edge of the cusp itself. Hence, under the physical conditions that exist during systole, it could not lie against it. When two cups become diseased and the third remains healthy, an unusual strain is put on it, and it stretches somewhat, but this process is attended with serious danger, for at the end of the systole it will fail to open out and an eddy in the blood current will be formed in the sinus which will further tend to keep the cusp against the aortic wall. A disaster of this nature might cause sudden cardiac failure and may explain the sudden death sometimes occurring in slight aortic disease. When all the cusps are diseased, the flow outward ceases at the end of the systole, but the eddies will persist for a short space of time and will naturally tend to assume their rounded shape, and thus meeting the one of the opposite side, will tend to set up an axial stream away from the heart. The regurgitant flow will, to some extent, be retarded by their presence, and it is possible before their complete destruction that a sufficient quantity of blood has entered the auricle from the venæ cavæ necessary for an efficient beat. It is probable, therefore, that these varying motions occurring behind and in the neighborhood of a damaged cusp materially assist in the approach to physical efficiency. Murmurs arise, according to the author, from a simple rhythmical variation in the rate of the flow through the constricted orifice. The rhythm produced is further found to depend upon two factors only—first, the rate of flow, and, secondly, the physical nature of the fluid. The actual shape or nature of the bounding edge has apparently no influence on the vibrations produced. The physical nature of the obstructing material has also no effect as long as the size of the orifice is not materially altered.—*The Lancet.*

**Report of Two Cases of Bony Occlusion of the Right Posterior Naris.**—H. S. Birkett reports two cases of occlusion of the posterior naris due to a congenital, bony partition. The history of the two cases is practically similar. In describing the second, the writer states that the entrance to the right nostril was filled with a considerable amount of mucous secretion, so that it was thought that the patient was suffering from so-called "catarrh." The right nostril was filled with a large quantity of thick, tenacious mucous which was removed only after careful syringing and swabbing. Anterior rhinoscopic examination showed the nasal cavity to be very spacious, due largely to an ill-developed condition of the inferior and middle turbinate bones. The probe showed the posterior naris to be closed completely by a partition which imparted a bony sensation. There was an appreciable diminution of the sense of smell and hearing on the corresponding occluded side. The mucous membrane of the middle and inferior turbinate bodies was paler than normal and sensation was not impaired. Under ether the bony partition was perforated by means of an electric dental drill, the movements of which were guided by the finger introduced into the nasopharynx. The opening thus made was kept patent by a strip of iodoform gauze, which was introduced through it into the nasopharynx. Recovery was uneventful.—*Montreal Medical Journal.*

MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, July 22, 1905.

## THE LUXURY OF TYPHOID FEVER.

Is typhoid fever a necessity, or is it a luxury? Most individuals would unhesitatingly say that they certainly do not regard it is a luxury; unfortunately, there are communities that still think it a luxury, and one for which they are both able and willing to pay, and pay handsomely. Such is the conclusion to which we have come on reading in *McClure's Magazine* for June, an article on "Typhoid: An Unnecessary Evil," by Samuel Hopkins Adams. In that article the writer states that "the average city of 100,000 inhabitants wastes perhaps half a million dollars a year on the luxury of having it, and probably a hundred thousand dollars more in efforts to avoid it. That amount of money properly spent would practically eradicate the disease." He then takes a number of cities and towns that seem to be attached to typhoid, and investigates the conditions, sanitary and otherwise, to be found in these places. Pittsburg receives the place of honor at the head of the list; it has a death-rate from typhoid fever of from 124 to 144 per 100,000. Dresden, in Germany, a city of about the same size, has a death-rate from typhoid of 4 per 100,000. But Dresden purifies the water from the dirty Elbe before allowing her inhabitants to drink it; while Pittsburg prefers undiluted sewage. Even the bottled water for sale there may be loaded with the typhoid bacilli, all in good working order, so there is no excuse for any one in Pittsburg not having typhoid. "It's as much a matter of course as a child's having the measles." But the Pittsburgers will soon be deprived of this luxury, for the city is installing a filtration plant at a cost of seven and a half millions of dollars, and when this is completed they will see their death-rate from typhoid drop as it did in Philadelphia when that city built its filtration plant. The next city to which Mr. Adams refers is Cleveland, which has a "habit of poisoning itself." Typhoid fever in Cleveland is not generally reported by the physicians. "Even in fatal cases there is a great deal of misreporting. Owing to long-continued prevalence, typhoid is an unpopular disease in Cleveland; it is regarded as a slur upon the city. Therefore, upon the reports will be found deaths from 'enteric fever' (the British name for typhoid), 'typhus abdominalis' (the German pseudonym), and 'typhoid pneumonia' or 'pneumotyphoid' (favorite American aliases). A large percentage of fatal 'malaria' cases really belong in the typhoid list." At present Cleveland spends about $300,000 per annum for table waters; it has no present intention of building a filtration plant; but "it has another scheme on hand, an intersepting sewer, which has taken ten years to build already, will take two or three years more, and will have cost $13,000,000 if something doesn't occur to make it cost $15,000,000. Its object is to provide the towns further down the coast with the sewage which now drifts back upon Cleveland, and which will continue to drift back with occasional favoring conditions of wind and water." This, certainly, is very considerate of Cleveland; the city not only drinks its own sewage, but actually passes it on to those other towns that may not have a sufficient supply of their own. Of Chicago, the author says: "To no city in the country, except Pittsburg, has experience been so dear a teacher; and no city has profited so little by lessons so costly." City politics gave the disease a great boom, and the cry of economy caused the first retrenchments to be made at the cost of public health and safety. We have not the space to do more than refer very briefly to much in Mr. Adams' article, but of his arraignment of Cornell in its epidemic of "Ithaca fever" (a new synonym and euphemism for typhoid), some mention is necessary. The typhoid death-rate at Ithaca "reached the appalling rate of nearly 725 in 100,000." The epidemic was, of course, due to the water supply, and as the water company consisted of the very best people in the town no one was called to account. Among these very best people were the "leading financiers, merchants, church members, etc.; . . . the secretary and treasurer of Cornell University was at that time a director of the water company; several of the university trustees had been directors up to within a short time, and their families were still financially interested in the company." With regard to the management of the epidemic at Cornell, we see a little of inside politics. The author says: "The Cornell Infirmary, to which many of the students were taken, was under lay management. There seems to have been little regard for professional opinion. One member of the Medical Faculty of Cornell resigned from the managing committee "because the opinions of a physician were not worthy of the consideration of the laymen of the committee." Another was rebuked in writing, because he took a member of the New York Cornell Medical Faculty to the hospital, which seems, curiously enough, to be against the rules. At a time when all the obtainable aid was necessary, the Medical Faculty, was, as far as possible, excluded from any direction of the infirmary. The result was: Percentage of deaths to cases among students treated at the Cornell Infirmary, 11.5; percentage of deaths to cases among students treated at the City Hospital, 6.7. Conditions of overcrowding and the class of patients considered were the same. That nearly 75 per cent. more cases were lost in the Cornell institution than in the City Hospital may fairly be regarded as the measure of difference between efficient and inefficient management. Finally the death-rate of the infirmary was 1½ per cent. higher than that of outside non-hospital treatment. That is, putting it barely, it was somewhat better not to go to a hospital at all than to trust to the management of the well-meaning trustees of the university institution."

Now, what is going to be done in the matter? Is typhoid fever to remain, or is it to go? The question will, in the long run, be decided by the public. When the inhabitants of any of the cities with polluted

water supply get tired of drinking sewage, diluted or undiluted, and of paying such a terrible tax in lives, and when they insist on a proper public water supply and filtration plants, then and not till then will the typhoid death-rate be as low as it should. If Dresden, and Philadelphia, and New York, and other places can have a respectable bill of mortality so far as typhoid fever is concerned, so can the cities named in this article. But it is for the public to make the demand; often they will have the assistance of the health department, sometimes they will not. The author regards yellow journalism as the greatest non-professional force we have toward better health conditions in our cities. Who shall start the ball rolling towards showing the public that typhoid fever is not necessary, and that as a luxury it is too dear at any price? Shall it be the yellow journals or the medical profession?

## AN EXPERIMENTAL STUDY OF CARGILE MEMBRANE.

The plastic process by which, under certain conditions, adhesions are formed between opposing serous surfaces in the body, constitutes one of nature's greatest safeguards in limiting or otherwise affecting pathogenic processes. Unfortunately, however, nature does not differentiate, and what may in one instance prove an efficient aid, may, in another, be productive of distinct harm. Peritoneal adhesions are often an important factor in abdominal lesions, and it very often becomes the surgeon's task to prevent their formation after operation where not desired. A number of procedures have been advocated in which the aim has generally been to cover all raw surfaces with peritoneum or an efficient substitute. Of the latter the best known, in this country at least, is Cargile membrane, prepared by a special process from the peritoneum of the ox. Dr. R. T. Morris, in order to determine its value, made a series of experiments in rabbits, and concluded that the material possessed distinct advantages in preventing adhesions. Surgeons have not been induced, however, to make any very extended use of the membrane, and with the idea of finding out whether this hesitancy was justifiable, Craig and Ellis (*Annals of Surgery, June,* 1905) instituted a series of extensive experiments in dogs. The material was used in the peritoneal cavity and likewise for the protection of tendons and nerves. Typical operative conditions were provided, and after a sufficient interval, the seat of operation was exposed, the clinical conditions ascertained and histological examinations made of the involved tissues in order to determine the fate of the membrane. The results obtained by these observers do not seem to warrant the favorable opinions previously expressed. In the first place it seems that the membrane does not remain *in situ,* but is readily shifted by the movements of the intestines, so that it was necessary to anchor it with sutures. The experiments show quite conclusively that the material does not prevent adhesions in the peritoneal cavity, and until absorbed, acts as a foreign body and, therefore, as an irritant. Both the plain and the chromacized varieties seem to be valuable, however, in preventing adhesions to wounded nerves and tendons when such structures have been subjected to trauma, operative or otherwise. In replacing destroyed or removed dura mater, the chromacized membrane may also prove of some value. The author's study indicates that the material is destroyed by a lytic substance contained in the body fluid and then partially absorbed. In the tissues it is split into fibrils, this change being accompanied or followed by the penetration of formative cells from the new tissue enclosing it. When the membrane is placed between two freshly incised surfaces, this stimulus towards "healing in" of the foreign material is added to the reparative efforts common to all wounds, and their resultant action must be withstood if adhesions are to be prevented. It must not be concluded, however, that the failure of this particular variety of membrane eliminates the possibility by some means of combating abnormally extensive adhesive processes. Further search will no doubt reveal some material which is better suited to the purpose and will supply a necessary adjunct to surgical technique.

## THE VIRULENCE OF MICROORGANISMS ESPECIALLY WITH REGARD TO THEIR IMMUNIZING POWERS.

Dr. Richard P. Strong, Director of the Biological Laboratory in Manila, has published under the auspices of the Department of the Interior, Bureau of Government Laboratories, a pamphlet on the above subject. The investigations were carried out with two strains of cholera spirilla of different degrees of virulence, designated for the sake of brevity as "virulent" and "avirulent."

The investigation consisted of absorption experiments with the living organisms and guinea-pig immune serum; absorption experiments with the living organisms and rabbits' immune serum; comparison of the agglutination of the virulent and avirulent strain; absorption experiments with the killed organisms and rabbits' immune serum; absorption experiments with the free receptors of the organisms and rabbits' immune serum, and comparison of the immunity obtained with the living virulent and avirulent strains.

The conclusions reached from these experiments were as follows: The virulent cholera spirillum possesses a greater number of bacteriolytic and agglutinable haptophore groups, or these groups are endowed with a greater binding power for uniceptors and amboceptors than the avirulent. The number or the avidity of the bacteriolytic receptors possessed by a bacterium is directly proportional to its virulence. However, the agglutinable receptors do not follow this law—that is, the agglutinable haptophore groups are not necessarily present in the same proportion as the bactericidal ones. While the energy of growth is probably sometimes an important factor in relation to virulence, other phenomena must also be considered. The virulent organism is possessed of a greater number of toxic haptophore groups than the avirulent. The binding power of the free receptors of the organisms for bacteriolytic amboceptors in vitro, is proportional to the bactericidal immunity produced in animals by each, which latter is in turn proportional to the virulence of the organisms from which the receptors were extracted. The binding power in vitro of the dead microorganisms of different virulence for bacteriolytic amboceptors is not in proportion to their toxicity.

The bactericidal immunity obtained by means of

the inoculation with the dead organisms of different virulence or their extracts (obtained by autolytic digestion) is proportional to the virulence of the living strains of the bacteria employed. With the living organisms, while the bactericidal immunity obtained from the inoculation of animals with the virulent organism is greater than that produced with the avirulent, such immunity is not in direct proportion to the virulence of the bacteria introduced.

Dr. Strong, however, insits that these conclusions apply as yet only to the two strains of cholera spirilla employed by him in his experiments, and he is not ready to assert that the conclusions are of general application.

### Tumor and Trauma.

Many competent observers have claimed that traumatism constitutes an important factor in the etiology of neoplasms. Attention is again drawn to this subject by the importance which it seems to have assumed in the domain of accident insurance, these institutions taking increasing cognizance of the possible connection between an injury and subsequent disease processes. Trauma has been defined in insurance parlance as a sudden accident which manifests its effects on the mind or body of the individual without his will or knowledge. This definition is scarcely broad enough, however, for many cases have been known in which the injury manifests itself not in an acute, but in chronic form, extending over a considerable period of time. Herzfeld (*Zeitschrift für Krebsforschung*, Vol. III, No. 1) has studied this subject very carefully, and concludes that pathological researches up to the present show quite conclusively that two factors are necessary for the production of a neoplasm, namely, separation of a germ cell and local irritation. Herzfeld has collected 54 cases in 42 of which it was asserted that some connection was present between an injury and subsequent tumor formation, and in the remaining 12 this was denied. More careful examination of these cases shows, however, that with the exception of a few, no such connection was really present, as in almost all of them it was ascertained that a primary carcinomatous deposit was present before the injury occurred to which it was ascribed by the patient, and, what is more to the point, no connection could be traced between the locality injured and that where the growth took place. In a case which he himself observed, an undoubted chain of circumstances could readily enough be traced between a traumatism and the subsequent appearance of a cancer of the breast. In view of the uncertainty which still exists in regard to this matter, the necessity is apparent for a more definite working rule which may be applied in practice, and this the author attempts to make by asserting that if a neoplasm is to be considered as due to a trauma, it must be formed within a reasonable period of time and at not too great a distance from the locality where the injury was received, the separation of the germ cells took place, and the irritation of the tissues occurred. The necessity for securing a careful and complete history is an important element in judging the merits of each case.

### Defective Vision as an Economic Factor.

In all highly civilized countries defective eyesight is one of the most conspicuous penalties to which its dwellers must submit. The menace of eye-strain in its relation to general health has been pathetically dwelt upon of late by more than one well known medical writer. Without, however, crediting eye-strain with all the evil effects which the perhaps too earnest scribes have attributed to it, the fact must be freely admitted that defective eyesight is a national drawback of a serious nature. In the *Cleveland Medical Journal* for June, 1905, Dr. L. K. Baker discusses the waste of time incident to defective vision, and states on the basis of his own experience that a large percentage of the eye workers of cities are unable to enjoy as many hours per day of those forms of work and pleasure which come through vision, as are those who possess normal vision. The writer gives figures which tend to show that the eyes of at least one person in four have abnormal vision to such an extent as to unfit them for the forms of near work incident to city occupations. Dr. Baker is of the opinion, therefore, that we must recognize the fact that the school course, skilled labor, and other conditions in cities, make demands for visual endurance which one in four of us is not qualified by nature to meet. Knowing this, we must apply prevention. We must modify the working conditions in favor of the eyes and obtain early detection, treatment, and lenses for abnormal eyes. There is one other phase of the subject which needs to be considered. While it is obvious that defective vision is on the increase, and should be prevented or treated, it must also be borne in mind that the treatment should be effective. In the present day there are many so-called opticians who are not competent, and care should be taken by the eye specialist that his patients should be fitted with glasses by a medical man who thoroughly understands his business. Incalculable harm is frequently inflicted upon the eyes of persons suffering from defects of the same who are fitted for glasses by unskilful opticians instead of trained oculists.

## News of the Week.

**Heat Prostrations.**—During the present heated spell in New York City up to noon of Wednesday there had been 134 deaths from sunstroke, and three times that number of prostrations. These figures will be largely exceeded if the heated term continues, as the heat prostrations increase in arithmetical progression with each day of uninterrupted high temperature. The greatest recorded number of deaths from sunstroke in any one day in New York was on July 2, 1901, when out of a total of 553 deaths 332 were reported from sunstroke.

**Treatment of Rabies by the Health Department.**—The New York Health Department is now giving the Pasteur preventive treatment for rabies at the Research Laboratory at the foot of East Sixteenth Street. In addition, the virus is sent out, mixed with a preservative, to be administered by the attending physicians to persons desiring to take the treatment at home. The course of treatment lasts from two to three weeks. It is strongly recommended that wounds inflicted by rabid or suspected animals be thoroughly cauterized with fuming nitric acid, or, if this is impossible, with the actual cautery. Immediate washing out of the wound is also advisable. When possible, it is recommended that animals suspected of rabies be securely chained and kept under observation for eight days. If rabies exists, symptoms will develop so that a definite diagnosis is possible within this time. If the animal is killed, the carcass may be sent to the laboratory for diagnosis. The routine is to make an examination of smears and stained sections of the brain tissue, and also to make animal inoculations. By the former

method a positive diagnosis may be reached in from thirty-six to forty-eight hours. A failure to find the characteristic lesions does not, however, exclude rabies. In the event of a failure to find the lesions, the animal inoculations are relied on for a diagnosis, which usually requires from eight to eighteen days. In sending animals from a distance it is recommended that, if small, the entire body be sent. If this is impossible, the head alone should be sent. The animal or head should be securely fastened in a box, and packed with a considerable quantity of ice and sawdust; the whole to be shipped to the laboratory in a larger box.

**Dr. Armstrong to be Superintendent of Bellevue Hospital.**—At the recent meeting of the Board of Trustees of Bellevue and Allied Hospitals Dr. Samuel T. Armstrong, medical director of the Washington Life Insurance Company, was appointed superintendent of the city hospitals. Dr. Armstrong was born in St. Louis, and was graduated from the St. Louis Medical College and the St. Louis University. After ten years' service in the Marine Hospital Corps, he came to New York in 1890. The construction of the new Bellevue Hospital, the bids for which have already been received, will be commenced as soon as the trustees receive an opinion from the Corporation Counsel on their right to accept alternative bids; that is, bids wherein materials are substituted other than those provided for in the specifications.

**For a Hospital in Turkey.**—The Trustees of the incorporated American Hospital and Training School for Nurses in Constantinople have elected these officers: *President,* W. Ives Washburn; *Vice-President,* George Washburn, D.D., LL.D.; *Secretary,* James S. H. Umsted; *Treasurer,* E. H. Baker, of Bliss, Fabyan & Co. A constitution and by-laws were approved. The organization is indorsed by the Prudential Committee of the American Board of Commissioners of Foreign Missions, and is urgent in its appeal to the public for funds. It is planned to transfer an institution of a similar character founded at Marsovan in connection with Anatolia College seven years ago by Dr. T. S. Carrington, to near the American College for Girls at Scutari. At the outset, pending the building of a permanent hospital and training school, a large building will be hired. Its equipment will be modern. Eight surgeons and two foreign nurses will form the staff. The promoters of the work call attention to the conditions in the Ottoman Empire, which is practically without trained nurses, and naively state that the native physicians, some of whom are rated highly, do not practise surgery, the profession of which "is rendered unsafe by the consequences which follow a case that ends fatally."

**Tent House for Sick Babies.**—A small structure of canvas and wood has been built on the grounds of the Northwestern University Settlement by the Chicago Relief and Aid Society, for the care of sick babies in the most densely populated and poorest sections of the city. The Visiting Nurses' Association has volunteered to supply a corps of nurses to attend the little sufferers, and several hospital physicians have given their services, so that the best care is guaranteed the babies. The Children's Hospital Society furnishes sterilized milk. In addition to this tent house, the officers of the University Settlement have given the use of the kindergarten bathrooms and another large airy room, that will be used to accommodate the babies for whom there is not enough space in the tent house. If the plan proves successful, a large number of similar institutions will be established throughout the congested districts.

**The Health of Philadelphia.**—The intense and protracted heat of the past week, in conjunction with the high humidity, is responsible for an augmented death rate, young children being the principal sufferers. For the week ended July 15 there were reported to the Philadelphia Bureau of Health a total of 548 deaths, 82 more than for the preceding week, and 65 more than for the corresponding week of 1904. Of the entire number, 178 occurred in children under the age of 1 year and 65 more in children between the age of 1 and 5 years. Not less than 120 deaths were attributed to diarrhea and enteritis occurring in children under the age of 2 years. Nine deaths were attributed directly to the heat, 4 in adults and 5 in minors. In adults, tuberculosis of the lungs led the list as a cause of death, being operative in 43 cases. Next came nephritis, with 34 deaths; then heart disease, with 25 deaths, and apoplexy, 19 deaths. Marasmus was responsible for 18 deaths and congenital debility for 17 deaths.

**Large Bequests to Hospitals.**—Three of the large hospitals of this city, viz., the St. Luke's, Presbyterian and Post Graduate Hospitals, are beneficiaries under the will of Margaretta A. Jones, who died on July 11. The residuary estate, which will probably be nearly $1,000,000, is to be divided equally among these three institutions. The principal of the share going to St. Luke's is to be known as the Margaret Jones fund, in memory of Miss Jones' mother. That going to the Presbyterian will be known as the Margaret A. Jones fund, and the Post Graduate devise will form the David Jones fund, in memory of Miss Jones' brother. The incomes of these funds are to be used in providing free beds.

**City Consumptive Hospital.**—The Board of Estimate has made an appropriation of $250,000 for the establishment of the city tuberculosis sanatorium at Mount Hope, in Orange County, N. Y. The property is about seventy-seven miles from this city, and is twenty-five miles from the Hudson River, west of West Point. It has an altitude of 1,250 feet above sea level. The farmhouses and cottages now on the land are to be used for the reception of patients immediately, without waiting for the erection of the permanent buildings, and are said to be capable of accommodating about 400 patients.

**Typhoid Fever in Every House.**—A severe epidemic of typhoid fever is said to have broken out in Collinsburgh, a small town twenty-five miles southwest of Pittsburg. There are about thirty houses in the village, and in every house there are from one to five cases of the disease. Five children have died in one family, and a number of other families have lost one or more members.

**Medical Men Eager for Adventure.**—When Commander Peary announced last week that the surgeon who was to have been a member of his Arctic expedition on the *Roosevelt* had suddenly changed his mind and decided not to go, it is stated that within twenty-four hours over 300 applicants had asked for the vacant appointment. The successful candidate is Dr. Louie James Wolf, an Oregonian who has been in the Bellevue Hospital Dispensary.

**Passengers from Colon Quarantined.**—Twenty-five passengers who arrived from Colon aboard the steamship *Alliança* were transferred to Hoffman Island from Quarantine because they had temperature somewhat above the normal. Under observation only three or four of the men maintained these high temperatures, and none has shown any symptoms of yellow fever. Most of the twenty-five are laborers from Panama or prospectors from Central America.

**Yellow Fever at Panama.**—Although during the

first four days of July no cases of yellow fever were reported from Panama, and at one time only one case was under treatment, at present seven persons are down with the disease.

**Recreation Expert for Panama.**—The conclusion of the Isthmian Canal Commission that proper recreation is necessary for the men engaged in the various branches of the construction has resulted in the engagement of W. E. C. Nazro as recreation expert. Mr. Nazro, who has made a specialty of such matters, will go to Panama, and after investigating the needs of the employees, will make a recommendation to the commission as to plans of recreation, including an amusement hall, clubhouse, facilities for outdoor sports, etc.

**New Brooklyn Hospital Site Selected.**—A piece of property in Dumont Avenue, between Bradford Street and Miller Avenue, in the East New York district, has been purchased by Charities Commissioner Tulley as a site for the new building which is to replace the Bradford Street Hospital. The building will be 200 by 280 feet, but is to be constructed so as to permit the addition of supplementary pavilions as they are required. The cost of the portion to be erected first will be about $60,000.

**Roosevelt Hospital to be Enlarged.**—An annex, 78 by 24 and 48 feet, is to be erected for Roosevelt Hospital between the administration building and the private patients' building on the Fifty-eighth Street side of the grounds, and connected with both buildings by a glass-covered corridor 48 feet long. The new building is intended for dormitories and a kitchen, and will cost about $15,000.

**Ambulance Upset.**—When the Flatbush Hospital ambulance carrying an injured lineman back to the hospital, in charge of Dr. Charles W. Walser, was upset by one of the wheels catching in a rut, the driver, patient, and surgeon were all hurled heavily to the ground. The driver was stunned so that he could not move, but in spite of a severe scalp wound and other injuries, Dr. Walser succeeded in righting the ambulance, replacing his patient inside, and driving to the hospital.

**A New Strauss Milk Laboratory.**—Plans have been filed for a new three-story milk laboratory for the Nathan Strauss charity, to be erected at 348 and 350 East Thirty-second Street. The building is to cost $30,000, and will be fully equipped in all respects for its purpose of providing sterilized milk for the tenement population.

**Miami Medical College.**—The faculty of the Miami Medical College have purchased a lot near the site of the new Cincinnati Hospital, and will put up a new building in the near future.

**Dr. Casper F. Hegner** has been appointed Demonstrator of Histology in the Miami Medical College, Cincinnati.

**Dr. A. P. Ohlmacher** has been appointed Director of the Biological Laboratories of Frederick Stearns & Co.

**Dr. Wyeth E. Ray** has been appointed Associate Medical Director of the Travelers' Insurance Company, of Hartford, Conn. On July 8 Dr. Ray also received his appointment as Assistant Surgeon (rank of Ensign) in the Naval Battalion, C. N. G.

**The Society for the Study and Cure of Inebriety** has elected Dr. H. D. Didama of Syracuse, N. Y., honorary president, and Dr. H. O. Marcy of Boston honorary vice-president.

**Obituary Notes.**—Dr. A. Palmer Dudley of New York died July 16 in Liverpool, England, while on his way to attend a medical meeting at St. Petersburg. Dr. Dudley was born in Phippsburg, Me., in 1853, and was graduated from the Dartmouth Medical School in 1877. He was a professor of gynecology in the Post Graduate Hospital and the Medical School of the University of Vermont, and was attending surgeon to the Harlem Hospital and the Randall's Island Hospital. Although Dr. Dudley was not well when he left this country, no serious fears for his health were entertained at the time of his sailing for Europe.

Dr. Edward Stickney Wood of Boston has died at his summer home at Pocasset, at the age of 59 years. He was operated on last March for carcinoma of the intestine. Dr. Wood was graduated from the Harvard Medical School in 1871, and had been professor of chemistry in the same school since 1876. In 1880 he was a member of the Committee on Revision and Publication of the United States Pharmacopeia. Since 1873 he has been chemist to the Massachusetts General Hospital. He was the author of a number of works relating to analysis, the nature of various poisons, and kindred subjects, and was regarded as an authority of the highest order in his own specialties.

Dr. T. G. Johnston of Ottawa died on July 4, at the age of 56 years. He was a victim of professional duty, having cut himself some time previously during an operation. The wound became infected and pyemia resulted. Dr. Johnston was the Liberal Member of Parliament for the West Riding of Lambton, and was highly esteemed as a public man.

Dr. W. C. Jacobs of Akron, O., the oldest practising physician of that city, died on July 8, at the age of 65 years. While dressing a patient's wound he pricked himself with a pin, and septicemia resulted. He was graduated from the Ohio Medical College in 1862, and served as surgeon through the Civil War.

Dr. William Armisted Moale of Baltimore died on July 12 at the Johns Hopkins Hospital after an operation for appendicitis. Dr. Moale was graduated from the University of Maryland Medical School in 1879, and traced his descent back to Ellen North, the first white child born in Maryland.

Dr. E. H. Yancey of Covington, Ga., died on July 1, at the age of 70 years. He served in the Confederate Army until the close of hostilities in 1865, and began the practice of medicine in 1870.

Dr. C. E. Parker of Princeton, Mass., died on July 10, after an illness of a year, from carcinoma, at the age of 41 years. He was graduated from the University of Vermont in 1889.

Dr. S. L. Sewell of Englewood, Mo., died of heart disease on July 5, at the age of 78 years. He had practised medicine in Jackson County since 1868.

Dr. J. M. Yowes of Centretown, Mo., died suddenly at South McAlister, I. T., at the age 70.

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**A Simple Substitute for Iodoform and Similar Preparations.**—Sommer says that the following surgical dressing, which has been used with great success in the Japanese hospitals is the invention of Surgeon-General Kikuzi. Straw of any sort, fresh or old, clean or dirty, may be used, but ordinarily rice straw is taken, because it is easily accessible. It is placed in an iron vessel or simply on the stone floor of a room and is lighted, all openings being closed to prevent the access of oxygen. The resulting charcoal is sterile, absorbs fluids with great avidity, costs next to nothing, and can be produced everywhere. Sommer himself frequently uses it in place of more expensive dressings of finely powdered wood charcoal. This stays sterile indefinitely, and has such marked disinfecting and deodorizing properties that it should be more universally employed.—*Reichs-Medizinal Anzeiger.*

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

BIRTHDAY HONORS—SANATORIUM FOR WORKING CLASS—S. WALES UNIVERSITY COLLEGE—A NEW LEAGUE—PROF. HOWARD KELLY—PRIZE DISTRIBUTIONS AND ADDRESSES—HOSPITAL SUNDAY—OBITUARY.

LONDON, June 30, 1905.

A LONG list of honors and promotions in connection with the official celebration of the King's Birthday was issued last night. Among the knighthoods conferred are: Prof. McCall Anderson of Glasgow; Dr. W. J. Smyly, P.R.C.P. (Dublin); Philip S. Jones, M.D., of Sydney; Edmond Sinclair Stevenson, M.D., member of Medical Council of Cape Colony. Surgeon-Major Hale, V.C., receives a K.C.B., Surgeon-General Gubbins, K.C.B., and Col. W. Coates, R.A.M.C. (volunteers), a C.B.

Princess Christian presided yesterday afternoon at a meeting in furtherance of the objects of the National Committee for the establishment of sanatoria for work-people suffering from tuberculosis. It is intended that the sanatoria in question, when erected, shall be maintained by the various friendly societies and other organizations of the working classes whose members are to be benefited by them. The cost of the first sanatorium is estimated at £50,000, for which an appeal is now made. A site has been secured 250 acres in extent. Accommodations will be provided for 200 patients. Some of the friendly societies and other bodies evince great interest, and promise to bear the cost of maintenance. The post-office employees hope to provide for fifty beds. The Princess Christian is president of the committee, and was accompanied by Princess Victoria of Schleswig-Holstein, so with royal support and a popular cause it is probable the first sanatorium for workers will soon be built. Thus another step in pushing forward the open-air treatment is taken, though it is not long since there was considerable discussion as to whether this plan was really all that has been claimed. One would suppose that the needful buildings for trial might be less costly and so more numerous.

The foundation stone of the new buildings of the University College of South Wales and Monmouthshire was laid on Wednesday by H.R.H. the Prince of Wales in his capacity of Chancellor of the University of Wales. His reception was all you could anticipate. At the singing of "God Bless the Prince of Wales" one verse was given in Welsh. In response to the address the Prince congratulated the people of the district, whose liberality has enabled a great part of the scheme to be carried out.

A congregation having been proclaimed, the Prince thanked the deputy, chancellor, court and senate, and guild of graduates for his welcome and for affording him the pleasant duty of honoring the eminent men who were presented for honorary degrees. The recipients were Mr. J. G. Evans, Professor H. T. Jones, Dr. John Williams, Lord Tredegar and Mr. Chamberlain.

Another organization has been set up this week to improve the means of developing the physique of this poor degenerate nation. Among the causes of our decadence the founders enumerate the keen struggle to make a livelihood, the difficulty of obtaining proper dwelling accommodation, the want of fresh air and playgrounds, unwholesome feeding, overcrowding, late hours, premature smoking, drink, and the strain of town life. The "National League for Physical Education and Improvement," as the new association is called, will try to have in every district some agency at work to promote the physical education and development of the young of both sexes. The Lord Mayor presided on Wednesday at the inaugural meeting in the Egyptian Hall of the Mansion House, which was crowded to its utmost capacity. The Bishop of Ripon stated that the causes which tend to impair the health of the nation, as disclosed by the Departmental Committee, ought to be combated by united action, and that the agencies at present engaged in isolated work should have an opportunity of combining, and thus cover the whole country. He moved a resolution to this effect, and remarked that it was not a question as to whether there had been deterioration during a given period, but attention was called to the fact that conditions existed which tended to injure the physical strength of the people. The Lord Chief Justice seconded the motion, and said that after forty years at the bar and several on the bench his experience was that the great cause of crime—second only to drink—was the lack of healthy recreation and innocent amusements among the working classes. Sir W. Broadbent moved that the meeting approve the proposed federation, and after other speeches, including one from Mrs. Bramwell Booth, who declared that the one thing needed was good mothers, the motion was adopted and the new "National League" started on its course.

You know that Prof. Howard Kelly has come over to take rest here, and your readers and others know more of his work than we can tell you; but they may, perhaps, be interested to hear that he had a splendid reception at the Gynecological Society, where he delivered a most important address on Renal Tuberculosis. The meeting was representative, and the expressions of pleasure from various schools at the presence of Dr. Kelly in the flesh must have afforded him all the satisfaction he acknowledged he felt. Dr. MacNaughton-Jones, in proposing a vote of thanks for his brief address, mentioned some of his achievements in gynecology, and went on to say that in no department was his name better known than in that of diseases of the urinary organs, for he stood alone for his skill in dealing with them.

Sir Wm. Sinclair followed, saying he could not do justice to the address in seconding it, but without being eloquent he could be sympathetic. It had been a great gratification to listen. Dr. Kelly had told them that he was practical, and inoculated guinea-pigs for diagnostic purposes. But in this country the prejudice was so great that one might inoculate human beings rather than guinea-pigs. Dr. Kelly was an original man. In this country there is perhaps a slight tendency to run each other down, but when an American discovers anything his countrymen are patriotic about it.

Dr. Mendes de Leon of Amsterdam spoke, and assured Dr. Kelly that not only in England but also in Holland he and his work have numerous friends and admirers.

Dr. Haultain of Edinburgh testified to the peculiar pleasure he had in supporting the vote, for in that distant part of the world called Scotland Dr. Kelly had frequently been and treated them to such an address as that they had just heard. He thought it no trouble to travel so far and bring with his own thanks those of the Scottish members who were unable to come.

Dr. Kelly, in acknowledging the thanks, urged in a charming manner that we must found all our work on moral qualities—that where medical men cordially support one another and where warm affection prevails in the profession there medical work flourishes and medical science stands at the highest. Where jealousy and competition rule, the best work must be stunted.

The Archbishop of Canterbury distributed the prizes at St. Thomas's Hospital on Wednesday, and spoke to the students of the responsibilities for which they were training themselves, and the possibilities which the great advances in medical and surgical science and practice offered them to benefit the lives of rich and poor alike. Never had there been a time when so much was expected from their profession, and it was matter for congratulation that every bit of knowledge acquired was made freely available for everybody.

Sir John Gorst, M.P., yesterday distributed the prizes at St. Mary's Hospital, and discoursed pleasantly about public health. He told the students that the medical profession would occupy a more important position, as all civilized nations were awaking to the importance of the health of the people. Outside the profession those views about health so long held by expert authorities were beginning to spread, and public opinion, the ultimate force by which reforms could be carried out, was backing up the authority of sanitary experts. The Public Health Act Sir John described as a perfect mass of powers which had only to be put into execution by local authorities to produce a much better state of things than existed at present. Much had been done to reduce the death rate, but much more remained, and one great obstacle to progress was the apathy of the poor as to their health.

At the London School of Medicine for Women yesterday Mr. Butlin distributed the prizes and commented on the steady increase in the number of women who took degrees in medicine, though this faculty, instead of taking the first place after arts, is still below that of science. There are about 150 women who have taken the M.B. (London), but more than 250 hold the B.Sc. For D.Sc., out of 16 who tried 14 succeeded. Not more than half a dozen have graduated in law. Mr. Butlin expressed surprise not to find a single female doctor of music, and out of 12 candidates for the degree of Bachelor of Music only 3 had obtained it.

Hospital Sunday has again passed, and the special collections and other efforts were made as usual. The day coincided with the annual visit of the judges to St. Paul's Cathedral, and there the collection was reinforced by a gift of £12,500, being half of a legacy left by the late W. F. Cook for his executors to allot to some central London hospital fund. The testator was head of Cook, Son & Co., of St. Paul's Churchyard, and has bequeathed legacies to various charitable institutions.

Inspector-General A. Turnbull died on the 22d inst.,

aged 67. He was educated at Edinburgh, and qualified L.R.C.S. in 1859, entering the naval service in August, that year. He was surgeon to the *Bacchante* from 1880 to 1882, and in medical charge of the present Prince of Wales when serving on that vessel. He reached the rank of inspector-general in 1896, and had charge of Haslar hospital in 1897 8, in which position he proposed various reforms, including the provision of aseptic operating rooms, which were carried out by the Admiralty.

Surgeon General James MacNab Cuningham (retired), C.S.I., M.D., LL.D., Hon. Surgeon to the King, died on Monday.

Sunderland has lost another esteemed practitioner—Mr. William Alder, who died on the 19th inst., aged 38, from Bright's disease. He had served on the Town Council, and might have become Mayor if health had been spared him, as he was exceedingly popular as a citizen as well as a doctor.

## OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

DISEASE AMONG CONVICTS—VINEGAR IN THE PROPHYLAXIS OF AMEBIC DYSENTERY—PLAGUE IN CHINA—FATAL MALARIAL FEVERS—PERSONAL ITEMS.

MANILA, P. I., May 29, 1905.

THE Insular government recently has had a very unfortunate experience in that many of the prisoners who have been sent to the provinces to work at road construction have contracted various diseases which have disabled them and even resulted in death in some instances. Bilibid, which is the name by which the large Insular prison is known, has had a constantly increasing population during the past two years. The policy has been to find employment for its inmates not only with the view of teaching them useful trades and reducing the cost of maintenance, but also for the purpose of making confinement therein less attractive. With the foregoing purposes in view, large numbers of them have been loaned to the Military to be used in building roads. Several hundred were recently sent to Aebay province to a point near Tobaco. They were apparently in good health at the time of their departure, but soon after commencing to work they developed tuberculosis, dysentery, beriberi, etc. Seventy were recently returned to Manila for treatment on account of suffering with the above diseases, and it is understood that there are at least fifty more who are to be transferred. During the voyage of the first batch sent, smallpox developed among them. The quarantine authorities remanded the vessel carrying them to the Mariveles Quarantine Station. Two additional cases have made their appearance since then. While undergoing quarantine detention twelve died of dysentery and tuberculosis. It is understood that there is to be a searching investigation as to how the prisoners contracted the above named diseases at their camp in the province.

Considerable discussion has been caused by articles in the Manila daily newspapers, which stated that Dr. Stafford of the Civil Hospital had found after much experimentation that raw vegetables might be eaten with perfect safety, so far as amebic dysentery was concerned, provided they were first immersed for about a minute in ordinary table vinegar. In view of the fact that Dr. W. E. Musgrave, of the Government Laboratories, has found amœbæ in the third washing of distilled water used for cleansing lettuce, the claims of Dr. Stafford, if true, would be a great boon to the inhabitants of the tropics. It was reported that the Bureau of Government Laboratories had confirmed the claim, but that has not been done as yet. It was also reported that Dr. Stafford was experimenting upon himself, but in view of the fact that he now has dysentery, it is to be presumed that the vinegar prophylaxis has not proven entirely satisfactory.

The annual outbreak of plague has taken place this year in Hong Kong and Amoy with the same clock-like regularity which has characterized the disease in former years. The increase in the number of cases during the past two weeks has been very rapid. For the past two weeks the number of cases at Hong Kong has been reported at 23 and at Amoy at about 50. If the disease follows the same course as in former years, a still greater increase may be expected each week until well into June, after which time there has always been a gradual decline in the number of cases until November or December, when it completely disappeared. In Manila this year the increase has not yet begun. This may possibly be due to the fact that the rainy season has not commenced yet. The dark days no doubt are more favorable to the growth of the plague organism than the bright sunny days which occur at present.

Last week a case of plague occurred in Cavite, which is situated on the bay about seven miles from Manila and is also the place at which the Navy has its Philippine headquarters. Cavite is in direct communication with Manila by ferries which run almost hourly during the day. The case occurred in a child about seven years of age. According to the history the victim had not been in Manila for over a month. Every effort was made to trace the source of the infection, but no clue was obtained. A house-to-house inspection has been made at Cavite, but no suspicious cases were found.

A very fatal form of malarial fever was recently encountered upon the island of Guimaras. It appears that quite a number of the soldiers who participated at the target practice, which took place some distance from Camp Jossman, contracted malarial fever. Three of them died in spite of the prompt exhibition of quinine, which was given subcutaneously. It is said that the Spaniards had similar experiences which caused them to avoid entirely the section in which the above-mentioned cases were contracted.

Major C. Richard, Surgeon U. S. Army, who has been acting as assistant to Col. Girard, the Chief Surgeon of the Philippines Division, has been relieved from further duty in the Philippine Islands and has returned to the United States.

Major R. J. Gibson, Surgeon U. S. Army, who has been the attending medical officer at the Pasay Garrison, has been relieved from further duty in the Philippines and has returned to the United States.

It has been reported that Colonel J. B. Girard, the Chief Surgeon of the Philippine Division and Assistant Surgeon General, will be relieved within the next few weeks on account of illness. Col. D. M. Appel, Medical Department U. S. Army, will temporarily assume his office until his successor, who will probably be ordered from the United States, arrives.

# Progress of Medical Science.

*Boston Medical and Surgical Journal, July 13, 1905.*

**Neurasthenia; A Study of Etiology; Treatment by Occupation.**—The paper of H. J. Hall may be summarized as follows: Neurasthenia is a very indefinite term, which may be made to apply to a wide range of functional and mental states, which, however, seem to have in common mental instability, irritability, and fatigue. It is a condition always complex, but which may be simplified for therapeutic purposes by the recognition of a neurasthenic unit of which, in combination with an infinite variety of conditions and happenings, social, educational, physical, and psychic, the disease may be said to be built. While much of the diseased state depends upon individuality, and much doubtless on purely physical conditions, very much also depends upon environment. Treatment of symptoms is frequently unsatisfactory, and the broad principle of substitution is advocated, for since the neurasthenic unit is the product of maladjustment with existing conditions, it is probable that entirely new conditions will offer opportunity for better adjustment. The kind of life chosen as most frequently applicable and least likely to foster neurasthenia is that of productive industry. The difficulty of transferring the patient to this, for him, ideal environment is not so great as might at first be supposed. It is desirable to control a practical shop where fabrics and articles of interest and beauty may be made under competent instruction. It must be the real thing, and not a mere play shop. Properly managed, and in suitable cases, the patient forgets his mental difficulties in the light of large new interests.

**Senile Albuminuria.**—A. E. Austin reports the result of a study of the urines of forty-five men, the age limits being sixty-four and ninety-five years, the majority of the patients being over seventy. They are divided by the author into three classes. Class 1 (sixteen patients) gave a positive reaction for mucin, which in over half the cases was referred to prostatitis. Class 2 (nine patients) gave the reaction for serum albumin and globulin. Class 3 (ten patients) gave the reactions for both serum albumin and mucin. Out of forty-five old men, therefore, true albumin was found in the urine of nineteen. Yet none of these men were ill, though many were constipated and most micturated more often than normal. Disturbances in this class of cases may come from imperfect elimination of urea. The author surmised that possibly owing to the continued constipation, the absorption and elimination of indol by the kidneys might account for symptoms referable to the latter, but further research convinced him that the albuminuria was not due to this cause. He is, therefore, inclined to refer the sequence of symptoms to initial prostatic trouble. His general conclusions are that albuminuria is fairly frequent.

*New York Medical Journal, July* 15, 1905.

**Popliteal Aneurysm; Its Surgical Treatment.**—H. M. Taylor calls attention to two facts: First, that in traumatic and sacculated aneurysms, we can and should preserve the lumen of the parent artery, and, second, that in fusiform aneurysms one should arrest the circulation through the sac and obliterate its cavity without disturbing the outside adhesions of the sac. We lessen in this way the danger of too sudden demands on the collateral circulation. He records the personal case of an adult, syphilitic male, with a large popliteal fusiform aneurysm, extending from well up between the condyles to the junction of the upper and middle thirds of the legs. The operation done was a modification of the antyllus method, consisting in proximal and distal ligation of the parent artery, in evacuating the sac, and in approximating by deep mattress sutures the sac walls. The outer adhesions of the sac walls were disturbed as little as possible, with the object of preserving its blood, nerve, and lymphatic supply to aid in establishing the collateral circulation. Diminished trauma and lessened local swelling and pressure, and an increased vascular, nerve, and lymphatic circulation are the advantages gained over proximal and distal ligation with extirpation of the sac. Capillary drainage was introduced into the sac. The drainage was very free for a week. The patient's recovery in all particulars was satisfactory.

**Papilloma of the Kidney; Nephrectomy.**—The patient of J. B. Boucher was a woman of forty years, with attacks of colicky pain in the region of the left kidney, extending down the course of the ureter to the groin, and at first associated with menstruation. Finally they occurred as often as three times a week, and she rarely went ten days without one. Before and during the attack no urine was passed, but after the attack she passed large quantities (often two quarts) of clear urine. Occasionally it was dark, but contained no stones or blood. Examination of the abdomen was indefinite, and exploratory incision was decided on. The right kidney was in good condition. The left was found in almost normal position, but hard and small. A nephrectomy was done, and the patient made a good recovery. Incision of the organ removed showed the cortical substance to be somewhat contracted and harder than normal. Extending into the ureter from pelvis of kidney two small papillary tumors were found, so attached that when the kidney was in position the tumors passed by each other in such a way that they apparently occluded the entrance of the ureter. It is not clear just how these tumors produced the painful crisis. If it was by occluding the ureters, it seems strange that there was not an enlarged kidney, or at least a condition of hydronephrosis. It is difficult to explain why there was such a large quantity of urine passed after each attack, unless it was of reflex origin.

*Medical News, July* 15, 1905.

**Two Cases of Epilepsy, the Result of Gastrointestinal Disturbance.**—The first case of F. H. Murdoch was a girl of eighteen years, whose stomach disturbances began one year previous to her attacks of petit mal. The latter then began, and increased in frequency, so that she had eight or nine a day. Examination showed that the stomach reached, on inflation, the navel, and that the right kidney was movable in the second degree. Gastric secretions were normal, but in the morning, before eating, the organ contained much mucus mixed with bile. The treatment consisted in lavage, proper diet, and, for an accompanying anemia, arsenic and wine. The petit mal ceased after the first lavage and did not return. After a summer's stay in the mountains, the patient was completely restored to health. The second case was that of a man of thirty, two years with attacks of grand mal, with intestinal disturbance. On inflation, the stomach reached to a point one and one-half inches below the navel, while the ascending colon was considerably dilated. There was a history of but one convulsive attack. Regulation of the diet and daily colon flushing, with normal saline, relieved all the abdominal symptoms, and the convulsive attack did not recur. The author admits that it is impossible to be sure on this latter point, as epileptic attacks often come on at night, and a person may be epileptic for years without knowing it.

**Three Cases of Primary Sarcoma of the Stomach.**—The cases are reported by Harlen Brooks, his patients being respectively females of fifty-seven and fifty years, and a male of fifty-seven years. The growths were in the order named round-celled sarcoma, fibrosarcoma, and angiosarcoma. The autopsy findings in the three instances are recorded in full. The symptoms were in general those of malignant disease of the stomach. Brooks states his belief that primary sarcoma of the stomach is much more frequent than is generally thought to be the case. Unquestionably this is due to the fact that microscopical examination of tissues removed post-mortem is not invariably resorted to. The four recorded by him have been discovered in a series of some 1,200 consecutive autopsies, and in each of these instances the gross specimen aroused his suspicion as to the usual nature of the growth. It stands to reason that gastric sarcoma may, in many instances, resemble the more common gastric carcinoma, and it is his firm belief that, were every case of stomach neoplasm examined microscopically, we would find sarcomata much more frequent than his statistics indicate. There is less tendency to involvement of the gastric mucosa and more toward the infiltration of the muscular walls than with carcinoma. Metastases are apparently less frequent and of later appearance than with carcinoma, and the course of the disease is longer in sarcoma.

*American Medicine, July* 15, 1905.

**"Gall Spider Cases."**—Robert T. Morris says webs of peritoneal adhesion are found in the bile tract region so commonly that they have come to be looked upon almost as a normal characteristic of the region by post-mortem examiners. The significance of these webs of adhesion has been overlooked in the same way as we overlooked the significance of adhesions in the cecal region previous to our knowledge of the subject of appendicitis. Peritoneal adhesions in the bile tract region cause symptoms that are commonly diagnosticated as belonging to a large group of gastrointestinal disorders, and the author believes that the subject is one that is to attract the widespread attention of physicians immediately. Rules are given for making the diagnosis in "gall spider cases," as the author characterizes them. He removes the gall-bladder and prevents recurrence of adhesion by employment of Cargile membrane or of the film method. The subject is a new one, but the cases are so common that practitioners will find them frequently as soon as they have begun to look for them.

**Blood-Pressure Observations for the Practising Physician.**—Clinton E. Brush speaks of the importance of using a cuff at least 12 cm. wide, as the error in cuffs that wide or wider may be disregarded. The importance of obtaining both diastolic and systolic pressures is emphasized—the method of Strassburger for determining diastolic pressures being deemed sufficiently accurate for ordinary work. He concludes: (1) Both systolic and diastolic pressures should be taken. (2) The cuff on the instrument should be at least 12 cm. wide. (3) With the wide cuff, the normal systolic blood-pressure for the healthy adult male is nearer 110 mm. Hg. than it is 130 mm. Hg. (4) The chief value of blood-pressure observations lies in the lead they give in regard to indications for and results of treatment. (5) In a few conditions they are of diagnostic value. (6) In many conditions blood-pressure observations are of no practical value.

**Cholemia in Neurasthenia.**—Hubert Richardson reviews the etiology and symptomatology of cholemia, calling attention to the nervous symptoms with which it is associated. The presence of bile pigment in the plasma and the cerebrospinal fluid in certain cases of neurasthenia is the primary cause of the disease. He recommends mercury in small doses in combination with sodium glycocholate mass, with the administration of large quantities of water containing the inorganic salts of the plasma in normal proportion as well as alkalies in full doses. He considers this form of neurasthenia has a bad prognosis, the disease often progressing to a true insanity.

**Recent Views Regarding the Treatment of Nephritis.**—James S. McLester thinks that the practice of giving large quantities of fluids in cases of acute nephritis is still very general and, owing to the intolerance of the acutely inflamed kidney to water, is productive of much harm. As a diet in this disease he indorses a milk and cream mixture. In chronic interstitial nephritis he advocates moderate restriction of fluids to relieve as much as possible the heart, and thinks the diet usually prescribed is too low in proteids to maintain the necessary nutritive equilibrium.

*The Journal of the American Medical Association, July* 15, 1905.

**Fractures of the Upper Maxilla.**—Raymond Russ describes a form of splint for fractures of the upper jaw, consisting of a headpiece of heavy wire or whalebone and an interdental plate of aluminum molded to the jaws, the two parts being united by strong rubber bands, and permitting the taking of food and power of speech during the mending of the bone. The interdental plate is, for part or all of its extent, bent upward so as to form a sort of gutter filled with softened dental compound, which moulds around the teeth, keeping them in place. Two lateral arms pass out of the mouth over the bicuspids, affording attachment for the rubber band. The splint can be easily removed and cleansed by boiling.

**The Ethics of Pharmacy.**—H. W. Wiley discusses the

subject of the duties of the pharmacist as regards the interests of his own profession, those of the physician, and those of the public. The relation of pharmacy to his own profession, he thinks, can be defined in a few words: That he should keep and dispense standard medicines and those of the purity and strength required; that he should avoid substitution, and that he should avoid illegitimate commercialism. In other words, the essentials are purity of products, legitimate profits, and freedom from debasement and substitution. As regards the medical profession he sums up briefly the ethics of pharmacy, as the training of skilled pharmacists able to compound in the most artistic way, and with the best results to the patient, the prescription which the physician may present. He deprecates the use and sale of proprietary remedies. This he considers as one of the greatest evils of the day. In his relations to the public he believes the pharmacist should be protected from the sale of drugs by unqualified persons, and he urges on the pharmaceutical profession the propriety of educating the public in matters of temperance and deliberation in the use of iced drinks, etc., of which custom has made him the dispenser.

"Full many a man both young and old
Has gone to his sarcophagus
By pouring water icy cold
Adown his hot esophagus."

This would be, he thinks, a good prophylactic motto for the popular soda fountain. The druggist also should not allow himself to keep a saloon, and he should not sell the proprietary remedies in which the principal ingredient is alcohol. If not allowed to sell the ordinary intoxicating drinks, he should not sell these substitutes, at least not without taking out a license. In many cases, the pharmacist is an emergency physician, and should be able, therefore, in his relations to the public to give first aid in the way of drugs and other help. He holds there should be a mutual friendliness between the druggist and the physician, since each must at times exercise the functions of the other, and he would like to see more instruction in pharmacy in medical schools, and vice versa.

**Traumatism of Right Kidney.**—Charles B. Dyde reports the case of a young man who was kicked by a horse, in the right lumbar region, ten days before he was admitted to the hospital. At first the patient refused operation, although he had severe pain, swelling of the right side of the abdomen, and bloody urine. After several weeks he consented to an operation. Kocher's oblique incision was made, but no trace of the kidney could be found. There was severe hemorrhage on the table, but was controlled by packing with gauze. The patient lived eighteen hours, and autopsy revealed the following unusual and remarkable condition: The right kidney, entirely free in the cavity, which contained two quarts of blood clots, was broken into three pieces, retaining not the slightest connection with vein, artery, or ureter. His days had been prolonged by the system of adhesions, which walled off and limited the hemorrhage, and the gradual stretching and tension of these, as the swelling increased, had created a great deal of the abdominal pain.

*The Lancet, July* 8, 1905.

**Automatic Flushing of the Stomach in Certain Cases of Vomiting.**—The histories of four cases are given by W. H. Bennett. The method, which the author learned from a patient who took the treatment of his case into his own hands against the advice of the physician, consists in drinking as much as the patient desires of ordinary cold or tepid water, or other perfectly bland fluid. As thirst is, in the first instance, the main thing to be obviated, plain water is preferable, as more of it is absorbed than of any other liquid. The effect of the administration of water in this way, which is quite the contrary of orthodox teaching, is really to bring about a very frequent automatic washing out of the stomach, and it will be found by the time the patient has taken, say, a pint or one and a half pints of water, which he will greedily do, that the vomit, although occurring quite as frequently as, or perhaps more frequently to begin with than before, becomes clear; it loses its smell, the offensive taste is gone, and the patient's disgust is entirely removed. In such a case it is a revelation to watch the change that comes over a patient's countenance as he is allowed to quench his thirst, and as the vomiting, after taking free libations of water, becomes inoffensive to the taste and smell. The special class of cases of vomiting to which the author refers consists of those abdominal conditions, with and without operation, in which, for some reason or other, the normal functions of the intestines are so disturbed that frequent rejection of stomach contents takes place.

**A Case of Hypertrophy of the Mammary Glands.**—J. Darquier relates the case of a woman of Beunos Ayres, thirty-five years old, in whom the right breast, and later the left, became enormously enlarged. The increase in size was slow and painless, while the general condition was good. When first seen, eighteen months after the beginning of her trouble, the mammæ hung down like huge saddlebags to the level of the umbilicus. Abrasions, due to friction, were present on one side, but the feel was that of normal mammæ. The skin was much thickened, but not adherent to the deeper structures. Some few enlarged glands were found in each axilla. No improvement followed the iodide internally and compression externally, so both breasts were removed (a month intervening between the two operations), and the patient made a good recovery. Examination showed that the breast tissue was formed of fibrous meshes with but few cells, and a considerable number of vessels with thick, fibrous walls. The glandular acini were atrophied by compression, and only a few surrounded by fibrous tissue, were healty. The pathological diagnosis was chronic fibrous mammitis, or diffuse fibroma of the mammæ.

**Perforated Gastric Ulcer with Fatal Hemorrhage from the Bowel in an Infant Forty-five Hours Old.**—The first symptom in the case reported by A. G. Bisset was hemorrhage from the anus. There was no history of hemaphilia, syphilis, or phthisis, and the child was not jaundiced. The bleeding continued, and the child passed into a state of collapse and died, various remedial measures being without avail. A provisional diagnosis was made of some form of ulcer pretty low down in the bowel. This was disproved by the autopsy, which revealed a typical gastric ulcer of the acute form, with clean-cut, punched-out margins on the posterior stomach wall near the lesser curvature, and about half an inch from the cardiac opening. The ulcer was completely perforated, and, as some shreds of mucoid material were found adhering to its peritoneal aspect, the posterior abdominal wall was again examined, and a little of this blood-stained mucoid matter was seen lying in the situation which the ulcer must most probably have occupied, evidently indicating that adhesion of the ulcer had actually taken place at this point, but had become separated during the removal of the stomach from the abdomen, and had been the means of preventing the escape of the blood into the peritoneal cavity. The ulcer was circular in form and was almost the size of a threepenny piece on its inner surface. The paper closes with some statistics as to the frequency of occurrence of gastric ulcer in young children. The author finds that in the recorded cases actual perforation is extremely rare. In this particular case there was no vomiting whatever. Bisset refers to the origin of the lesion in his own case to the vigorous gastric peristalsis set up by the milk imbibed, though assuming that there must have been some previously weakened area on the stomach wall. For the latter, he is unable to account.

**Note on the Examination of Cultures and Smears from the Throat and Nose.**—W. T. Gordon Pugh commends the use of the following stain: "One gramme of toluidin blue is dissolved in 20 c.c. of absolute alcohol and distilled water, one liter to which 50 c.c. of glacial acetic acid are added. The stain is applied to the preparation for two minutes. When examined in a bright, artificial light, all the Babès-Ernst bodies, whether in bacilli or cocci, are stained a reddish-purple, while the bodies of the diphtheria bacilli stain a faint purplish-blue; those of other bacilli acquire a pale but more definite blue tint, as do also most of the cocci.

*British Medical Journal, July* 8, 1905.

**The Nature of Tabes.**—William R. Gowers gives as the two essential symptoms of tabes, loss of the knee-jerks and incoordination of the legs. He declares that it is open to question whether locomotor ataxia is primarily a disease of the spinal cord. The posterior sclerosis of the cord is degeneration of the tracts adjacent to the posterior median columns. It is a secondary, upward degeneration, which occurs above any transverse lesion of the cord. It does not occur, says the writer, below a lesion, therefore the fibers have their vital center below. But the same degeneration occurs if the posterior nerve roots are destroyed. This is most significant. It shows that the fibers of these columns come directly from the posterior roots. They are fibers which have their vital centers in the cells of the posterior ganglia. Another symptom besides those mentioned is hypotonus, or diminution of muscular tone. We can conceive that the ataxia of tabes and the loss of the knee-jerk may be entirely due to the degeneration of the sensory muscle neurons, to the effect of the loss of their impulses on the spinal and cerebral processes. Whatever the morbid influence which causes tabes, it may penetrate more deeply into the nervous system and pass beyond the sensory neurons on which its influence acts first and chiefly. It may even involve the motor centers, as those of the eyeball muscles, and even those of the limbs, in the spinal cord. The visceral symptoms and the various crises also occur, but of these we do not know the precise mechanism.

However, the cause of the disease acts chiefly on the sensory neurons, and thus its essential symptoms are produced. Toxic agents derived from without, such as arsenic and alcohol, may derange nerves of special function and give rise to symptoms precisely like those of tabes. A similar effect is produced by poisons generated within the body. The organisms of specific diseases generate toxins in part directly, and in part indirectly. These organisms produce poisons, and also substances which are not poisons, but which derange the formation of albuminous substances and convert them into nerve poisons. The writer, in speaking of the relation of tabes to syphilis, says that we may regard as justified the assertion that syphilis must be regarded as a *conditio sine qua non* of the occurrence of tabes.

**The Increase in the Consumption of Animal Food: A Survey of the Past Fifty Years.**—Chalmers Watson declares that there is probably a widespread opinion among medical men that any deterioration which may be proved to exist in the present generation has a direct relation to the alterations in the dietetic habits of the country in the present and past generations. A study of the available data conclusively proves that in the last fifty years there has been an enormous increase in the consumption of animal food. The writer then touches upon the geographical distribution of disease. It is said that appendicitis is almost unknown among the natives of India in those districts in which the staple article of food is rice. Chlorosis is also extremely rare. Diabetes is so prevalent that it might be called the gout of India. These facts are suggestive. It is reasonable to think that diet may play an important part in the occurrence of other diseases of a more acute nature. It has been suggested that the relative immunity to typhoid fever in the Japanese army may be partly accounted for by the nature of the Japanese dietary. The writer then appends some interesting charts, in which he shows the remarkable increase in the consumption of meat in the British Isles in the past fifty years.

*Berliner klinische Wochenschrift, June* 26, 1905.

**A New Palliative Operation for Benign Stricture of the Rectum.**—Lenk calls attention to the fact that the results obtained in the treatment of this affection by major operations, such as resection, are not very encouraging. For example, Koenig, out of six cases had one death and five relapses, and in the experience of most surgeons resection without a relapse in the course of years is a rarity. The alternative, that of making a permanent artificial anus, is a terrible infliction for the patient to be obliged to resign himself to for life. In three cases that he has lately had to treat the author has employed the principle of simple incision of the stricture with excellent results, and he recommends it for those cases which, in consequence of the inadequacy of dilatation with bougies, or other treatment, are considered ripe for one of the major operations. In carrying out the procedure he lays great stress on securing asepsis of the operative field by irrigation and the use of antiseptic powders. The day before the operation the rectum above the stricture is plugged with a large tampon of iodoform gauze and opium is administered. The operation is done with local anesthesia, under control of the eye, through a speculum. A quadrilateral section of the cicatricial tissue is then excised, the layer removed not being more than one centimeter in thickness in order to lessen the chances of subsequent contraction. The stricture is at once dilated to its fullest extent in order to determine whether its caliber has been sufficiently increased, and if not, a second area is excised on the opposite side. The author's three cases gave excellent results under this plan, both as regards preservation of the patency of the intestine and improvement of the existing proctitis.

*Münchener medizinische Wochenschrift, June* 27, 1905

**Granulations in the Lymphocytes of the Blood.**—Schridde describes observations he has made on the lymphocytes which he believes will be of great assistance in determining the origin and nature of the leucocytes in general. By special staining methods he has been able to demonstrate the presence of granulations in the lymphocytes which are characteristic in their staining reactions, arrangement, and form. The technique is as follows: The smears are made in the usual way and placed for twelve hours in a ten to per cent. solution of formalin Müller, and are then put for twelve hours longer into plain Müller's fluid. At the conclusion of this time they are rinsed in plain and then in distilled water, and stained for 1 to 2 minutes for from sixty minutes, being protected from light. They are again rinsed and stained in Ehrlich's acid water and toluidin solution. This is made adding twenty parts of acid fuchsin to one hundred parts of a cold, saturated, filtered solution of toluin in distilled water. The cover glass covered with the stain is warmed until it steams, and after cooling is counterstained with a solution containing one part of saturated alcoholic solution of picric acid and seven parts of 20 per cent. alcohol. The preparation is decolorized with absolute alcohol as soon as it shows a yellow tinge and is then ready for mounting. All the leucocytes except basophiles should show granules, the latter cells exhibiting only colorless vacuoles corresponding to granules. The granules in the eosinophiles are black, those of the neutrophiles pale, brownish red. The lymphocytes exhibit granulations intermediate in size, and yellowish red in color. They usually are clustered about the nucleus and are not very numerous. The nuclei of the lymphocytes are stained a light, sepia brown, whereas those of the leucocytes are a dark, dirty, yellowish red.

**The Fatigue Toxin and its Antitoxin.**—Weichardt contributes a further communication on this subject, in which he refers to a better method of fatiguing the experiment animals. The guinea pig to be used is placed in a bell jar into which pure carbonic oxide is admitted. As soon as it becomes comatose its entire musculature is fatigued by faradization in the rarefied air of the bell jar, the current used being extremely weak, so that all painful contractions are avoided. When death has occurred owing to the fatigue autointoxication, the current is for a time applied in much increased strength. The precautions necessary in obtaining the toxin are very great and require intricate manipulations, as oxidation deprives the toxin of its virulence. The author has found that the reverse is also true, viz., that by the use of reducing agents it is possible to increase the amount of toxin, and that it is also possible to obtain toxic bodies from the muscle juice of unfatigued animals. Reduction toxins may in this way also be obtained from other varieties of albumin, such as placental albumin, that of the brain, from pollen, and even from egg albumen. The related nature of these bodies is shown by the fact that the fatigue antitoxin to a greater or less degree neutralizes all of them. Animals can be rendered markedly resistant to fatigue by giving them fatigue antitoxin by mouth and then immunizing them by injections of fatigue toxin.

**The Treatment of Goiter with the Röntgen Rays.**—Stegman describes two cases in which improvement followed the application of the Röntgen rays to thyroid enlargements. The first case was that of a woman of fifty-two, who was being subjected to radiotherapy for some supraclavicular mestastases of a carcinoma of the breast which had been removed by operation. At the same time a parenchymatous goiter of considerable size was also exposed to the action of the rays. After the sixth session the enlarged glands could no longer be palpated and the goiter had diminished in size by about a quarter of its volume. The second patient was a girl of twenty-one, with a large, soft parenchymatous goiter. After only two radiations the circumference of the neck decreased from 39.8 cm. to 36cm., and the previously existing dyspnea was relieved. In view of these good results the author urges further trial of the method in order to establish its value by testing it on a large number of cases.

*Deutsche medizinische Wochenschrift, June* 29, 1905.

**Demonstration and Occurrence of the Spirochæta Pallida in Syphilis.**—Herxheimer and Hübner have found that in place of Giemsa's azureosin stain a simpler method serves equally well for the demonstration of the spirochæta pallida in the secretions of syphilitics. A 1-1000 solution of either Nile blue B R, or of Capri blue, allowed to act on a smear for 16-24 hours gives satisfactory results, the organisms in the former case being stained a dark blue, and in the latter, gray. In making the examinations it was found that considerable practice was necessary to recognize the almost transparent spirochæta, but out of fifteen cases which clinically were undoubtedly syphilitic, the organism was found in all but one, though frequently only after hours of search. In two doubtful cases the organism was not found. In two instances the observers were able to demonstrate a single spirochæta in sections of tissue. In order to disprove the allegation which has been made to the effect that the spirochæte were organisms developing in the staining fluids the authors searched through a series of covers on which the solution had been allowed to dry, but without finding any spirochæte. Motile spirochetæ were also discovered in hanging drop preparations.

**Observations on the Staining of the Spirochæta Pallida.**—Giemsa gives the formula for a new solution which he considers the best yet discovered for staining protozoa and spirochætes. One of its advantages is that it contains an excess of the basic dye, so that its keeping qualities are assured even in tropical climates, and precipitation of the dye on mixture with water is prevented. The composition of the stain is as follows: Azur II eosin, 3o; azur II, 80; glycerin (chemically pure), 250g.; methyl alcohol, 250g. The smears are made very thin, and after drying are fixed for fifteen to twenty minutes in absolute alcohol and dried with blotting paper. The stain is then diluted in the pro-

portion of about one drop to the c.c. of water, and is then immediately poured over the preparation. After ten to fifteen minutes it is washed off with a stream of water, the preparation is dried, and is then ready for mounting. For some purposes, including the staining of the spirochæta, it is advisable to add to the water before diluting the stain a few drops of a 1-1000 solution of potassium carbonate. Overstained preparations may be decolorized by placing for one to five minutes in distilled water. Schaudinn's spirochæta is distinctly stained by this solution in one to five minutes, but the best results are obtained at the end of one hour.

**The Diagnosis and Treatment of Chronic Appendicitis.**—Albu, who believes that greater discrimination should be applied in selecting cases of appendicular disease for operation, says that although it is possible for an acute appendicitis to terminate in complete cure without leaving any permanent traces, still in most cases a chronic inflammatory process persists. This may take one of two forms. In the first there are numerous acute recurrences of varying intensity, and with variable intervals between them. The patients are usually fairly well during the intervals, or suffer only from slight disturbances, among which obstinate constipation is prominent. A smaller group comprises those cases in which the symptoms never wholly subside after the acute attack, so that although the patients may be able to return to their work, they are never quite well again. There is, however, a third class of cases in which there never was any acute attack, and the symptoms develop insidiously, gradually increasing, or remaining stationary for a time, so that for years the patients are more or less conscious of some obscure trouble which is difficult to recognize. The question of operation is a very difficult one to decide in such cases, but much can be accomplished toward rendering the condition quiescent by appropriate treatment. Measures to be recommended are, protracted and complete bodily rest, in some cases rest in bed for a considerable length of time, with or without warm applications to the abdomen; careful regulation of the bowels through a vegetable diet, enemata, etc.; suppositories of belladonna two or three times a day; the use of warm baths of various sorts, and, finally, a course of treatment at some suitable watering place. The author cites several instances in which the appendix was removed or the diagnosis of appendicitis made in cases that were later found to be due to such conditions as visceral neuralgia, spastic constipation, flatulent colic, etc. He also describes two cases of genuine chronic appendicitis which were rendered latent by the therapeutic measures indicated.

*French and Italian Journals.*

**Tuberculous Cervical Adenitis Favorably Treated by the X-Rays.**—Jean Ferrand and Krouchkoll, in describing this case, state that they were among the first to use the *x*-ray in cases of tuberculous cervical adenitis. Before publishing this case, they have allowed nearly a year to pass since the beginning of the treatment, in order to prove the persistence of the good results. The patient has been out of the hospital for five months, and she has been able to resume her work. The older treatment by arsenic and iodides was instituted at first, after the diagnosis had been made, but was not followed by recovery. The first treatment by the *x*-ray was given on August 20th, 1904, and the writers observed the improvement from day to day after this treatment was begun. One of them also treated other cases of this disease in the same manner, and the result has always been favorable. Even two cases of suppurative adenitis have improved under the *x*-ray. In the patient here reported, the cervical tumors have been completely transformed. The writers think that hard tubes should be employed; the sittings should be short—ten minutes for the maximum. The treatment should be interrupted if pigmentation appears. They believe that this treatment should be tried in all cases of chronic tuberculous cervical adenitis, for all other methods, both medical and surgical, are uncertain.—*Gazette des Hôpitaux Civils et Militaires*, June 20, 1905.

**Scopolamine and Chloroform Associated in Producing Anesthesia.**—Walter is employing the following proceeding: He gives an injection of one milligram of scopolamine and one centigram of morphine an hour before operation. This combination of drugs causes sleep, which persists up to the time that chloroform is given. In case of the adult, there is no inconvenience attaching to this method, and there are various advantages. The patient has no apprehension concerning the operation. Sleep continues with small doses of chloroform; the respiration is regular and quiet, and sleep continues after the operation. The writer has not observed the tendency to hemorrhages in the use of scopolamine, which has been noted by some writers; neither has he seen any contraction of the abdominal walls, for he has used a smaller dose of the drug than previous experimenters. He believes that vomiting depends upon individual susceptibility. He notes, however, that the combined use of scopolamine and chloroform deprives one of a guide during anesthesia, for the play of the pupil which is dilated does not give its customary indications of the effect of chloroform.—*Le Bulletin Médical*, June 24, 1905.

**Recurrent Dislocations of the Shoulder.**—Legueu reports the history of a young epileptic, seventeen years old, who in his falls dislocated his left shoulder several times. Legueu opened the articulation, exposed the capsule, and incised it. Bloody liquid flowed out from this wound, and the classic lesions of extracoracoid dislocation were found. The dislocation was reduced, and the wound was closed by sutures in three planes. The sutures were so disposed that they held the humeral head well in the capsule; but the epileptic crises increased, and, in spite of all precautions, there was recurrence of the dislocation, which was reduced by Kocher's method. This case shows that the operation of opening the capsule is not a sure method for the prevention of recurrences of dislocation in epileptics.—*Gazette des Hôpitaux Civils et Militaires*, June 17, 1905.

**Absorption of Iodine by Electric Cataphoresis.**—Raffaele Pisani and Raffaele Paladine made experiments to determine whether iodine was hastened in its absorption by the use of electricity, and which pole was of most use. They first determined, by examination of the excreta, that iodine was not absorbed through the unbroken skin, since none was eliminated. They used a saturated solution of iodide of potash, or of iodine, to wet the electrodes, and found that in dogs the iodine is absorbed at the cathode alone. The absorption and elimination of the iodine begins at once, after a few minutes, and elimination continues two to three days. With currents of high intensity and long duration, the elimination continues longest. The effects of the iodine vary with the weight and size of the dog. The absorption is small when currents of high intensity are not used.—*Giornale di Elettricità Medica*, May and June, 1905.

**The Paravertebral Triangle of Grecco.**—A. Plessi has observed the existence of the paravertebral triangle of Grecco in cases of pleurisy with effusion. This triangle consists of an area, triangular in shape, that constitutes a focus of dullness on the posterior surface of the thorax opposite to the location of the effusion, which is modified in its intensity of dullness by decubitus, amount of liquid and respiratory acts, and is mose noticeable on the right, with a diminution of vesicular murmur. The author tried to find this triangle in cases of pleurisy with effusion, and to study its phenomena. He believes that it always exists, and is generally easy to find. When respiratory murmur is absent over the affected area, this is also marked over the paravertebral triangle. Fremitus is much diminished externally, and abolished at the maiden line. Over the external zone crepitant râles are heard.—*La Riforma Medica*, June 24, 1905.

**Bacteriological Researches on Measles.**—Agostino Borini gives us the results of his researches as to the germ that causes measles. He made cultures from the blood, bronchial secretion, and conjunctival secretion from babies sick with a severe form of measles. The blood was obtained at the moment when the fever was at its height, and the exanthema most marked. He found a small bacillus, thin, mostly found in groups of two, length 0.7 , coloring with difficulty with analine colors, not resistant to Gram; the development was always sparse. It did not develop on gelatine; in agar with defibrinated blood; after thirty-six hours, there were punctiform, transparent, gray-yellow colonies, which slowly became confluent. On broth with blood the development was more abundant. The microorganism was hard to preserve, becoming negative after two or three cultures. Injections into the trachea of dogs of a fresh culture causes death in from three to six days. Autopsy showed small foci of bronchopneumonia; other organs normal. Endopleural, endoperitoneal, and splenic injections caused death without lesions, a few bacilli being found in the blood.—*La Riforma Medica*, June 24, 1905.

**Vesical and Urethral Calculi in Children.**—Franco Crosti tells us that vesical calculi are quite frequent among infants and children. After puberty they decrease in frequency. They are more common among the poorer classes on account of the preponderance of vegetable foods. The principle symptoms are pain, often very severe and causing the child to masturbate for relief; slight hematuria, and disturbances of urination, such as frequent micturition, incontinence rebellious to treatment, and sudden stopping of the flow during the act of micturition. Calculi are usually single, free, and occupy the fundus. The condition simulates tuberculosis of the bladder, and a bacteriological examination is needed to clear up the diagnosis. There should be an examination of the bladder with the sound under anesthesia before the diagnosis is established.—*Gazzetta Medica Lombarda*, May 20, 1905.

# Book Reviews.

The Historical Relations of Medicine and Surgery to the End of the Sixteenth Century. An Address Delivered at the St. Louis Congress in 1904. By T. Clifford Allbutt, M.A., M.D., Hon. M.D. (Dubl.), Hon. LL.D. (Glasgow), Hon. D.S.C. (Oxf. and Vict.), F.R.C.P., F.R.S., F.L.S., F.S.A. Regius Professor of Physics in the University of Cambridge, Fellow of Gonville and Caius College, Hon. Fellow Royal College of Physicians of Ireland, etc. London: Macmillan & Co., Limited; New York: The Macmillan Company, 1905.

In this gracefully written essay the progress of medicine is outlined from its inception in the early schools of Greece, to the end of the sixteenth century. At first, having a common origin, medicine and surgery progressed side by side, but finally in the days of Avicenna the separation came and the practitioners of each branch began to follow different paths, to the great detriment of the art as a whole. The object of the address is to emphasize the evil of the factitious division of practice into medicine and surgery, not by personal choice on natural lines, but through a survival of medieval rules, and its perusal is both interesting and convincing.

Lehrbuch der inneren Medizin, für Arzte und Studierende. Von Dr. med. Georg Klemperer, Universitäts Professor in Berlin. Erster Band. Berlin: August Hirschwald, 1905.

In his preface, Klemperer tells us that the present textbook of medicine was begun fifteen years ago, and that it was undertaken with the hope of replacing the classical work of Niemeyer, which for thirty years occupied so prominent a place in medical literature. The success of the author's handbook of physical diagnosis attests his ability as a teacher, and the foundation of the present textbook was formed by his lectures delivered since 1890, in the University of Berlin. The fact that Klemperer has been as active in private practice as in academic work has enabled him to give his book a practical tone that is often conspicuously absent in the writings of German authors. We accordingly find that treatment in general and in its specific applications is discussed with a much greater attention to detail than one is accustomed to find in German books, and in this perhaps lies its chief claim to distinction from other works of its class. The textbook when completed will consist of three volumes, of which, the second, is promised for the latter part of this year, and the third for the early months of the next. The present volume is devoted to diseases of the digestive tract, of the urinary organs, and of the male genitals. Numerous formulæ, the maximum doses of the German pharmacopeia, a discussion of balneotherapy and allied topics, and a short section on medical technique are included in an appendix. The strong personality of the writer appears distinctly throughout the entire book, and adds much to its interest and value.

The Eye, Mind, Energy, and Matter. By Chalmers Prentice, M.D. Chicago: Published by the author, 1905.

This book contains a motto, a fable, and seventeen chapters; about one-half of it deals with the eye. From the other half we glean: that plants think; that "in the union of health adjuncts, and the absence of pessimism, there is no such thing as incurable disease"; that drunkenness is a nervous disorder, and can be cured by the use of eyeglasses. The fog cure for nervousness is also mentioned.

A System of Clinical Medicine. Dealing with the Diagnosis, Prognosis and Treatment of Disease. For Students and Practitioners. By Thomas D. Savill, M.D., London. Physician to the West End Hospital for Diseases of the Nervous System; Physician to St. John's Hospital for Diseases of the Skin, London; Formerly Medical Superintendent of the Paddington Infirmary; Medical Officer of the Paddington Workhouse, and Post-Graduate Lecturer to the London Post-Graduate Association; Assistant Physician and Pathologist to the West London Hospital; Examiner in Medicine and Clinical Medicine in the University of Glasgow; and Medical Officer to the Royal Commission on Vaccination. Vol. II. Certain General Disorders; Diseases of the Skin and Nervous System. Philadelphia: P. Blakiston's Son & Co.; London: J. & A. Churchill, 1905.

In the second and concluding volume of this system of medicine the author carries out the same method with which he started, i. e. the various disorders are approached from the symptomatic side, in other words, imitating the mental processes of the physician as he obtains the history and makes the physical examination of his patient. The first portion of the volume is given to the consideration of general debility, pallor, and emaciation, and Dr. Savill not only states the possible causes, but also their relative probability of existence. Then follows the symptomatology of the extremities, together with prognosis, treatment, etc. Sixty-five pages are allotted to diseases of the skin, and a few plates are incorporated. Ideally all diseases of the skin should be illustrated with colored plates, but in a work of this sort it would, of course, be out of place. The major and concluding part of the work appertains alone to nervous diseases, and a shorter chapter on clinical bacteriology and the examination of pathological fluids.

In the section on neurology the author's method is particularly helpful in diagnosticating these obscure lesions, for, starting with a few symptoms, he is taught to consider the possibilities, and then to make an exhaustive examination, which will differentiate them.

The book is thoroughly scientific, extremely helpful and thorough, and will enable the reader to approach his subject in a fresh and eminently practical manner.

The Book of Prescriptions (Beasley). Containing a complete set of prescriptions illustrating the employment of the materia medica in general use; comprising also notes on the pharmacology and therapeutics of the principal drugs and the doses of their preparations according to the Imperial and metric systems, with an index of diseases and remedies. Rewritten by E. W. Lucas, F.I.C., F.C.S., Pharmaceutical Chemist, Late Examiner to the Pharmaceutical Society of Great Britain, Author of "Practical Pharmacy." With an introduction by Arthur Latham, M.A., M.D., F.R.C.P. Senior Assistant Physician at St. George's Hospital, Assistant Physician at the Brompton Hospital for Consumption. Eighth Edition. Philadelphia: P. Blakiston's Son & Co., 1905.

The eighth edition of this standard formulary has been brought up to date and contains short descriptions of most of the more important of the newer remedies. The number of prescriptions is very large and should prove useful to young practitioners, though the English origin of the book may cause some embarrassment to those not well grounded in the United States Pharmacopeia. A comprehensive index of diseases is appended for reference in emergencies.

Dental Surgery for Medical Practitioners and Students of Medicine. By A. W. Barrett, M.B. (London), M.R.C.S., L.D.S.E., Etc. Fourth Edition. Philadelphia: P. Blakiston's Son & Co., 1905.

This book presents in concise form what the author has been teaching to medical students at the London Hospital; the aim being to give sufficient practical information for the ordinary needs of the student or practitioner. There are chapters on dentition, abnormalities and irregularities in position and development, caries, toothache, injuries, anesthetics, etc. Operative dentistry, including fillings and false teeth, is not discussed, being more within the scope of the dental specialist. The little book affords a fair general knowledge of dentistry for the medical man who is often called upon to recognize or give advice with respect to various dental conditions.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. Authorized American Edition Translated under the Direction of Boardman Reed, M.D., Professor of Diseases of the Gastrointestinal Tract, Hygiene, and Climatology, Department of Medicine, Temple College; Physician to the Samaritan Hospital, Philadelphia, Etc. Part VI. Drink Restriction (Thirst-cures), Particularly in Obesity. By Professor Carl von Noorden and Dr. Hugo Solomon. New York: E. B. Treat & Co., 1905.

The authors in this little monograph continue the discussion relative to metabolism and nutrition, which was begun and kept up in the five preceding volumes. The well-known empirical thirst cures of Oertel and Schweninger are considered, and also their supposed reasons for existence, which were in part true, and in part false. The older experiments are then given, such as had bearing on the subject in hand, and these are followed by the highly accurate and painstaking investigations of the authors, which clear up very satisfactorily the rational basis upon which success is founded. Although the truths seem simple, they are all the more of fundamental importance.

Saunders' Pocket Medical Formulary. By William M. Powell, M.D., author of "Essentials of Diseases of Children"; Member of Philadelphia Pathological Society. With an Appendix containing Posological Table, Formulæ and Doses for Hypodermic Medication, Poisons and their Antidotes, Diameters of the Female Pelvis and Fetal Head, Obstetrical Table, Diet-list, Materials and Drugs used in Antiseptic Surgery, Treatment of Asphyxia from Drowning, Surgical Remembrancer, Tables of Incompatibles, Eruptive Fevers, etc. Seventh edition, thoroughly revised and enlarged. Philadelphia and London: W. B. Saunders & Co., 1905.

The seventh edition of this useful collection of formulæ requires little in the way of commendation. Its title page indicates its scope, and the several departments are all satisfactory in matter and arrangement, so that the little volume should prove very serviceable to those who feel the need of such a reminder.

# Society Reports.

## AMERICAN MEDICAL ASSOCIATION.

*Fifty-sixth Annual Meeting Held in Portland, Oregon, July 11, 12, 13 and 14, 1905.*

(*Continued from page 119.*)

(Special Report by Telegraph and Mail to the MEDICAL RECORD.)

### GENERAL SESSION.

*Second Day—Wednesday, July 12.*

**Oration on State Medicine.**—Dr. GEORGE BLUMER of San Francisco delivered this oration, taking as his subject, "Influence Which the Acquisition of Tropical Territory by the United States Has Had and Is Likely to Have on American Medicine." (See page 125.)

**Memorial to the Late Dr. N. S. Davis.**—Dr. HENRY O. MARCY of Boston then pronounced a eulogy on the late Dr. Nathan S. Davis.

### HOUSE OF DELEGATES.

*Fourth Day—Thursday, July 13.*

**The Work of Organization.**—Dr. PHILIP MILLS JONES of California introduced a resolution approving of the work of organization of subordinate societies by Dr. McCormack, and requesting that the work be continued.

Dr. J. N. MCCORMACK spoke in answer to the resolution, explaining the difficulties he had encountered in this work. Many men approached regarding the project were suspicious, looking for ulterior motives in the organizer. He had, however, met with a measure of success, and would consent to continue the work for another year.

The resolution of Dr. Jones was adopted by a unanimous vote.

**Election of Officers.**—The following officers were elected: *President,* Dr. William J. Mayo of Rochester, Minn.; *Vice-Presidents,* Drs. Walter Wyman, Surgeon-General U. S. Public Health and Marine Hospital Service, K. A. J. Mackenzie of Oregon, E. S. Talbot of Illinois, and E. D. Martin of Pennsylvania; *Secretary,* Dr. George H. Simmons of Chicago; *Treasurer,* Dr. Frank Billings of Chicago; *Trustees,* Drs. E. E. Montgomery, A. L. Wright, and H. L. E. Johnson; *Members of Council,* Drs. P. M. Foshay, reappointed, and W. S. Foster, elected in place of Dr. Wiggin, resigned; *Orator in Medicine,* Dr. F. C. Shuttuck of Boston; *Orator in Surgery,* Dr. Joseph D. Bryant of New York; *Orator in State Medicine,* Dr. W. H. Sanders of Montgomery, Ala. The next place of meeting will be Boston, the date to be determined later by the officers.

**The Davis Memorial.**—Dr. HENRY O. MARCY of Boston introduced a resolution calling for subscriptions to a monument to be erected as a memorial to the late Dr. Nathan S. Davis, and made an initial subscription of one hundred dollars.

**Reports of Committees.**—The report of the Committee on Section Work was presented and approved. The Committee on the President's Address made a report approving of the recommendation made by the President in his address. The Committees on Amendments, on the By-Laws, on Public Health, and on Minutes also reported, the recommendation of the latter being promptly tabled. On motion, the copy of a bill to be presented to Congress granting a pension to the widow of the late Surgeon-General Harris was referred to the Committee on Legislation.

Dr. J. N. MCCORMACK proposed a vote of thanks to the profession and people of Portland for many courtesies and to the officers of the Association for their very efficient work in relation to the present meeting.

A resolution was introduced from the Section on Laryngology, asking that copies of the section reports be sent free to members instead of being sold for one dollar.

A letter was read from a physician of Porto Rico, asking for recognition of the medical association of the island.

### SECTION ON DISEASES OF CHILDREN.

*First Day—Tuesday, July 11, 1905.*

CHAIRMAN, DR. JOHN LOVETT MORSE, OF BOSTON.

**The Teaching of Pediatries.**—Dr. JOHN LOVETT MORSE in this, the Chairman's, address gave a description of the course of study at the Harvard Medical School. Pediatrics is taught as a part of the required course in the third year, and as an elective in the fourth year. The third class is divided into sections of two or three men, which sections are assigned to different departments so that no instructor has more than six students at a time. The last two hours of each morning are devoted to section teaching, each exercise lasting from 1½ to 2 hours. The fourth year comprises 1,000 hours, or eight courses of 125 hours. A course means all day for one month, or one-half day for two months. The Department of Pediatrics at Harvard controls the medical wards of the Children's and the Infants' Hospitals, as the nomination of the visiting physicians to these hospitals is in the hands of Harvard University. Instruction in the third year is given to the whole class by lectures, etc., while special exercises are given on infant feeding and gastrointestinal diseases. The entire teaching system at Harvard was described in detail. The author deemed recitations of little use, but attached most importance to case teaching. The greatest obstacle to section teaching, he observed, was in the number of instructors required and the entailed expense. The teaching of pediatrics, however, he believed would never be ideal until the heads of departments devoted their entire time and energy to their teaching. Higher salaries must be paid to enable them to do this. Chairs, therefore, must be endowed, and to see that this was done rested with the public.

**A Plea for National and Local Boards of School Hygiene.**—Dr. ALICE M. SMITH of Tacoma said that the altruistic ideal is the noblest conception of man, and that preventive medicine is its most practical application. In consideration of the enormous annual loss to the Government and to society through disease it is self-evident that it is the duty of the Government to protect its people from the peril of preventable diseases. Because of the relation of school hygiene to the science of human development and to preventive medicine Dr. Smith stated that there was no subject of such vital importance to mankind as the education and the hygiene of the developing child, and she considered it imperative that a better system of school hygiene be instituted to the end that children may receive their "absolute civil rights"—the right of personal security and protection from the Government against avoidable evils. The defects of the present system were pointed out to be: Ignorance of the average school board of technical and scientific knowledge as applied to the science of human development and progress; phenomenal extravagance incident to this ignorance and many separate managements; want of organization; lack of proper medical supervision of school hygiene; ignorance of parents and teachers of the requirements of children for the best physical development. The changes essential to a better system were pointed out to be an elimination of those elements inimical to the social welfare and such improvements as may be expedient—in short, the practical application of preventive medicine. Dr. Smith suggested that there should be a National Board of School Hygiene and Preventive Medicine, composed of representative, non-partisan physicians. It should be the duty of this Board to investigate school hygiene, education in its relation to human development, and into the causes and means of prevention of contagious and infectious diseases and of degeneracy and crime, etc. In the opinion of the author, there should also be a State Board of School Hygiene and Preventive Medicine, and the duties of this board were also outlined. Another important feature of this system should be the establishment of a complete federation of all boards of school hygiene and preventive medicine in the State with the State Board;

with the local, State, and national boards of health, and with the State and national boards of education.

Dr. C. F. Wahrer of Fort Madison, Iowa, thought the paper particularly timely. In his opinion the question arose regarding responsibility for our fellow man. Legislatures more readily introduced a river and harbor bill than one to appropriate funds for the schemes advanced by the essayist. This he believed was because they were importuned to do it. In the same manner physicians should carry out the same plan when needing money for the betterment of conditions in general.

Dr. Arthur W. Fairbanks of Boston agreed with Dr Smith that there was tremendous opportunity for pioneer work in schools, and referred incidentally to the fact that he was from the city which first introduced medical influence in the schools. While, as one of the physicians appointed by the Board of Health, he could tell the teachers what should be done with a child, he had no power whatever over the hygiene of the school, no power to regulate the light as it strikes the blackboard and no power over the physical exercises, and thus their hands were tied. This power he would have greatly extended, and not kept, as now, out of the control of the boards of health.

Dr. Wahrer thought there should be a publication committee appointed in every medical society and in every medical section who will give to the Associated Press the opinion of such medical societies on topics discussed, believing that the people of the United States will read the press when they will not read medical journals.

Dr. Garrison of Illinois thought that every physician should feel responsible for the immediate family which he attends. In this way there would be brought about an educated laity.

Dr. McGavin of Portland referred to the readiness with which the laity accept teaching upon medical and hygienic lines. She had noticed this readiness also in the Chinese in the city of Portland.

Dr. Smith, in closing, said that in the financial success of the system advanced benefit would accrue to the physicians in giving them a larger field for work. With the establishment of a sanitary board at Washington from which the State boards could secure help, she believed there would be saved to the Government millions of dollars.

**Rules For the Care of Young Infants in Public Institutions.**—Dr. H. M. McClanahan of Omaha said that it had long been recognized that the care of infants in public institutions presented peculiar difficulties, and that the mortality was greater than in private practice. He had been attending physician at a certain institution in 1901-'02, but was without authority. In 1903-'04 he had been given authority to employ a head nurse in the infants' ward and enforce certain rules, the first of which was with regard to the soiled napkins. The nurse was required to remove the napkin and not lay it out of her hands until it was deposited in a bucket prepared for the purpose. He then required the nurse to disinfect her hands immediately afterward. Another point of his paper was that a nurse should prepare the food for a specified time. Any error, therefore, in its preparation could be easily traced. Insufficient air space was compensated for by using another ward in the daytime. While this plan is not ideal, it has been found much better than allowing the infants to remain in one ward continually. The wards are fumigated twice a week with formaldehyde candles. The windows are closed and the keyholes plugged for four hours, and thorough ventilation is thus necessary. An infant presenting any symptoms of sickness is isolated at once. Last summer there was but one child of all who were in the institution on the first day of June who developed gastro-intestinal disease.

Dr John C. Cook of Chicago considered the education of the nurses for the care of children one of the most important and perhaps one of the most neglected things in the training schools of the United States. Following an epidemic of pneumonia in an institution with which he was connected he had had the beds taken up until each child had seven hundred cubic feet of air space. To accomplish this the children were put into the corridors. The nurses who gave medicines and foods were not allowed to remove the napkins. Nurse girls took charge of the napkins and cleansed the babies. He thought the amount of damage done to babies by the unclean hands of nurses was not appreciated. Education of the nurses along these lines he believed would result in great good to the general public.

Dr. Arthur W. Fairbanks of Boston referred to the occurrence of a severe form of bowel infection with reinfection. Studies of the subject made him feel that the nurses' hands had something to do with it. Thorough cleansing of the hands with the coincident exclusion of flies from the hospital wards had brought about results beyond his expectation.

Dr. Alice M. Smith of Tacoma referred to the habit of mothers and nurses of putting things into their mouths and transferring them to the child's mouth. The fumigation of the rooms and the washing of the floors in places where children were congregated were considered of great importance.

Dr. Lindsay of Colorado thought the only hope lay in educating the nurses, who in turn would educate the mother upon lines pertaining to the child's hygiene and health.

Dr. Wahrer thought the physician could not be too insistent in teaching these rules.

Dr. McClanahan closed the discussion by emphasizing some of the points in his paper.

*Second Day—Wednesday, July 12.*

Dr. A. C. Cotton of Chicago was appointed upon the Executive Committee to take the place of Dr. C. G. Kerley of New York City.

**Amaurotic Family Idiocy.**—Dr. A. C. Cotton of Chicago presented a report of three cases of this disease with a picture of the eye ground findings. He said the disease was of special interest to pediatrists because of the infrequency with which it has been reported, the probability of overlooking it, and the necessity of a thorough eye ground demonstration to confirm diagnosis. It is of peculiar interest to the ophthalmologist on account of the pathology of the eye ground. It is a fatal disease, commencing in the youngest years of life. The earliest case was in a child two months and a half old. There is a marked racial peculiarity of the disease, most of the cases being of Jewish children. He showed one picture of a healthy child of eleven months without any signs of abnormality. The hearing remains hyperacute. There was deglutition in every one of his cases. He exhibited the chart of Dr. Mortimer Frank, containing all the cases reported up to July 1, 1905. There were 54 cases with complete histories; 20 additional cases were alluded to; 12 post mortems have been performed altogether. Twenty-seven cases were in Jews, 6 in Gentiles, and in 21 there was no parentage given. In 15 cases nystagmus was present. The youngest reported case was under four months; the oldest three and three-quarters years. He gave a condensed review of the literature, and made some observations regarding the effects of food and digestive disturbances on the symptoms.

Dr. John Lovett Morse of Boston said he had had the opportunity of seeing five cases of this disease, one of which is still under observation. The striking thing about them all is the flaccid paralysis which is noticed before blindness. He said that the eye ground was so characteristic that it does not require an ophthalmologist to recognize it. The attitude of the child in convulsions was exactly that as described by Dr. Cotton. The interference with deglutition he thought was a matter to which sufficient attention had not been called. In the last case that he had seen the child had to be fed with a stomach tube.

Dr. Cotton, in closing, said that he had analyzed the

mother's milk repeatedly because she was nursing a baby two or three months of age, and had found the milk in good condition. During the nursing of a second child examination of the milk showed a marked paucity of fat, and this was the condition during the nursing of a third child. Dr. Cotton believed that there need be no controversy between Hirsh's suggestion that the baby acquires the disease from something in the mother's milk, and the theory advanced by Sachs. If the disease is due to heredity, it would seem that each child of the same mother would be affected.

**The Prevention of Summer Diarrhea.**—Dr. Maurice Ostheimer of Philadelphia said that summer diarrheas are due chiefly to two causes—unclean food and hot weather. While bacteria are undoubtedly the exciting cause, they seem unable to act deleteriously until there is lessened vital resistance. Upon the appearance of gastro-intestinal derangement he would stop all milk at once and give barley water or whey. He advised the distribution of pamphlets of instructions to mothers for the care and feeding of infants during the heated term. Of the fifteen largest cities of the United States, such booklets are distributed but by nine. Four cities have them printed in several languages. He suggested the advisability of having special "milk" courses in public schools, medical schools and hospitals; and, for the supply of "clean" milk to rich and poor alike, he advocated the acquirement by every large city of a dairy in the outskirts of the city to be under the guidance of a milk commission, such dairy to come under the jurisdiction of the municipal health department. Dr. Ostheimer described a sample pamphlet of instructions for the care and feeding of young children during the hot weather. Directions in this are given regarding clothing, bathing, fresh air, sleep, soiled napkins, flies, breast-feeding, and bottle-feeding. A table was given for the method of feeding of the baby, and the child should be weighed every two weeks. Should it fail to gain at the end of two weeks, clean cream may be added, beginning with a teaspoonful to each bottle, gradually increasing according to the advice of the physician. Directions were also given in regard to weaning, and to feeding after the first year.

Dr. C. F. Wahrer of Fort Madison said that every case of summer diarrhea was a case of itself, and that there were many known and unknown factors. He said there were two reasons for the greater number of cases during the summer—one being because the heat increases putrefactive changes, and the second the disturbance of the nervous system caused by the heat. He felt that much could be gained by attention to the sanitation of the lives of the mothers.

Dr. Kate Lindsay of Boulder referred to the ignorance in the farming district, and, while she agreed that it was well to educate the people of the slums, those in the farming districts should be taught regarding the care of the milk for the child. She gave an instance of a farmer who had been very angry because his best mare had been driven and overheated, while at the same time his wife, with a girl of sixteen, had done all the work of a large family while she was nursing a child.

Dr. G. Blumer of San Francisco called attention to the fact that cases of summer diarrhea in that city always occurred after their occasional hot spells.

Dr. Arthur W. Fairbanks inquired how long Dr. Ostheimer kept the children on a cereal mixture, and what the indications were for taking the child off of the milk mixture—whether it was fever or general septic signs.

Dr. A. C. Cotton of Chicago appreciated the idea of reaching the laity by means of circulars, and believed that the health department has had some of its best successes through the pamphlets issued to the mothers. He would have them placed in a conspicuous place, framed if necessary, and the mothers taught to look to them constantly. He called particular attention to the slight regurgitation, the result of too rapid feeding, which is usually the first sign of trouble. This the mother should be taught to watch.

Dr. Wells of North Yakima asked what nourishment Dr. Ostheimer would give after taking the child off of milk. He is in the habit of giving panopeptin with a few drops of brandy, and inquired whether the brandy had been injurious to the author's cases.

Dr. John Lovett Morse objected to the title, "summer diarrhea," and thought the expression should be diarrhea in the summer."

Dr. Ostheimer, in closing, said that the length of time he kept the baby on the barley water depended upon the symptoms. He would add panopeptin or brandy, and would fear no bad results. At the first sign of gastro-intestinal derangement he would stop the milk.

**A Study of Fifteen Cases of Summer Diarrhea in Children.**—Dr. John C. Cook of Chicago presented these cases selected from 250 cases of children's diseases at the Jackson Park Sanitarium during July and August of 1904. The cases were divided into (1) a class comprising 11 cases of a mild type, the records of which serve as a standard of comparison for estimating the value of the findings in the remaining cases, and (2) a class comprising four fatal cases of special interest because of the bacteriological and microscopical findings during the clinical course and post mortem. The findings of the two classes were given. One bacteriological finding in the stools of the last of the severe cases, a female aged 7½ months, was a red pigmenting bacillus of the colon group that developed a red pigment so rapidly that the feces and mucous secretions were stained blood red. No blood, however, was found upon microscopical examination. To the author it seems probable that some of the well-known pathogenic organisms gain entrance to the general circulation through lesions in the gastrointestinal tract, give rise to septicemia and are the immediate cause of death; that these atria of infection are produced by the local action of less toxic microorganisms as staphylococcus, colon bacillus, yeasts, and thrush fungus; and that the toxines which are generated by the saphrophytic action of all of the microorganisms in the intestines tend both to lower the resistance of the child and mask the symptoms of the specific intoxication. It is further apparent, in his opinion, that the increased frequency of vomiting and bowel movement is more often due to the reflex action of septicemia and sapremia than to direct intestinal irritation. If the conditions of sepsis and sapremia be true, Dr. Cook believes that the problem of treatment resolves itself into a question of maintaining the general resistance of the child and neutralizing the specific intoxication.

Dr. Michael of Chicago described the method employed by Drs. Cook, Weaver, and herself in collecting the stools in summer diarrhea.

Dr. Fairbanks of Boston referred to the red pigmenting bacillus mentioned by Dr. Cook, and felt that this explained a puzzling experience he had encountered in his own service.

Dr. Cook, in closing, said he believed the red pigmenting bacillus to be of the colon group. He had found no literature on the subject. It had occurred twice in their studies, and the quantity of blood or stain was sufficient to indicate a hemorrhage of the bowels. In the case of typhoid fever mentioned, the vomiting and the bowel movements were likely to occur together.

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## SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

*First Day—Tuesday, July 11.*

Dr. Charles L. Bonifield in the Chair.

**Chairman's Address.**—Dr. Bonifield called attention to the desirability of having a permanent secretary who should be allowed traveling and incidental expenses, and said that papers should be read by men of more than local reputation, and suggested that the name of the section be changed to Section on Obstetrics, Diseases of Women, and Abdominal

Surgery. He then reviewed briefly the subjects which have interested obstetricians and gynecologists during the year, such as retrodisplacement of the uterus, a condition in which, he said, surgical treatment is not always either indicated or desirable; cancer of the uterus, in which operation should be done always—just how radical that should be to depend on local and systemic conditions and the skill of the operator—the operation not to be too severe for the patient; the treatment of the toxemia of pregnancy; cesarean section in placenta previa; contracted pelvis and the causes for the decrease in birth rate.

**Innocent Fibromyoma of Uterus.**—Dr. T. B. Eastman of Indianapolis presented statistics compiled from the literature, and referred to 169 cases operated on by him in which the degenerations found were as follows: Necrobiotic, 10; sarcomatous, 1; suppurative, 1; calcareous, 2; myxomatous, 3; adenocarcinoma of the body, 3; telangiectatic, 4; cystic, 7. He reported in full 5 cases illustrating the impracticability and impossibility of diagnosing certain conditions in these growths prior to their removal, and stated that it was advisable to remove all fibromatous tumors of the uterus in all cases, as is proven fully by statistics of cases operated on by competent operators and in cases not too long neglected. In his experience the menopause aggravates rather than improves the symptoms in at least half the cases.

Dr. Frank T. Andrews of Chicago said that he was absolutely opposed to the position taken by Dr. Eastman, because it was not only dangerous but vicious. He has seen many cases which were symptomatically cured by the menopause.

Dr. W. F. Wakefield of San Francisco said that he was absolutely in accord with Dr. Eastman.

Dr. J. H. Carstens of Detroit believed that more patients undergo a change for the worse if they are not operated on than will die if they are operated on. The time can be selected for the operation so that it will be free from danger. The mortality will then be so small that the stand taken by Dr. Eastman is a good one. It is the duty of the physician to relieve the mental condition of his patient, if she is suffering from a tumor, and that can be done only by early, careful, and efficient operation.

Dr. L. H. Dunning of Indianapolis did not think it correct to operate on every case of fibroid of the uterus. Many patients carry such tumors for fifteen or twenty years, sometimes without any knowledge of the existence of the tumor, and in such cases removal is not justifiable, especially when the patient is near the menopause.

Dr. D. H. Craig of Boston advised a neutral position, operating only on such cases as absolutely demanded operation.

Dr. C. L. Bonifield of Cincinnati directed attention to the fact that fibroids often complicate pregnancy, endangering the life of the patient; hence their removal was desirable.

**Cause of Failure After Successful Gynecological Operation.**—Dr. Wm. E. Ground of Superior, Wis., said that no matter how thorough the operation so far as technic is concerned, it cannot be other than a failure if it fails to afford the patient relief. As a rule, failure to cure was not so much the result of faulty technic as it was the result of failure on the part of the operator to consider thoroughly the individual case both before and after operation. Operation should not be performed for the relief of symptoms, but for the relief of the underlying condition or conditions that produce these symptoms.

Dr. J. H. Carstens of Detroit said that the great trouble why patients do not recover after operations was that the operator does not make a correct diagnosis. Because the patient was a woman the trouble was usually referred to her uterus and its appendages, without any regard for the fact that woman, like man, was subject to all kinds of diseases of the abdomen and its contents. Each case should be investigated thoroughly and a careful diagnosis made before operation is attempted. He cautioned the general practitioner against promising patients too much from operation.

*Second Day—Wednesday, July 12.*

**Tubal Pregnancy.**—Dr. J. Riddle Goffe of New York reported a case of extrauterine pregnancy illustrating the corroding function of the trophodermic cells of the chorion, which may extend through the entire wall of the tube and thus occasion most alarming hemorrhage, without rupture. After the birth of her second child, the patient had regular menstruation for about six months, when it ceased for one month, and then became very irregular and painful. Careful examination failed to reveal any evidence of pregnancy or disease of either the uterus or its appendages. Later there was detected a slight enlargement of one tube, which also was sensitive to touch. The tube was removed and a pinhole opening was found, but no chorionic villi. More careful examination showed that the ovum had eroded through the mucous membrane of the tube and was buried in the wall of the latter, thus explaining the cause of the hemorrhage, which had been a marked symptom in the case.

**Extrauterine Pregnancy.**—Dr. J. H. Carstens of Detroit reported two cases. The first patient, a III-para, had repeated attacks of pain, with temperature and evidences of pelvic inflammation. Examination disclosed a sac extensively adherent, containing a four and a half months' fetus. In the second case an existing swelling was diagnosed as abscess of the broad ligament. The pulse being 160, no extensive operation could be done. The abscess was opened immediately with scissors, the cavity was cleansed with sponges and a drainage tube was inserted. The patient recovered within two weeks. Previous to operation this patient had suffered with repeated attacks of very severe pain, irregular menstruation, and symptoms of pelvic inflammation. The author stated that extrauterine pregnancy ought always to suggest itself in cases of sudden onset of pelvic symptoms. Irregular menstruation is always suspicious. Inflammation and sepsis following a supposed miscarriage, are always due to rupture of a tubal pregnancy. Immediate operation is always indicated, whether by the abdominal or vaginal route depending on circumstances.

Dr. Gilmore of Chicago suggested as aids in making a diagnosis of tubal pregnancy the examination of the uterine scrapings for chorionic villi, and an examination of the blood for the purpose of determining whether the hemorrhage was the result of anemia or shock.

Dr. L. H. Dunning of Indianapolis called attention to the fact that extrauterine pregnancy at or near full term, without rupture, was exceedingly rare, and that in such cases a careful microscopic examination usually revealed a rupture.

Dr. C. O. Thienhaus of Milwaukee said that in cases like Dr. Goffe's immediate operation is indicated, even when a diagnosis of rupture cannot be made. Operation should only be deferred when the case has advanced to the seventh or eighth month. The most dangerous cases, he said, are those where rupture has occurred and nature has no time to form adhesions. It was inadvisable to transport such cases to the hospital. They should be operated on without any delay, and only in the exciting stage of ether anesthesia. When there is a tumor behind the uterus—either blood or pus—a simple vaginal celiotomy should be done. If there is blood, a diagnosis of extrauterine pregnancy may be made in 95 per cent. of the cases.

Dr. Perkins of Denver said that in many cases a woman will miss a menstrual period, imagine herself pregnant, and take some medicine to remove the product of conception. These agents contract the uterine muscle and prevent the impregnated ovum from passing into the uterus, thus producing an extrauterine pregnancy. In these cases the rupture of the tube usually occurs near the cornua.

Dr. D. C. Brockman of Ottumwa, Ia., reported a case of synchronous extra- and intrauterine pregnancy in which he attempted to do a panhysterectomy, but the extensive adhesions prevented the execution of such a procedure. A five months' fetus was removed from the tube through the vagina and the sac was packed. Premature labor followed, accompanied by severe hemorrhage, which persisted, and the patient died. He advised disposing of the fetus *in situ* by electricity or the injection of morphine and allowing the intrauterine pregnancy to go to term.

Dr. W. E. Ground of Superior, Wis., said that when the ovum is lodged near the uterus rupture occurs early, sometimes at the next menstrual period. He did not think that microscopic examination of the uterine scrapings is of any value as an aid in diagnosis because the chorionic villi are found in the tube only and not in the uterus.

Dr. W. O. Henry of Omaha said that when the ovum is lodged near the further end of the tube, the entire ovum with its coverings was extruded, but when lodged near the uterus rupture occurred with hemorrhage, the fetus being retained. He believed in conveying all patients to the hospital, unless the distance was too great.

Dr. C. L. Bonifield of Cincinnati reported a case of what appeared to be an unruptured tubal pregnancy at term. He did not think that was the case, however, but thought that rupture had occurred and that the organization of the blood clot had closed the opening. He advised that when the hemorrhage had apparently stopped and the patient was improving slightly to wait with the operation until the patient had recovered from the shock; but if the hemorrhage continued, and the pulse became more rapid, or could no longer be felt, then operate at once.

**Postoperative Pelvic Exudates.**—Dr. W. F. Wakefield of San Francisco advised the systematic study of all postoperative conditions in every case because postoperative exudates are found in about 60 per cent. of all patients operated on for the relief of conditions produced by severe inflammatory disturbance. These postoperative tumefactions are rarely observed while the patient is in bed, hence it was advisable to examine the patient carefully for several weeks or months afterward so that these exudates, if present, may be discovered and treated before the patient is finally discharged, thus ensuring better after-results. He thought that these tumefactions are probably the result of circulatory disturbances in the embryonic connective tissue in and around the site of the surgical trauma, intensified by the edematous hyperplastic condition of the pelvic connective tissue as a result of long-continued association with chronically inflamed viscera. As the pelvic circulation improved, a gradual absorption of this embryonic tissue took place and the tumefaction disappeared. If this did not occur, a hard fibrous mass was formed which might give rise to very distressing symptoms necessitating a secondary operation. A prolonged convalescence will often prevent this occurrence. Light general massage, alcohol and salt-friction rubs, tepid sponge baths, the depleting tampon and copious hot water douches, once or twice daily, are indicated. The tampon should consist of some light, fluffy, and non-absorbable material, such as Australian lamb's wool. The menstruum must be one which encourages free exosmosis. Incision and drainage through the vaginal vault he had never found necessary.

Dr. C. O. Thienhaus of Milwaukee said that the reason why postoperative exudates were not so frequently met with as formerly was because silk was not used any more in the abdomen.

Dr. D. H. Craig of Boston reported a case that had been examined by a number of physicians, each of whom succeeded in palpating a tumor in the region of the broad ligament. When examined at some other time, no tumor could be demonstrated, and then it would appear again. He suggested that this condition was caused by a varix in the broad ligament.

Dr. J. R. Goffe of New York advised early treatment of these cases, not waiting for the appearance of a tumefaction. If hot douches and the depleting tampon were used too early, however, the healing process will be delayed. He begins this treatment on the twelfth or fifteenth day, with good results. He believed that the tumefaction was plastic material thrown out by Nature, and thought it advisable to get at it before it developed into an abscess. It is important to follow up cases carefully after operative procedures in the pelvis, and patients should not be allowed to get up too early.

Dr. O. S. Bacon of Chicago said that this condition might be caused by hemorrhage, stasis, a varix, or a non-virulent infection. He believed that there is great danger in allowing patients to get around too early after operation, and in not getting them around in the proper way. The postoperative management of these cases should be like that of the puerperium, a proper period of rest in bed, followed by a carefully managed way of doing things.

Dr. J. H. Carstens of Detroit thought the number of these cases did not run as high as 60 per cent., and that they depended largely on the operator. The broad, general practitioner probably did not average over 4 or 5 per cent. If the operation was performed properly, exudates will not form. All stumps should be covered over carefully with peritoneum or with Cargile membrane, and dusted freely with aristol, which has a very beneficial effect in preventing the formation of adhesions and exudates. These patients should also receive plenty of water during their convalescence; water by mouth, salt solution per rectum, or, if not tolerated, injected under the breast. Plenty of water flushes the eliminating organs and hastens convalescence. At least three quarts of water should be given every day, one half pint or a pint at a time.

Dr. F. T. Andrews of Chicago advised amputating the entire tube even into the horn of the uterus, closing the wound with a whip stitch, running the stitch along the whole upper border of the broad ligament, if necessary.

Dr. J. H. Crowell of Kansas City, Mo., believed in permitting patients to get up as early as possible, even on the second day after operation, for the purpose of exercising all the muscles and thus facilitating drainage. He said that he permitted his patients to walk about on the second day after operation, even hysterectomy patients. He was satisfied that patients got along better than if kept too long in the recumbent posture.

**Hernia of the Fallopian Tube.**—Dr. F. T. Andrews of Chicago reviewed the literature and reported four cases. The first case was diagnosed as one of strangulated femoral hernia occurring in a woman aged 56. The hernial sac contained a portion of the ileum, which was very dark colored, a portion of the broad ligament, and a loop of the fallopian tube, with the ovary pressed firmly against the femoral ring and neck of the sac. The tube and ovary were replaced, the sac excised, and the wound closed with catgut. The patient made an uneventful recovery. In the second case, one of tubal hernia occurring in a woman aged 45, the cyst wall was connected with one of the fimbriæ of the tube. The end of the tube was amputated. The third patient, a woman aged 32, gave a history of gonorrhea. The operation disclosed that about one half of the tube was adherent, together with omentum, in the hernial sac. The appendages were removed, and the hernia repaired. The patient made a normal recovery. In the third case, a woman, aged 23, the abdominal wall on the right side was swollen and edematous, the swelling extending up to the ribs and down to the anterior surface of the thigh. The diagnosis was made of pelvic abscess due to rupture, with right pyosalpinx and adhesions. The pelvic organs on the right side were matted together and covered by adherent omentum and intestines. The right tube and round ligament had been severed at the uterine horn. Free drainage was instituted, and the patient made an uneventful recovery.

**Gonorrhea in the Female.**—Dr. L. H. Dunning of Indianapolis considered the question of gonorrhea in the adult female as it affects her reproductive organs only. Acute

gonorrhea is easily diagnosed, if seen early, when both the smear and culture methods may be employed. In the chronic and subacute cases a positive diagnosis is often impossible. All secondary aids to diagnosis, such as the confession of the patient, sudden onset of inflammatory lesions without other cause, must be employed. Many cases in women recover quickly, leaving behind no trace of the disease, and communities differ with respect to the prevalence of the disease. The author does not believe that gonorrhea is responsible for pelvic lesions in women as often as is generally believed. Of a series of 1,855 cases coming to his notice and being under his care, 88 had gonorrhea as was demonstrated microscopically. Of 199 cases of serious lesions of the pelvis demanding grave operative procedures, only 35 were of gonorrheal origin. As to the influence of gonorrhea in producing sterility, out of 59 cases of primary sterility, 66 per cent. could be fairly attributed to other than gonorrheal causes and only 10 per cent. could be attributed to gonorrhea, indicating that gonorrhea as a causative factor in sterility has been overestimated. Dunning believes that sterility is frequently due to a successful effort on the part of the woman to prevent impregnation, and to errors in development of the reproductive organs of woman.

**New Operation for Pyosaplinx.**—Dr. W. D. Kelly of St. Paul, Minn., described a method employed by him which does not necessitate the use of either clamp or ligature, and which is not accompanied by any bleeding. The mortality of the operation is under 2 per cent. Drainage is almost never necessary and counter openings are unnecessary. He said that extratubal or peritubal abscess is frequently found whose walls are made up of bowel, omentum, tube, broad ligament, uterus, or bands of adhesions. This condition is frequently mistaken for ruptured abscessed ovary or tube, it being impossible to separate or encroach on this abscess without opening it. He did not hesitate to operate on an acute case of pyosalpinx if the tube can be felt free in the pelvis. Fifty-nine cases were cited.

**Bi-inguinal Operation for Retroversion of Uterus.**—Since 1903 Dr. A. Goldspohn of Chicago has operated on 55 cases, employing this method. Five of these cases have disappeared. One case died suddenly with symptoms of cerebral embolism. Forty-nine cases were examined on an average twenty-two months after operation. In five the uterus was adherent; in nine the appendages of both sides; in five the appendages on one side; cystic follicles, corpora lutea and cirrhotic portions of the ovary were incised from the right 26 times, from the left side 31 times. Salpingostomy, 2; parovarian cysts, 2. Primary union occurred in all except five cases. Collateral operations done at the same time were: Curettage, 49; amputation of cervix, 7; Emmett operation, 1. A number of these cases have stood the test of labor without a recurrence of the retroversion. Out of 170 cases operated on by his method only three were failures, and those for special reasons mostly.

**Normal Anatomy in Gynecological Surgery.**—Dr. D. H. Craig of Boston believed that there are many perfectly satisfactory operations anatomically, symptomatically, and functionally. Quotations made from letters received from a number of prominent operators who have devised special operations for the treatment of retroverted uterus show that none of the methods is suitable in all cases. Craig believed that the greater the number of ways devised for utilizing the normal uterine ligament for the restoration and retention of the uterus in its normal position the better, as long as they are rational and safe and are considered as supplements instead of substitutes for each other. Every surgeon, whether specialist or general practitioner, intending to operate on such cases should familiarize himself with all known methods and be prepared to use any and all methods or to modify them to meet the conditions of each individual case. The skill and time required are not excessive. The formation and utilization of adventitious ligaments within the abdomen should be reserved for cases manifesting special indications. Ventral suspension or fixation should not be performed, because of their easy performance, by surgeons who could not operate by using the natural ligaments. The conservation or restoration of normal pelvic anatomy should be the aim of the gynecologist, and the individual case should determine the method to be employed.

Dr. W. O. Henry of Omaha has devised an operation which extends the vesicouterine ligaments on the anterior surface of the uterus without dissecting the bladder free from the uterus. The peritoneum in the cul-de-sac is scarified between the uterus and bladder, extending the scarification up on the uterus in the course of the ligament as far as may be necessary, depending on the size of the body of the uterus.

Dr. Gallant of New York puts a needle threaded with catgut around the middle of the round ligament, attaching it to the peritoneal surface on the other side. Two sutures are employed, about half an inch apart.

Dr. Frisbee of San Francisco detaches the round ligament at its junction with the uterus, passing a pair of forceps beneath the broad ligament through the ovarian ligament and tube, seizes the detached ligament and brings it around back of the uterus and stitches the end of the one-round ligament to the other, first making a slight furrow in the back of the uterus. Stitch over all of the ligaments peritoneum. It leaves no place for the formation of adhesions and tilts the uterus forward.

**Etiology and Treatment of So-called Endometritis.**—Dr. E. F. Tucker of Portland said that endometritis of the body of the uterus is not a true mucous membrane, but a glandular structure intimately connected with the muscular tissue of the uterus. Its main function is connected with the development of the fertilized ovum. Both acute and chronic endometritis he considered as being rare affections. Fungoid endometritis is not a condition at all, and the term ought to be expunged from the records. The condition which usually is termed endometritis is the result of circulatory disturbances in the pelvic organs. The treatmen consists of the removal of the cause. Local measures are of no avail. He advocated a careful study of this condition with a view of determining definitely its pathology, and also urged that gynecologists perfect their knowledge of the anatomy, physiology and pathology of all the organs in the pelvis and abdomen.

*Third Day—Thursday, July 13.*

**Repair of Perineum.**—Dr. G. B. Somers of San Francisco described the anatomy of the perineum and insisted on the importance of the levator ani muscle in attempting a restoration of this body. He described an operation called the fishing operation, for exposing and uniting the fibers of the levator ani. A simple denudation was made and the levator muscle feed from its surrounding tissues. The ends were united directly, using silkworm gut. The suture was inserted with a matress stitch, from side to side, in the deepest portion of the wound, passing through the edges of the muscle two or three times. He then continued in the deep portion of the wound, taking up the tissue from the denuded ends of the superficial perineal muscles, emerging, finally, through the skin on the perineal surface just above the lower angle of the wound. A second and third stitch were taken in the same way, approximating the tissues. The most important feature of the suture was the method of fastening the ends. After making certain that all the sutures are drawn taut, the vaginal ends are gathered into a single shot and clamped from an inch to half an inch from the free surface. The perineal ends were likewise clamped. The sutures keep the parts in perfect contact and also allow for swelling. There is no pain at any time. The sutures were removed on the tenth day. There is no constriction of circulation, thus favoring immediate union.

Dr. J. H. Carstens of Detroit did not agree with the author, either in his anatomy, physiology, or technic. He said that the levator muscle is not the support of the perineum. It was the fascia. Furthermore, there is no

one correct way for repairing the perineum. The individual case must be considered, and that operation performed which was most suitable. He thought that Dr. Somers' stitch would tear through the tissues, and thus fail of accomplishing its object. He advised putting in many little sutures rather than one large suture, using catgut and not silkworm gut.

Dr. H. O. Marcy of Boston agreed with Dr. Carstens, and referred briefly to his method of repairing the torn perineum.

Dr. W. F. Wakefield of San Francisco said he had employed Dr. Somers' method in a number of cases, and had always found it perfectly satisfactory.

Dr. Ferguson of Troy, N. Y., insisted on the equal importance of both muscle and fascia, a repair of either alone not sufficing for a perfect restoration.

Dr. Clark of San Francisco had employed the method in fifty cases with most satisfactory result. He had never had a single case of infection. If infection had occurred before operation, the method was a most valuable one for treating the infection. In fresh tears, particularly, the suture advised was of great value.

Dr. C. S. Bacon of Chicago said that while the levator ani muscle was important, the muscle of the urogenital trigone must not be overlooked, because it supports that part of the pelvic outlet which is not supported by the levator ani. He thought that Dr. Somers' method failed to bring together these muscles.

Dr. F. B. Andrews of Chicago called attention to the fact that the levator ani muscle was a shallow bowl and that unless this shape was restored to the muscle, the operation employed was useless. The stitches should be inserted so as to draw all the tissues upward and forward, thus bringing the pelvic outlets back to their normal position and giving to the vaginal canal its normal obliquity. Most operations did not do this; they created a vaginal canal whose direction was horizontal and not oblique.

**Complications of Pregnancy.**—Dr. F. D. Donoghue of Boston said that where there was a well-marked history of appendicitis in a young woman, operation should be performed as an antecedent to marriage. With well-marked acute symptoms referable to the right side, in the presence of pregnancy, operate at once. Operation should be advised prior to marriage if tumors of the uterus or appendages are known to be present. The treatment of ovarian or uterine tumors not recognized until pregnancy had occurred, should be governed by the conditions existing in the individual case. At or near term an operation may be performed which will remove the condition, and at the same time permit of the delivery of a living child.

Dr. E. E. Montgomery of Philadelphia said that if the patient had had repeated attacks of salpingitis, it was an indication for immediate operation in the early stage of pregnancy. The danger of operating at this time was less than it was later on in the pregnancy. In cases of myoma, unless the tumor interferes greatly with the circulation, it is better to wait and see whether Nature may not lift the tumor out of the way so that it will not interfere with the pregnancy. Besides, the tumor may disappear entirely after the pregnancy. Ovarian tumors should not be interfered with unless they are situated below the uterus. Then operation should be done as early as possible.

Dr. C. S. Bacon of Chicago said that all ovarian tumors should be removed as soon as discovered, except in exceptional cases. During labor it is not safe to operate on these cases. Large tumors that fill the pelvis can often be replaced by putting the patient in the knee-chest or Trendelenburg position. Reposition is better than operation. He did not believe in operating on fibroids even in the early months of the pregnancy, because they rarely become troublesome during labor, and if the fibroid is not situated in the cervix or lower uterine segment, it is better to let it alone.

Dr. J. H. Carstens of Detroit said that a woman will stand an operation as well during pregnancy as at any other time. Adherent ovarian tumors should be removed as soon as possible, because they cannot be gotten out of the way. Fibroids in the cervix or lower uterine segment can be removed through the vagina in many cases. Many more women die with tumor during pregnancy and labor than is the case when they are operated on promptly. If the tumor is loose and movable, above the brim of the pelvis or subperitoneally, it should be left alone.

Dr. W. B. Dorsett of St. Louis agreed with Dr. Carstens, but urged conservatism in cases of fibroids complicating pregnancy.

**Pulmonary Tuberculosis as an Obstetrical Complication.**—Dr. C. S. Bacon of Chicago said that probably from one to one and a half per cent. of all pregnant women had tuberculosis in such a degree that it could be detected if careful examination was made. In many cases the pregnancy had a bad effect on the disease, especially when it had progressed far or nutrition was low and the respiratory function is much embarrassed. Labor was very apt to have an unfavorable influence on the disease, and not rarely led to a fatal termination. The puerperium was characterized by a rapid progress of the affection. The effect of tuberculosis on pregnancy was slight, except in severe cases when there was much coughing and fever. Only rarely was the fetus infected. In mild forms of the disease labor might be normal. Generally, it was the puerperium that showed most markedly the effect of tuberculosis, and when the exhaustion of labor was considerable, the patient was apt to die. In the case of a woman living under favorable conditions, conception should be absolutely forbidden. For these women artificial sterilization was a legitimate operation. The tuberculous gravida should be permitted to continue her pregnancy if she could receive proper care; if not, an operation should be advised before the twentieth week. After that time an attempt should be made to carry the child to full term. Under no circumstances should the tuberculous mother nurse her child, and it should not be kept in the same room with the mother. By careful arrangement of a case before and after labor, and the free use of oxygen during labor, complications usually did not arise.

Dr. E. F. Tucker of Portland said that in the production of an abortion we must be guided by the location and stage of the tuberculous process, the stage of the pregnancy and the social condition of the mother.

Dr. E. V. Davis of Chicago said that abortion was not justified. It was better to save the life of the child than that of the mother, who probably had not much longer to live anyway. It was better to teach the dictum never to perform abortion, than to say that it may be performed under certain conditions.

Dr. W. O. Henry of Omaha protested against performing abortion in these cases.

Dr. J. H. Carstens of Detroit advised educating the laity in these matters, and would forbid the marriage of consumptives. He did not agree with Dr. Bacon that sterilization ever was justifiable, because the mother might be cured of her tuberculosis and then want a child, when that would be no longer possible.

Dr. F. D. Donoghue of Boston agreed with the previous speaker, and said, further, that to induce an abortion in these cases was an acknowledgment that physicians were unable to cope with tuberculosis, which was not true.

**Maternal Syphilis.**—Dr. G. S. Whiteside of Portland advised looking oftener for syphilis, as it would often explain otherwise obscure symptoms. If it was detected in a pregnant woman, it should be treated promptly and thoroughly, because only in that way was it possible to save the fetus from inheriting the disease. The syphilitic infant should be given every care and mercury. After thorough treatment immediately after birth, the late symptoms of hereditary syphilis were seen but rarely.

**Physiological and Legal Status of the Fetus in Utero.**—Dr. W. H. Sanders of Montgomery, Ala., said that if birth meant the coming into life, birth took place at the time of conception. Delivery meant simply the passing from intrauterine to extrauterine life. The conjunction of the male and female sperms constituted birth, and physicians in dealing with pregnancy, from the earliest to the latest stages, should realize the extreme gravity of the question, and should never attempt to destroy a fetus, however young, without mature consideration and without calling to their aid the highest professional authority. He urged that these principles should be impressed on the medical profession, taught to medical students, and promulgated among the laity. Medical men should see that the statutes of their respective States are ample for the protection of the fetus in utero.

**Present-Day Conduct of Labor Cases.**—Dr. J. A. McKenna of Lansdowne, Pa., gave a brief analysis of 207 cases of labor without hemorrhage, sepsis, or fatality. Forceps were used only twice, in a case of right occipito anterior position and in a primipara of thirty with uterine inertia. Among this number there were three cases complicated by uterine fibroid. The technic pursued was that laid in most textbooks on the subject, except that the position of the patient in bed differed from that usually assumed. The hips of the patient were elevated as much as possible, thus obviating the danger of sepsis from the entrance into the vagina of septic material or material which may decompose and thus cause a sapremia. In gonorrheal cases, the author dilated the vagina for weeks before delivery, and swabbed its walls with a solution of albuminate of silver. He was utterly opposed to the use of douche at any time during or after delivery, and advised noninterference as regards retained placenta. Thorough compression of the fundus of the uterus during labor facilitated the expulsion of the placenta.

**Study of Bony Pelvis.**—Dr. E. V. Davis of Chicago made a systematic study of 150 cases of pregnant women, especially with reference to the bony pelvis. About 82 per cent. of the cases were normal; 69 per cent. of the deformities were contracted pelves, about 15 per cent. simple flat, and 4 per cent. rachitic. In the deformed cases, about 61 per cent. had normal deliveries; 38 per cent. were operative cases. Cesarean section was performed only once. Of the normal cases, 124 were delivered spontaneously and 12 were operative cases. A study of 35 cases made with a view to determining whether the occupation, diet, and social status of the mother had anything to do with the weight of the child, showed that the more inactive the mother, and the better she was fed, the greater the weight of the baby. Of American mothers, 19 per cent. had deformed pelves, and 33.01 per cent. of the foreign women. The author stated that deformed pelvis should be looked on as a sign of degeneracy. These deformities occurred often enough to make pelvimetry a routine practice in all cases of pregnancy. Inebrity in parents was the most prominent factor in causing these deformities. The size of the infant can be regulated by diet and exercise, if these measures were carried out during the last three months of the pregnancy, a point well worth remembering in these cases of contracted pelves.

**Maternal Impression Superstition in Obstetric Teaching.**—Dr. E. T. Shelly of Atchison, Kan., reviewed this question, and stated that all anatomical and physiological facts were against the possibility of there being any truth in the theories advanced in favor of maternal impressions. He advised that teachers of obstetrics and physicians generally do all in their power to eradicate this belief from the minds of the laity, because of its depressing effect on the pregnant mother.

**Syncytioma Malignum.**—Dr. L. H. Bransom of Iowa City reviewed the clinical history of this condition, and reported one case illustrating the fact that this form of tumor may coexist with pregnancy.

## AMERICAN NEUROLOGICAL ASSOCIATION.

*Thirty-first Annual Meeting, Held in Philadelphia June 1, 2, and 3, 1905.*

(Special Report to the Medical Record.)

(*Continued from page 81.*)

The President, Dr. William G. Spiller, in the Chair.

**The Mental Symptoms of Cerebral Tumor.**—Dr. Phillip Coombs Knapp of Boston presented this paper. The writer had made a study of the mental symptoms in 104 cases of tumor of the brain with autopsy observed at the Boston City Hospital. Mental disturbances were noted in 79 cases; 40 cases, however, were excluded on account of complicating diseases and for other reasons. In the remaining 64 cases mental symptoms were noted 58 times, and the writer believed that such disturbances were far more frequent than had been previously stated. The mental symptoms were observed early in the progress of the disease in 28 cases. The nature of the mental disturbances varied. The largest number of patients, 31 in all, showed simple mental failure and dullness; 7 showed a marked mental confusion and 15 actual delirium; 1 patient was simply neurasthenic, 2 had delusions of persecution, 1 was depressed, another showed symptoms of general paralysis. The especial *Witzelsucht* so often described was not observed. The states of delirium were not apt to be noted in the larger stages of the disease. The writer found that a tumor on the left side of the brain was not more apt to produce mental symptoms than a tumor on the right. In regard to the location of the growth, in the only case of a tumor of the cerebrum in which mental symptoms were not noted, the tumor was in the frontal lobe. The writer, however, believed that the frontal and temporal lobes were more especially to be regarded as presiding over the higher psychical functions. The mental symptoms seemed less probably the result of a lesion in a definite portion of the brain than the result of general processes such as pressure and the formation of toxins. The nature of the mental disturbances suggested a toxic origin, and in 1 case they developed after an attempt at removal of the tumor had relieved the increased intracranial pressure.

Dr. Hugh T. Patrick of Chicago said there was one element in connection with the mental symptoms of brain tumor that the author did not allude to, viz., the individual tendency of the patient before the tumor had begun to develop. In some cases he had been able to determine the character of this tendency. He had found the *Witzelsucht* in 2 cases; 1 was thought to be frontal tumor and the other just behind the central region. No autopsies could be obtained.

Dr. Guy Hinsdale of Philadelphia said that he had seen *Witzelsucht* in a boy 18 years of age in whom a large frontal growth was removed at operation. The boy was constantly in a state of extreme exhilaration.

Dr. Knapp in closing said that he did not consider in his paper the previous mental tendency of the individual, as nearly every one of his cases presented distinct mental symptoms.

**Carcinoma of the Nervous System.**—Drs. Wm. G. Spiller and T. H. Weisenburg of Philadelphia presented this communication, which was read by Dr. Weisenburg. They called attention to the lack of information upon this subject and made a classification, basing this upon the study of the literature and of their 8 cases, 6 of which were with necropsy. The following subdivisions were made: (1) Those cases in which metastasis to the nervous system occurred; (2) those in which there were alterations not distinctly cancerous, in the substance of the spinal cord and brain; (3) those in which the peripheral nerves were diseased either with or without involvement of the brain and cord, and (4) those in which no macroscopic lesions were found, and the symptoms were supposedly toxic. Metastasis to the brain might be in the form of cancer nodules or might be a carcinomatous meningitis. Metastasis to the spinal cord was

rare, but vertebral metastasis was more common. The alterations in the nervous system might be in the form of diffuse sclerosis, and more rarely involve definite tracts. The toxic symptoms were various, and no microscopic lesions could be found to explain them. It was not unusual to find alterations in the nerve cells in different parts of the brain and cord. Of the 8 cases studied by Drs. Spiller and Weisenburg, one was a case of carcinoma of the optic chiasm, one case of degeneration of cranial nerves, one a case of carcinoma intoxication after operation, one a case with bulbar symptoms, and four were cases of vertebral carcinoma.

Dr. E. W. Taylor of Boston stated that he was very much interested in the paper of Drs. Spiller and Weisenburg, especially in reference to the part dealing with classification. He had had two cases of carcinoma of the nervous system. One was carcinomatous meningitis secondary to cancer of the breast. The symptom complex was that of pachymeningitis. There were distinct nerve root symptoms. The other case was in a woman with cancer of the breast. He made an autopsy half an hour after death. Though he at first thought the mental symptoms were of a toxic variety, he found later by careful study with the Nissl method retrograde axon degeneration. He exhibited a photomicrograph showing the changes in this case. Taylor considered photomicrographs better than other forms of reproduction for showing changes in the nervous system.

**Palates of the Feeble-Minded.**—Drs. Walter Channing of Brookline, Mass., and Clark Wissler of New York, presented this communication, which was read by Dr. Channing. They reported upon the measurements of the palates of feeble-minded and normal individuals which they had been making for a number of years past. All of the work has been done with plaster casts of the palate. They had casts of the palates of 1,010 feeble-minded persons and 614 normal individuals. By comparing the two classes very little difference was found, and this difference was principally in respect to variability.

**Paraplegia from Fracture of the First, Second, and Third Dorsal Vertebræ.**—Dr. Guy Hinsdale of Philadelphia presented this paper. The patient, a young lady, was injured in 1901 by the explosion of an acetylene gas generator. She suffered fracture of the first, second, and third dorsal vertebræ and seven other fractures, including a comminuted fracture of one elbow and a compound fracture of one ankle. There was a paraplegia below a line two inches below the nipple. There was no deformity of the vertebræ and no crepitus but great tenderness. Upon consultation laminectomy was decided upon and performed. The dura was incised for about an inch. The operation was followed by convulsive movements of the parts not paralyzed. Convalescence was very long and tedious, requiring infinite care and patience. There was no loss of consciousness at any time as a result of the accident. Bed sores developed. Although it required three years for restoration of the functions of the bladder and rectum, and catherization was performed during all this time, cystitis did not occur. A glass catheter was used and always by the same nurse. Spastic paraplegia came on accompanied by contractures requiring division of the Achilles tendons, adductors of the thigh, and the hamstrings. Dissociation movements were very prominent and resembled those of syringomyelia. The patient could now sit up, stand alone, take long drives, walk by the aid of two nurses, and was fairly comfortable and happy.

**A Case of Brown-Sequard Paralysis, Due to a Fall Upon the Head; Operation; Autopsy.**—Dr. William C. Krauss of Buffalo read this paper. The patient was a colored boy who fell from a hayloft a distance of twenty feet, striking on his head. He was unconscious when brought to the hospital, where the resident staff thought the case was one of hysteria. Several days later, on examination, Krauss found the seat of injury at the fourth cervical segment, loss of sensation of the right arm and leg, and loss of power of the left arm and leg. Laminectomy was performed, and, although softening of the cord was noted, no foreign body was seen. No fracture or dislocation of the bodies was present. About a week later the patient died, apparently as the result of infection, and autopsy revealed a small spicule of bone which had penetrated and injured the right side of the cord. It was not found at operation because the search was confined to the opposite side. There was adhesion of the meninges, with degeneration in the tract of Goll and of Gowers. Injury in this region was dangerous because of involvement of the phrenic and the long thoracic nerve. The author was able to find reports of about sixty cases of Brown-Sequard paralysis.

**Hyperesthesia and Hypalgesia and Their Significance in Functional Nervous Disturbances.**—Dr. Edward B. Angell of Rochester presented this communication. He spoke of the importance of the skin as a sensory organ of the nervous system and called attention to the common origin, in the ovum, of the skin and the central nervous system. In peripheral anesthesia the muscular and pain sense were lost before the tactile sense, while in central anesthesia the reverse was true. A fixed idea might blunt the surface sensibility. Also the surface sensibility might be blunted without the patient being aware of it. He cited the case of a woman who had nursed a patient with diphtheria under a doctor who was very careful about disinfection and required her to wash her hands frequently. As a result of the mental influence her hands became anesthetic. He called attention to the recent discovery of Head of two sets of cutaneous nerves, one for pain and one for touch.

Dr. P. C. Knapp said he thought the anesthesia of the hands in the case of a woman referred to by Dr. Angell was due to the action of soap and water used in the frequent washing in a manner analogous to that in which washerwomen are sometimes affected.

**Officers Elected.**—*President,* Henry L. Stedman of Boston; *First Vice-President,* Henry M. Thomas of Baltimore; *Second Vice-President,* George W. Jacoby of New York; *Secretary* and *Treasurer,* Graeme M. Hammond of New York; *Councillors,* Wm. G. Spiller of Philadelphia, Walter Channing of Boston.

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## Philadelphia County Medical Society.

At a stated meeting held May 10, Dr. S. C. Burns presented for Dr. W. L. Rodman "A Case of Gastrostomy" occurring in a man about 50 years old, with obstruction at the cardiac extremity of the stomach, with ability to swallow only small amounts of fluid. The patient was greatly emaciated and debilitated, and a fistulous opening was made into the stomach through an incision close to and parallel with the left costal margin after the viscus had been attached to the parietal peritoneum and included within the margins of the divided rectus muscle. In this way a sphincteric action was obtained, preventing the leakage of gastric juices and excoriation of the cutaneous surface surrounding the fistula. The patient gained in weight and strength after the operation. Dr. H. Emerson Wetherill presented a centrifugal apparatus operated on the principle of the whirligig. The device was simple and portable and the cubes were graduated so that the amount of precipitate could be read from a scale etched on the glass. Dr. M. H. Fussell read a paper entitled "Two Cases of Malignant Endocarditis." One occurred in a lad with a history of previous typhoid fever and later presenting symptoms suggestive of appendicitis. There was severe pain in the right iliac fossa, with distinct leucocytosis and a somewhat hectic temperature. In addition, murmurs were audible at the aortic orifice, and on this account operative intervention was refrained from. Death resulted and examination disclosed the presence of ulcerative endocarditis involving the aortic valves. In the second case also there was a history of typhoid fever, but typhoid bacilli were not agglutinated and rendered immobile by the blood-serum. On account of the size of the heart and especially the enlargement of the right side of the viscus, the presence of leucocytosis, of enlargement of the spleen and of a presytolic murmur at the

mitral orifice a diagnosis of malignant endocarditis was made. After death the mitral valve was found the seat of large vegetations and the spleen contained several infarcts. Dr. Fussell dwelt especially on the resemblance of the first case to one of appendicitis and the history of typhoid fever in both cases, the apparent symptoms of the latter being merely due to the endocarditis. Dr. NORMAN B. GWYN read a paper entitled "Typhoid Fever; Accidental Infection with the Bacillus of Malignant Edema or the Gas-bacillus, with the Symptoms of Intrathoracic Irritation." Hypodermoclysis was employed in the course of treatment and was followed by the development of subcutaneous emphysema in the vicinity of the needle puncture is one situation. Large bacilli suggestive of hay-bacilli were isolated from the fluid present. Dr. G. BETTON MASSEY read a paper entitled "Some Aspects of the Cancer Problem," in which he dwelt upon the primarily local origin of the disease and the need of early recognition and prompt removal by the cautery, by cataphoresis, or by the knife. Patients thus treated must subsequently be kept under frequent observation for a long period of time, in order to guard against recurrence.

## Medical Items.

**Contagious Diseases—Weekly Statement.**— Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending July 15, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 458 | 17 |
| Diphtheria and Croup | 187 | 27 |
| Scarlet Fever | 50 | 5 |
| Smallpox | ..... | ..... |
| Chickenpox | 34 | ..... |
| Tuberculosis | 371 | 136 |
| Typhoid Fever | 94 | 12 |
| Cerebrospinal Meningitis | 34 | 32 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | ..... |
| Totals | 1,228 | 229 |

**A New Form of Needle.**—Loopuyt describes a new pattern of surgical needle which is intended to be used by the fingers without the aid of a holder. Especially in intestinal work it is of advantage to be able to dispense with the holder, but with the ordinary straight needles it is often difficult to penetrate the desired layers accurately or to work at any distance from the surface. The new needle has a straight shaft with a gently curved point. The eye end for a distance of 1.5 to 2 cm., according to the size of the needle, is bent quite sharply at right angles to the shaft, the plane of curvature being the same as that of the point. By grasping the needle at the eye and with the ball of the thumb in the hollow of the curve, perfect control is secured, while the curved point affords all the advantages of the ordinary curved needle. —*Zentralblatt f. Chirurgie.*

**Suture of the Bladder.**—Hofmann attaches great importance to careful preliminary treatment of the bladder before suprapubic cystotomy in order to facilitate healing of the incision by relieving the inflamed or irritated state of the mucous membrane usually present in cases requiring operation. Rest in bed for some time and the internal administration of antiseptics and the application of moist compresses to the abdomen, bladder irrigations, etc., are the measures to be employed. Two other features of the author's technique are the omission of drainage from the wound, and of the permanent catheter. He does not consider the presence of either of these necessary for healing, and thinks that their absence tends to favor union of the incision.—*Zentralblatt für Chirurgie.*

**Tic-Douloureux from Sphenoidal Disease.**—John O. Roe reports this interesting case: The patient, a woman sixty-eight years old, was referred to him on account of a severe facial neuralgia, or tic-douloureux, from which she had been suffering for about two years. At first the pain was slight, but it steadily increased both in frequency and in the intensity of the paroxysms. When she was twelve years old she had fractured her nose, and in consequence of this accident there was for three or four years a thin mucopurulent discharge from the left lacrymal duct. This subsided spontaneously. She then became subject to severe colds in the head. During these attacks she had severe pain above the nose and behind the eyes. Finally the tic-douloureux began. Examination showed the right middle turbinate to be much enlarged, and pressing against the septum, which was deflected to the left, occluding the left nostril. The writer removed a portion of the right middle turbinate and the impaction in the region of the posterior ethmoid cells. Relief was obtained for one week, after which the paroxysms of pain were as frequent and severe as before. On exploring the posterior part of the nasal chamber pus was observed coming from the sphenoidal sinus. In using the probe there was a sensation of a doughy substance, evidently a growth in the cavity. Another operation was performed. The sinus was freely opened, the lower anterior wall was removed, and the interior of the cavity, which was filled with a myxomatous growth, was curetted. After the removal of this growth the paroxysms of pain ceased and have not returned up to the present date. The writer describes another case of this nature occurring in a woman seventy years of age. Operation was successful.—*Medical Review of Reviews.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, Public Health and Marine Hospital Service, during the week ended July 15, 1905:

SMALLPOX—UNITED STAT

| | | CASES. | DEATHS. |
|---|---|---|---|
| District of Columbia | July 1–8 | 3 | .. |
| Florida, Jacksonville | July 1–8 | 1 | .. |
| Illinois, Chicago | July 1–8 | 15 | 4 |
| Danville | June 27–July 13 | 3 | .. |
| Indiana, South Bend | July 1–8 | 3 | 1 |
| Louisiana, New Orleans | June 24–July 8 | 7 | (1 imp't'd) |
| Michigan, Grand Rapids | July 1–8 | 7 | 1 |
| Minnesota, 19 counties | June 12–19 | 91 | .. |
| 10 counties | June 19–26 | 53 | .. |
| Missouri, St. Louis | June 24–July 1 | 1 | .. |
| Nebraska, Omaha | July 1–8 | 2 | .. |
| New York, New York | June 24–July 1 | 1 | .. |
| Rome | July 1–8 | 1 | .. |
| North Dakota, 9 counties | May 1–31 | 55 | .. |
| Pennsylvania, York | July 1–8 | 1 | .. |
| South Carolina, Greenville | June 24–July 1 | 1 | 1 |
| Tennessee, Memphis | July 1–8 | 1 | .. |
| Wisconsin, Appleton | June 1–8 | 2 | .. |
| Crosse | June 24–July 1 | 1 | .. |
| Milwaukee | June 24–July 8 | 17 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Africa, Cape Colony | May 27–June 3 | 2 | .. |
| Belgium, Brussels | June 10–17 | .. | 1 |
| Brazil, Bahia | May 13–27 | 14 | .. |
| Rio de Janeiro | May 28–June 11 | 19 | 9 |
| China, Hongkong | April 30–May 6 | 8 | .. |
| Colombia, Cartagena | June 10–17 | 1 | 1 |
| France, Paris | June 10–24 | 31 | 4 |
| Great Britain, Birmingham | June 17–24 | 1 | .. |
| Bristol | June 17–24 | 3 | .. |
| London | June 10–24 | 4 | .. |
| Sheffield | June 17–24 | 1 | .. |
| India, Calcutta | May 27–June 3 | .. | 2 |
| Madras | May 27–June 2 | .. | 2 |
| Italy, Catania | June 15–22 | .. | 4 |
| Messina | June 17–24 | 3 | .. |
| Mexico, City of Mexico | June 17–24 | 15 | 9 |
| Russia, Odessa | June 10–17 | 13 | 3 |
| St. Petersburg | June 3–17 | 14 | 3 |
| West Indies, Grenada | June 1–15 | 4 | .. |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | May 28–June 11 | 85 | 34 |
| Ecuador, Guayaquil | June 6–13 | 4 | .. |
| Guatemala, Livingston | June 21–July 6 | 12 | 5 |
| Mexico, Tehuantepec | June 25–July 1 | 1 | 1 |
| Tierra Blanca | June 18–July 1 | 3 | 1 |
| Vera Cruz | July 11 | 1 | .. |
| Panama, Colon | June 23–28 | 4 | 1 |
| Panama | June 23–28 | 0 | 1 |
| Paraiso | June 23–28 | 1 | .. |

CHOLERA.

| | | | |
|---|---|---|---|
| India, Calcutta | May 27–June 3 | .. | 0 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Africa, East London | May 20–27 | 3 | 1 |
| King Williams Town | May 20–27 | 1 | .. |
| Queenstown | May 20–27 | 3 | 1 |
| Arabia, Aden | June 2–9 | .. | 1 |
| Brazil, Rio de Janeiro | June 4–11 | .. | 1 |
| China, Hongkong | April 30–May 6 | 8 | 7 |
| India, Calcutta | May 27–June 3 | .. | 84 |
| Madras | May 27–June 2 | .. | 1 |
| Peru, Payta | June 14 | 2 | 1 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68. No. 5.
Whole No. 1812.

New York, July 29, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### CLINICAL SUGGESTIONS FROM THE STUDY OF 500 CASES OF PULMONARY TUBERCULOSIS.*

By HENRY P. LOOMIS, M.D.,

NEW YORK.

The cases of pulmonary tuberculosis which have formed the basis of certain conclusions to which I ask your attention, represent people seen in private practice in New York; cases admitted to the big public hospitals of the city—the New York and Bellevue hospitals—and patients in the sanatorium at Liberty, N. Y. They include people taken from every walk in life and illustrate the disease in all its phases. They may be called in a certain sense selected cases, but selected from among a large number only because the records were so complete as to be of value and to warrant analysis.

I will ask your attention briefly to four series of investigation.

1. How pumonary tuberculosis begins—the symptoms of its very first inception—analysis of 100 cases.

2. Analysis of 55 "cured cases" of phthisis.

3. Results in cases examined for admission to the Adirondack Cottage Sanatorium, or the Annex of the Liberty Sanatorium, as illustrating the possibilities of prognosis.

4. Cases showing the average length of life of the poor after the inception of tuberculosis—patients living under such hygienic conditions as are possible for them in a great city.

**How Pulmonary Tuberculosis Begins.**—There is no disease in which an accurate history, especially as to the very beginning of the trouble, is of more importance than in tuberculosis. No detail is too small to be noted, and we quickly recognize that the statements of patients as to the beginning of trouble in most cases refer to later symptoms of the disease. With this fact in mind I am in the habit of keeping histories of the early symptoms of the disease under two heads: (1) First presumable evidence of the disease; (2) First demonstrable evidence of the disease. Naturally the filling out of this last heading must be based upon the physical examination of the chest, or the sputum examination, or both. To see if there was any uniformity in the histories of tuberculous people, as to the very beginning of their trouble, or to see if they could be classified under certain heads, I took a hundred cases in which the most accurate and painstaking histories had been obtained, as to how the trouble began, and I endeavored to analyze them. In 80 per cent. of all the cases the first *presumable evidence* of the disease was such that the cases could be arranged under one of three heads, viz.: (1) Colds or coughs (continuing); (2) "Run down," loss of weight, no cough at first; (3) Pleurisy, dry or with effusion.

In analyzing these groups further, I found as one might expect, that in the great majority of cases 48 per cent. of the whole, the first symptom of any pulmonary trouble was a cough, which ran for weeks or months and did not clear up, the cough antedating any "run down" condition, fever or chest pains. An interesting fact was that in 20 of the cases the cough was accompanied by no expectoration.

In 18 the first presumable evidence of the disease was loss of flesh, associated with a general "run down" condition. The person being "below par" physically for a varying period.

The average time this condition lasted before the actual development of the disease was found to be five and one-half months. In some of the cases, persistent digestive disturbances marked this period of loss of flesh. The following cases illustrate this point:

Case No. 1167.—First presumable evidence of disease. In 1896, when patient was 19 years of age, he entered upon a university course at Harvard. Went in enthusiastically for football and rowing, and was evidently overtrained during his freshman year, losing considerable weight. Appetite and digestion failed and he was treated for "stomach trouble." During the summer vacation he recovered weight and general health. The following three years of his university life were not marked by sickness, although he always complained of digestive disturbances and remembers having more or less cough at such times. After graduation, in 1900, he spent a year in manufacturing business. In 1901 he entered a banking house. Within a few months, however, he noticed recurrence of the cough, which was now attended with expectoration, but as general health and weight were not affected he paid no attention to the symptoms. In July, 1904, an unusual exertion (rowing in a scull race) was followed by a severe chill, although he saw no physician and continued his exercise. In September he noticed chill and fever, the latter reaching 102°F., and finally toward the last of the month the patient consulted a physician, who diagnosed tuberculosis. First demonstrable evidence of disease—physical examination in September, 1904, revealed a lesion, and on examining the sputum, bacilli were found.

Fourteen of the patients who developed tuberculosis gave a definite history of having had at some time one or more attacks of pleurisy, from which they recovered, and which were followed by periods of perfect health. Out of another series of 260 cases of pulmonary tuberculosis I found that 44 gave a definite history of having had an attack of pleurisy some time in their life previous to the development of tuberculosis. Taking the two series of cases together, this would give 16 per cent. as the average of tubercular cases who give a pleuritic history. The average length of time which was found to have elapsed between the first attack of pleurisy and the actual development of the disease was three and

*Read at the first annual meeting of the National Association for the Study and Prevention of Tuberculosis, 1905.

one-half years. As far as could be ascertained tuberculosis developed in these cases on the side that had been affected by the pleurisy. To ascertain if possible what proportion of cases had had an attack of pleurisy with effusion, and had not developed tuberculosis within five years, I had the records of Bellevue Hospital looked up. Picking out 50 cases with definite histories on this point, I found that 38 had not developed tuberculosis, and 12 had developed tuberculosis. The period of five years was taken arbitrarily to bring the two classes of cases together.

Taking out 80 per cent. of the cases in which the very first evidence of the disease came under one of these three heads, "Cold and coughs," "run down," or "pleurisy," the 20 per cent. left was about evenly distributed between attack of grippe, chills and fever (malaria), pneumonia (prolonged recovery), enlarged cervical glands, hemoptysis.

Only four cases in the hundred gave a history of hemoptysis in a person apparently in perfect health, and with not the least symptom of any underlying condition, such as a cough or loss of flesh, and most of these hemorrhages were slight and were followed by periods of good health before the actual development of the disease.

I believe first that when hemoptysis occurs it represents in the vast majority of cases a demonstrable evidence of tuberculosis, and second, that even if no positive evidence of a local lesion can be demonstrated, and the hemoptysis is slight and quickly recovered from, and the cases are watched long enough, active tuberculosis will always develop. It is, in my opinion, the one symptom that never fails in patients under 30, granting that they have no cardiac lesion, cirrhosis of the liver, or are not "bleeders."

In 24 of these 100 cases the actual development of the disease, the demonstrable evidence, I mean, was ushered in by hemoptysis. The spitting of a little blood, no matter how slight, even when it does not last and is followed by no constitutional disturbances, should be looked upon really as the actual development of tuberculosis and not as indicating, as many believe, only a tuberculous tendency. Another interesting point in the study of these 100 cases is in the consideration of the very earliest evidences of the beginning of the disease and what these evidences were.

The first demonstrable evidence, apart from the history, was an examination of the lungs and the presence of tubercle bacilli in the sputum, or both. The symptoms found which ushered in the condition at the time of the positive diagnosis of the disease, were found to be almost always one of three, or a combination of one or more of these.

1. Cough, 58; (*a*) without expectoration, 14; (*b*) with expectoration, 42.
2. Hemoptysis, 24.
3. Fever, with night sweats or chills, 10.

The few cases which could not be included in this list were ushered in by an attack of grippe (4 per cent.) or tuberculous pneumonia (4 per cent.).

The other points of interest were the confirmation of a conclusion drawn many years ago.

*First.*—That the great majority of patients who apparently develop pulmonary tuberculosis after 30 years of age have had an attack of the disease before; often so slight that it was overlooked, or they recovered so rapidly, owing to climatic advantages, that they questioned whether they ever had it, and unless a very careful history is obtained, the fact is never mentioned, or is overlooked, and the condition for which they come under observation is believed to be the beginning of their pulmonary trouble. It was found that 20 of the 100 patients had unmistakable evidence in their histories, or acknowledged outright that they had had tuberculosis and been cured. This leaves out all the cases of pleurisy and represents people of all ages. It is a large proportion, and I believe would be much larger if the observation were confined to patients over 30.

*Second.*—The analysis also showed that three and one-third months was the average time that elapsed from the actual beginning of the disease as estimated from the history or physical examination and the first time tubercle bacilli were found in the sputum. The presence in the sputum of tubercle bacilli is not by any means an early development, in my estimation. I am aware that 100 cases is not a very large number on which to base conclusions, but the 100 are culled from between 400 and 500 cases, and selected because their histories were most complete and most accurate in detail, were more detailed histories, in fact, than would ordinarily be taken. The conclusions may not be new to the majority of you, but they will serve to impress certain facts which it seems wise for us all to keep in mind.

**Difficulties of Prognosis.**—For a number of years I have examined patients for admission to the annex of the sanatorium at Liberty, N. Y., and to the Adirondack Cottage Sanatorium at Saranac Lake. The object of the examination was to admit only favorable cases to these institutions, cases in which one might reasonably expect the disease to be arrested within six months. Naturally prognosis is difficult when based upon one examination, as is usual in these cases. Seventy per cent. of the cases examined never received cards of admission; they were too manifestly unfavorable cases. The compensation for the time given in making these examinations is the experience obtained in adjusting the relative value for prognosis of the various factors in the disease. With this object in view very accurate records were kept, both as to personal history and physical examination of the patients admitted to these institutions, and the final results of the sanatorium treatment, where possible, were recorded. All cases were arranged in three groups, numbered one, two, and three, and often on the card of admission was placed a private number: No. 1.—Very favorable case—recovery expected. No. 2.—Good case—outlook fair. No. 3.—Not a favorable case—outlook bad.

Taking 100 of the cases examined and noting the final results, I find:

No. 1 Class.—The very favorable cases; 30 per cent. were apparently cured or had arrested disease; 50 per cent. were improved, and 20 per cent. unimproved or failed.

No. 2 Class.—The good cases—outlook fair; 22 per cent. apparently cured; 44 per cent. improved, and 33 per cent. unimproved.

No. 3 Class.—The not favorable cases—outlook bad; 27 per cent. apparently cured; 36 per cent. improved, and 36 per cent. unimproved.

In looking over these figures, the thing that impresses me more than anything is that 27 per cent. of the cases I considered unfavorable, with a bad outlook, and I hesitated long before admitting to the sanatorium, were discharged "apparently cured." Twenty per cent. of the cases that I considered very favorable cases went bad and failed to make recovery.

Again taking up these cases and studying their

histories in the "light of subsequent events," I notice that many of those cases in which I had given a bad prognosis because the lesion was apparently active in different places in the lungs, either in both apices or in an apex and a base, or presented active constitutional symptoms, were discharged "disease arrested," or "markedly improved." What I diagnosed as active processes, cleared up under favorable climatic conditions and left the original localized lesion only to be dealt with, and unfavorable constitutional symptoms quickly ameliorated under climatic advantages. Again I notice in the histories of the bad cases that apparently recovered, the remark "good stomach," "digestion normal"—this fact seemed to outweigh unfavorable local conditions. I find that a number of cavity cases presenting apparently unfavorable constitutional conditions recovered, and I also notice, as would be expected, that it took them a very long time to accomplish this relative cure. In analyzing the 20 per cent. of what I took to be favorable cases that remained stationary, or did not improve under sanatorium treatment, I confess I am at a loss to account for the result. Studying their histories and the result of the physical examination again, I can see no reason why they should not recover. Most probably the 20 per cent. represents the result of some personal idiosyncrasies, or possibly the personal equation of the examiner.

The following facts have especially aided me in estimating a prognosis in pumonary tuberculosis:

1. The general vitality of the patient based upon his appearance; his history of generally good health; a good family history, especially the history of long-lived ancestors.

2. The age of the patient. Between 25 and 30 the prognosis seems to be especially favorable, but it is always important to make sure from the history that you are not dealing with an old and healed tubercular lesion which has been temporarily quiet. In such cases the outcome is somewhat in doubt.

3. The character, intelligence, and especially the disposition of the patient, are *very* important factors in prognosis. I have noticed it over and over again. People who are cheerful, not self-centered, but buoyant, sunny, and apparently without nerves, get fairly well, when we would have said their case was absolutely hopeless.

4. Good digestion is naturally a very favorable sign, but I have found that many with apparently bad digestion can be so directed as to diet and are so improved by change of scene, that with the use of suitable cathartics their digestion becomes fair. Before this factor can be an element in prognosis, we must be in a position to know exactly the stomach condition.

5. Whether one lung or more than one is involved does not seem to be such an important element in prognosis as some would have us believe, though it would certainly take longer to get well when more than one lobe is involved. I find in a large number of cases that recovered, the majority had more than one lung involved.

6. Fever, hemorrhages, expectoration, and tubercle bacilli in the sputum, are of little value in prognosis, unless the case has been watched for a long time, and much beside is known.

**Analysis of Fifty-five Cured Cases of Phthisis.**—Another series to which I will ask your attention represents 55 cases of "cured phthisis," and an analysis of these would suggest two or three conclusions which, as far as I know, have not been developed by writers on tuberculosis. These cases have been discharged from the sanatorium at Liberty, N. Y., during the past two and a half years as "apparently cured." The present condition of 44 of the 55 has been carefully ascertained, and it has been found that all but two are continuing apparently well, living in their home climate and attending to their daily occupations; so the "cure" can be said to be established. Very accurate and complete histories of these cases, most painstaking details as to the beginning of trouble and the various stages of local condition were kept at the sanatorium. They were not first-stage cases, but the ordinary class, with the disease thoroughly established; in fact, 26 of the 55 had both lungs involved, and two-thirds ran temperatures during the first one or two months after going to Liberty. What was there about these cases that made them get well, when a large number under similar local conditions and with no more pulmonary involvement, only improved, or utterly failed to recuperate, is the question naturally facing one with interest.

*First.*—The average age of these cured cases was high—twenty-nine. Only five were under twenty. Age seems to furnish a resisting power to the inroads of the tubercle bacillus, and it is certainly an element in prognosis, the period of life at which the disease first manifests itself. Tuberculosis in advanced life, from the clinical aspect, can be treated almost as another disease. While curator of Bellevue Hospital, I was impressed during the post-mortems on old people, of which we had a very large number, how many had pulmonary tuberculosis not recognized during life.

*Second.*—Another fact, and more important, seems to be the long-lived ancestors of these cured cases. Unfortunately, only in 47 of these 55 cases was it possible to obtain very reliable histories on this point, but of the 47, 31 had both parents live to pass sixty, and fourteen had one parent live to be older than sixty. Only one had both parents die under sixty. When I noticed these facts it prompted me to start similar inquiries into 50 other cases, who were under the same favorable conditions, but who did not improve. Here are the results:

Taking the same number of cases, 47, living under the same conditions, who did not improve, only 16 had ancestors who lived to be over 60. This is a marked contrast to the 47 cured cases, 31 of whom had ancestors who lived beyond 60. Of the unimproved cases four had both ancestors die under 60, while in only one of the cured cases did this occur.

I have always felt, in making prognoses in pneumonia, that the fact of long-lived ancestors was a more important point to ascertain. It is the only guarantee we have of inherent vitality and resisting power in the patient. I have had favorable decisions based upon this fact so often borne out in apparently desperate cases by complete recovery, that I have come to regard it as more important than ever. In what proportion people with long-lived ancestors stand chances to recover from tuberculosis under favorable conditions, is still to be noted, and I believe the facts ascertained will be of value in prognosis here as in pneumonia.

*Third.*—Another point of interest is that it took about the same number of months to arrest the disease in these 55 cases, as the disease had been in progress before the patient began with climatic treatment, analyzing, of course, the histories with great care to learn the actual inception of the disease. It is usually thought to take about twice as long to effect a cure as the time the disease had been running, even in most favorable cases. While some cases in this list of fifty-five took over

a year and a half to get well, the average was only seven months. The average time the patient had the disease before seeking climatic advantages was seven and three-fourths months. This makes an average of a year and two and three-fourths months from the beginning of the disease before the "cure" was established. This may seem a short time to some, as it did to me, but a careful reanalysis of the cases showed positively, in this set of cases, at least, that fourteen and three-fourths months was the average time.

*Fourth.*—Family history did not seem to be such an important factor. Nearly half had a tuberculous family history (24 of the 55).

**Length of Life Among the Poor After the Beginning of Pulmonary Tuberculosis.**—It is no new thing to say that the majority of cases of pulmonary tuberculosis occur among the poor in our large cities. These people have few hygienic advantages, and are usually unable to stop work until they drop, one might say, in the traces. As we see them in our large public hospitals and study their histories, we are brought face to face with the fact that in very many cases the disease has been developing for years—often with periods of prolonged quiescence, but still always present and menacing. We wonder how these people have been able to continue work and support themselves and their families. It sometimes seems as if many of them become physically accustomed to the inroads of the bacillus and resist the disease in an entirely different way from people on a higher social scale, but of less hardy history. During nearly twenty years' service on the staff of two of the large public hospitals of New York I have often had opportunities to watch the same cases for many years. Certain patients would enter the hospital for a few weeks or months during an acute exacerbation of the disease, which would quiet down under rest, care, and good food, this change doing more for these cases than climate, drugs, and constant watching accomplished for the rich. They would go back to their work, and in time again reenter the hospital with a new tubercular outbreak. This same circle keeping up for years, as is seen so often in cardiac and renal cases in the public hospitals. Endeavoring to get some idea how long the above class of patients is able to resist the inroads of pulmonary tuberculosis, I started the following study, going over the autopsy records of Bellevue and the New York hospitals, and picking out the cases where the pathological findings showed that the person had undoubtedly died from pulmonary tuberculosis gave me a definite date for the ending of the disease. Then consulting the records and histories of these cases, and ascertaining from their past history at what date the first evidence of pulmonary trouble began, gave me the second date. I now had the date of the beginning of the trouble and the end, and from those facts the time intervening could be readily ascertained. All cases in which the histories were not perfectly plain as to the time of the beginning of the lung trouble were discarded. I have been able to collect in this way 220 cases, and have divided them into two classes: (1) Cases of chronic pulmonary tuberculosis; (2) Cases of acute pulmonary tuberculosis (miliary or pneumonic). I have added this second class as of interest, for I have not seen stated the average length of time for the duration of acute tuberculosis. These acute cases include patients of all ages—infants, young children, and adults—cases of acute miliary tuberculosis, and acute tuberculous pneumonia.

The results of the two classes are as follows:

1. Chronic pulmonary tuberculosis, 128 cases; average duration of the disease, 1 year, 2 months, and 3 days.

2. Acute pulmonary tuberculosis, 112 cases; average duration of the disease, 2 months and 4 days.

These results are not final or of absolute value, but they serve to subbest a line of inquiry helpful for future investigation, and serve to show that the average time the poor are able to resist the fatal issue of the disease, with no advantages of care, rest, or good food, is a little under two years.

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## SUGGESTIONS FOR REDUCING THE PREVALENCE OF SUMMER DIARRHEA IN INFANTS.*

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The constant and unnecessary waste of infant life which culminates each year during the heat of summer in the deaths from the various types of diarrhea, renders the topic of this evening's symposium one of more than usual interest. I have said that this waste of potential life and energy culminates in the summer, and I have a deeper and more serious thought in mind, for I believe that as members of the medical profession at large we are indirectly responsible for a considerable proportion of this mortality. I make this statement with full appreciation of its seriousness, because more than fourteen years of study of these problems, close to the people, have definitely impressed upon me the fact that many of these deplorable deaths are due to factors which are preventable.

Only a small and almost insignificant proportion of the deaths from summer diarrhea occur in children who have been rightly fed and who enter upon the hot months with properly nourished bodies and good digestive powers which have not been overtaxed. The breast-fed infant rarely suffers. The large majority of those under one year of age who succumb to these affections are puny, ill-nourished, anemic or rachitic infants, artificially fed, who seem marked for destruction during the first continuous heated term. Where lies the responsibility for their condition? Surely not wholly upon the parents, since but few of these have failed to consult a physician at some time, for despite even ignorance and poverty, the love of their offspring is strong in all classes. Can it be that the responsibility rests heavily upon the physician whose duty it was to look beyond the present and the minor ailment for which he was consulted, and to see with the eye of experience the inevitable outcome of the present methods of nutrition if persisted in, and to impress upon the mother the dangers which must surely confront her child?

The child which dies from diarrhea, dies, as a rule, just as much because of a previously lowered resistance of its body as from the disease itself. This is why the line representing the monthly mortality from diarrhea rises sharply to its apex in July, the first hot month, while that of August, equally hot or hotter, shows a marked reduction. It is the physically unfit who are swept away by the first scorching breath of summer, and the pity of it is that much of this sacrifice could be prevented.

The measures of prevention against summer diar-

*Read at a meeting of the East Side Physicians' Association of New York.

rhea, such as fresh air, daily bathing, and pasteurization of the food, which are to be made use of during the period of greatest prevalence, are fairly well outlined in our text-books, and are reasonably familiar to most practitioners, but the truly effective prophylaxis of such morbidity and mortality should date from the birth of the child. Why are so many infants bottle-fed to-day? Why is this substitute nutriment which statistics show increases nine-fold the danger from fatal diarrheal disease becoming commoner every year? Is it because of modern social, economic, and educational conditions as some would have us believe, or is it because of an overweening confidence in the efficacy of infant foods and modern adaptations of cow's milk to replace breast milk, which nature ordained for the infant, and for the unnecessary rejection of which she exacts yearly the blood penalty of countless hecatombs of innocent victims. I have raised my voice before in protestation against this ignorance on the part of the parents and neglect on the part of the profession, and I cannot refrain from lifting it up again in connection with this subject, since it requires only ordinary intelligence to grasp the fact that if over 90 per cent. of the deaths from gastrointestinal disturbances occur in bottle-fed infants, many, nay a large majority of these would not have died from this cause had they been nursed. It is safe, therefore, to assert that the surest protection against the death of an infant from summer diarrhea, lies in normal breast feeding. Do we all appreciate this and stop to consider the possible cost, when we supinely acquiesce without protest in the careless and unthinking determination of the mother to rob her own child of its birthright and place its life remotely but none the less certainly in greater jeopardy? But great as is the duty of the physician to urge upon the mother the nursing of her infant, greater still is his duty, because the opportunity presents itself more frequently and is almost equally often neglected, to instruct the mother how she may best nourish and care for herself, in order that she may be able to continue to satisfactorily nourish her child. Why do so many mothers bring their babies to me at the Out-Patient Department of the Babies' Hospital with the story that they weaned their babies by the doctor's advice without any intelligent or conscientious effort to restore a supposedly poor or failing breast milk, and saddest of all, when the simplest inquiry reveals the fact that bad nursing habits and not the milk were at fault. A like negligence and disregard of well-established principles in the case of a simple fracture involving none of the danger to a human life, would furnish grounds for a suit for malpractice. Why, again I ask, should nursing be abandoned simply because there is not quite enough of the breast milk for the infant's needs. Would it not be arrant folly because a half loaf of bread were not sufficient to satisfy a needy family, to throw it away and go in weary search for a whole loaf, made of less digestible materials? Even partial breast feeding furnishes an important measure of protection to the child, and, in addition, it is a resource in reserve in time of urgent need. The practitioner who has not made use of concentrated corn meal gruel for the nursing mother does not realize what can be accomplished with a deficient mammary secretion.

Both in private practice and in hospital and dispensary work I begin in the early spring to protect children against the summer; rachitic children receive proper attention; anemia is treated energetically; diets are regulated; recurrent autointoxication is guarded against, even the slightest subacute or persistent gastrointestinal irregularities are corrected. Thus, and only thus, is the ounce of prevention placed upon the long arm of the lever so as to render unnecessary the often ineffective pound of cure.

The educated classes have already been trained to recognize the dangers lurking in impure milk. It may take a little longer with the uneducated and foreign population, but it can be done. No class of people are more unreasonably tenacious of ideas once acquired than they. Teach them as our predecessors did, that the milk of one cow is best, and it takes decades to eradicate this belief in accordance with our better understanding of the subject. Teach them that safety is only to be obtained by the sterilization of milk, and they will boil the living principles out of all milks, and at all seasons of the year. Teach them as you can and may, that in clean "certified milk" lies a still greater safety, and an overwhelming popular demand will force all the dealers to supply it, for the present refusal of some of the larger distributors to handle it would then spell for them financial loss. Such measures as are now being enforced at the farms by the Board of Health are excellent, and should be supported and encouraged, but the resistless force which shall make these changes permanently effective, must come from the consumer. Competition is keen in modern life—if the public demand little, they will assuredly get less than little, but if they intelligently and persistently demand much, they will at least secure some measure of what they seek. It seems but yesterday that I sat beside Dr. W. H. Park at a dinner of the Hospital Graduates' Club, when he asked with apparent misgivings whether, if milk could be placed on the market with a bacterial count below 100,000 per c.c., we thought that a demand could be created for it. We told him yes, and to go ahead. To-day, only three years later, the daily sale of "certified milk" in this city is already 6,300 quarts, and of "inspected milk" 2,600 quarts. After January 1, 1906, the total will be 10,780 quarts per day or nearly 4,000,000 quarts per year. What may we not do in another year, five years, ten years, not only by concerted action, but still more effectively by individual effort.

The mothers of this city believe that the bottled milk of a certain firm is the best milk obtainable, and they name it to one who inquires with conscious pride. They believe it to be the best milk because we have so taught them. Yet that firm has steadily refused to institute inspection of its farms, and buys milk from all sorts of sources. What they sell is just a good full standard old-fashioned dirty milk. It is in our power to increase the sales of "certified milk" until all dealers must have it. But "certified milk" is rather more expensive. Yes. It costs more to produce it clean and to keep it cool during shipment. Cost always advances with quality. "Certified milk" costs at present 12 cents a bottle. Ordinary milk in bottles sells for 8 cents. The extra cost of "certified milk" is 4 cents per day—scarcely prohibitive for those at all able to buy 8 cent milk. Four dollars cover the extra cost for the hundred days of summer. Better to pay this to the milk man, if thereby we may cheat the undertaker. It is not a difficult matter to persuade the mothers to purchase a clean "certified milk" if one states plainly and simply its advantages over common bottled milk. I find the mothers ready and anxious to secure the best for their infants.

Let us, however, cherish no illusions in our own minds nor create any false impressions among the laity concerning "certified milk," as furnishing any sort of infallible charm against summer ills. The use of certified milk allows us to begin our measures for the protection of the child, where they should

begin, with a clean milk instead of a germ and toxin-laden one, which half defeats our purpose from the start. It renders no iota less necessary the careful modification, clean handling, pasteurization, rapid and immediate cooling of the milk, and its maintenance at a low temperature until the food is consumed.

It is true that one sees in an Out-Patient Department like that of the Babies' Hospital chiefly other men's failures in infant feeding, but as they come to me from all sections of the city, they furnish some sort of criterion by which to judge of the average standard of familiarity with the accepted methods of milk modification and feeding. It is the exception for an infant to be brought to us, even among those who are brought to us for matters entirely independent of their nutrition, where glaring errors do not exist, and radical changes in method and management are not necessary to bring them up to proper standards.

Some of the commoner and the most fundamental of these are as follows: Young infants at birth or after a disturbing succession of "infant foods" are put upon too strong modifications, in which the milk is not sufficiently diluted, and the resulting percentages of proteids too high. Disturbance naturally ensues or there is failure to assimilate with stationary or decreasing weight, and the child is forthwith declared unable to digest cow's milk. Again, the two-hour feeding interval suitable for easily digested breast milk during the first two months of the infant's life, or for the weaker modifications of cow's milk, is continued indefinitely while the amount of the cow's milk is increased in the mixture, despite the well-established facts that cow's milk forms curds requiring longer stomach digestion than breast milk, and that the more complex become the compounds formed from the milk by the developing digestive secretions of the stomach, the longer should be the feeding interval to allow for complete emptying of that viscus. Short and irregular feeding intervals work havoc with an otherwise good digestive tract.

Besides these improper proportions and intervals the quantity also given at each feeding is frequently unsuitable. The higher the degree of malnutrition and especially of malassimilation, a type of cases in which the infant actually is starved from overfeeding, the higher is pushed the quantity, to quiet the pangs of indigestion or possibly, also, of hunger, resulting from failure to absorb the already overabundant nourishment. An overfilled stomach cannot functionate properly. There should be some reasonable relation between the quantity of the scanty digestive secretions of the infant's stomach, and the amount of the food ingested. Little wonder then, that when this is disregarded, the partially and imperfectly digested masses finally ejected into the intestine lead so frequently to the development of diarrhea.

Perhaps one of the most important factors in causing gastrointestinal disturbances is the failure to establish and maintain a proper low temperature of the food after it has been prepared. In no other respect, I think, are the best intentions of the physician so often defeated and rendered of no avail. The best milk always contains some bacteria ready to multiply by myriads if its temperature is allowed to rise. Pasteurization and even sterilization as ordinarily performed, although of inestimable value in hot weather, when followed by proper precautions, do not destroy all the bacteria and especially the more resistant spores. Pasteurize or sterilize such milk and place it hot or even warm in the usual ice box, and it maintains its heat long enough to start again the growth of the unkilled germs. Rapid and immediate abstraction of the heat by surrounding it with running water, alone properly rounds out the process.

I have detailed elsewhere* the valid reasons why a partially soured milk in which the lactic acid gives as yet no visible warning from curdling of the casein, forms tougher curds and is consequently more indigestible than even a fully soured milk, such as few to-day would have the temerity to give an infant knowingly in summer—unless we could carefully control its preparation. Aside from putrefactive changes this danger from partial souring of the milk, whether heated or unheated, may occur not only from insufficient cooling in the ice box, but from ignorant and careless exposure of the container to room temperature for considerable periods, from the rewarming of partly used feedings, from the carrying about of feeding bottles during prolonged excursions, and from the almost criminal use of bottle cosies, which save the tired parents at night at the expense of the child.

In my boyhood in New England, much was heard of the dangers of a child's second summer. Why of the second rather than the first? Because breast feeding was the rule with its immunity to this class of difficulties, while the period of weaning and the introduction of table food presented new dangers. The feeding of the younger children in the tenements of this city is a reproach to the medical profession. We are not doing our duty. We do not supervise these matters as we should. Why are tea and coffee, useless and injurious stimulants with no food value for the young, the rule rather than the exception in the diet of the child as soon as he can sit at table? Why are these same children given a little of everything digestible and indigestible, which the rest of the family eat? Many of these are substances which pass undigested through the intestinal tract, a fertile source of an irritative diarrhea, so often the forerunner of more serious conditions. I tell you that these things are so because we as the physicians are too indifferent, too busy, or too careless to instruct the parents of the families we enter.

The medical profession is also largely responsible for the continuance of many of the popular beliefs and superstitions. It is so much easier to tacitly accept the theory of some opinionated member of the family as to the cause of the trouble than to combat the error. Why, in this enlightened age should the young mother still advance as her excuse for neglecting a serious diarrhea in its earlier stages, that the child was teething, as though diarrhea were the normal accompaniment of the eruption of the teeth. What part, if any, does teething play in the etiology of diarrhea? We have swung the full round of the circle from allowing it to be a prime cause, to claiming that it has no disturbing influence. Neither position is correct. Teething alone does not cause diarrhea. It is not a natural or normal accompaniment. But when the nervous system is also disturbed by a combination of depressing heat and uncomfortable gums, an overtaxed digestion which has thus far barely struggled along upon the ragged edge, frequently gives up in disgust. The difficulty has been and is primarily with the food and the digestive tract.

We must impress upon the mothers that a child is not always hungry when it cries; that hot weather calls for less food and weaker food, at longer intervals, with more abundant giving of water. Fat is required in the food in winter in sufficient quantity to furnish fuel to maintain the body temperature, but in summer and in hot climates this may be wisely re-

*"The Digestion of Caseins, and Its Relation to Certain Problems in Infant Feeding."—MEDICAL RECORD, March 4, 1905.

duced. We must not forget that a very appreciable amount of energy is expended by the body in throwing off, excreting, the superfluous body heat which is formed. This is no slight additional tax upon the powers of the organism, and if unduly increased by overfeeding contributes to the exhaustion and lowers the tone of the digestive system.

Cow's milk, much as it deserves our attention as a frequent source of infection, is not the only carrier of germs into the infant's intestinal tract. What of the sucking nipple, that fraud upon infant credulity, that almost constant appurtenance of the fretful marasmic child, moistened in the bacteria-laden mouth of the attendant to render it more acceptable, dangling against dirty clothes from a dirty string, or reposing temporarily upon dusty shelves and tables, carried in dirty pockets, rolling upon filthy floors and sidewalks and then wiped, perfunctorily if at all, before being reinserted in the mouth of the infant. The physician may concern himself to order sterilization of the milk and scalding of the feeding bottles, but this germ-laden horror of lethal tendencies is tolerated without a protest. A large cluster of these apples of Sodom which turn to dust if not to ashes in the mouth, reluctantly surrendered by the parents hangs prominently upon the wall of my clinic as a warning that I will not, knowingly, begin or continue the management of any infant unless this practice is discontinued. Impossible to prevent their use, do I hear some one say? Not if the mother is made to understand the dangers. Where are the old germ-laden tubing extensions for the nipples of nursing bottles? They are gone—banished even from the drug stores, because they are no longer salable, and we, as physicians, accomplished this by education of the masses, and we can do more and yet more, if every individual among us does his day's work well. For the physician's day's work, even if he sees a child but once, is to seek out and correct errors in nutrition, to combat popular misapprehensions, to further the use of clean milk, to warn mothers that at the very beginning of loose movements in summer, they should stop the use of cow's milk in any form, clear out the bowels with castor oil, give water or cereal gruels only, and send promptly for the physician, since delay is so often fatal. Thus, and thus only, may efficient prophylaxis be established, infant mortality in summer be reduced, and the physician have the satisfaction of knowing that he has done his full duty. Patient, painstaking, personal instruction of the masses will alone accomplish the end which we are seeking.

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## THE HISTORY AND BASIS OF DIETETIC METHODS IN TYPHOID FEVER.*

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At the present time a diet consisting chiefly of milk, with other fluids as accessories—"liquid diet"—is almost universally used in the management of typhoid fever. The firmest faith and confidence in the adequacy and superiority of this diet are entertained; it is enforced unvaryingly and indiscriminately in all cases of the disease; and the gravest fears are held of departures from it or of the use of solid food. So firm and fixed are the general convictions on this doctrine, that it is regarded as impregnable and final, and dissent from it is viewed as folly or heresy.

The purpose of this paper is to present the results of a study of the basis on which this practice is founded, considering, first, the historical development of the present practice, and, second, the principles advanced in its support.

Prior to the time when typhoid was definitely distinguished from typhus and other fevers as a separate disease, the ideas of the medical profession as to the causes, nature, and classification of the febrile diseases were very hazy and confused. By the middle of the eighteenth century it had begun to be appreciated that there were different varieties of the continued fevers, such as, in the terms of those days, inflammatory fever or synocha, typhus, putrid fever, nervous fever, synochus, etc. The distinctions drawn between these varieties were, however, extremely vague and dim, their visceral lesions were unknown, and in the contemporary literature and practice they were for the most part considered and jumbled together under the general and common head of "fever" or "continued fever."

The question deemed of vital importance in the pathology and therapy of fevers in those days was as to whether they were essentially inflammatory or asthenic in character. Inflammatory or phlogistic fevers were those depending essentially and primarily on local or general inflammation or excessive action of the heart and arterial system; they were of sthenic type, characterized by overexcitement, and called for vigorous lowering and depleting measures—"antiphlogistic treatment"—by bleeding, purging, emesis, starvation, etc., to subdue the excitement. In the asthenic fevers an adynamic element was recognized as dominant, and stimulant treatment was correspondingly regarded as appropriate. Many, however, held that the appearance of asthenia in fevers was deceiving, and that the symptoms observed were really due to overexcitement. The profession was pretty well agreed that inflammatory diseases required vigorous antiphlogistic treatment and asthenic conditions required stimulation; but there was difficulty and question in the practical application of these principles, the determination whether particular cases or diseases were essentially inflammatory or asthenic arousing endless speculation and discussion. In the treatment of the continued fevers there were thus two squarely opposed systems of practice, the antiphlogistic and the stimulant; the advocates of each reproached their opponents with having caused the loss of untold lives by their vicious methods; and strenuous controversies were waged as to the employment of bleeding, purgatives, emetics, blisters, food, tonics (cinchona), stimulants, etc. On the whole, the antiphlogistic habit was firmly implanted in the professional mind and strongly influenced the practice even of those who did not concur in the phlogistic theory of fevers.

In the seventeenth century, Thomas Sydenham (1624-1689), the leader of English medicine at that time, followed a vigorous antiphlogistic plan in the treatment of continued fevers, bleeding copiously and repeatedly. For diet he gave "water-gruel, barley-gruel, and the like," also a few spoonfuls of broth two or three times a day, and beer.

During the eighteenth century, and down to about 1815, the mode of treatment of continued fevers was stimulant or mildly antiphlogistic, the adynamic element being freely recognized. Bleeding and other vigorous depleting measures were regarded with disfavor, unless at the very onset of the disease or in distinctly sthenic cases or stages of fever. What was considered a liberal amount of food was allowed, of exclusively vegetable character. Animal food of all kinds was rigidly excluded from the dietary, as it was believed to increase

*Read before the Clinical Society, Washington, D. C., March 13, 1905.

the body heat, to be a source of excitement, to be too great a burden on the digestive powers, and to putrefy excessively. The prohibition of animal food embraced not only meat, but also eggs, broths, beef tea, meat extracts, etc.; and so deeply was the professional mind imbued with the idea of the essential harmfulness of animal food that a marked prejudice against even broths and bouillon persisted down to a recent date. The writers of the time for the most part say very little explicitly about the use of milk. Some condemned it; and for this they had the authority of Hippocrates, who regarded milk as objectionable in fever. There was also a popular prejudice against the use of milk in fever feeding. Some authorities, however, permitted the use, with caution and reserve, of diluted milk in small amounts, placing it between vegetable and animal food in its heat- and excitement-producing qualities.

The food employed was mainly farinaceous, in thin liquid or pultaceous form, as gruels or "ptisans" like barley water, thin oatmeal gruel, sago or arrowroot preparations, and "panada" (toast water, or toast made into a fluid mass with boiling water). Fruit juices and soft, pulpy fruits were also allowed. What was regarded as a fairly liberal amount of such vegetable food was given, especially after the first few days of the fever. In the latter period of the fever and early convalescence the farinaceous dietary was amplified by the addition of broths, diluted milk, jellies, and gradual return to animal food.

Free drinking was generally encouraged and regarded as an important part of the treatment, to dilute the blood and promote excretion. Besides plain water, drinks acidulated, like lemonade, or flavored with aromatics or otherwise, were in high favor. Two or three quarts of such drinks were given daily. In the eighteenth century, as at the present time, there were some who carried the use of water to an extreme, believing in the sufficiency of an aqueous diet, that is, the withdrawal of all other food and giving water in large amount, four quarts or so daily.

From about 1815 to 1835 or 1840 continued fevers were treated on a very vigorous antiphlogistic plan, and an extremely restricted diet was in general use.

An extensive fever epidemic prevailed in Great Britain and Ireland about 1817-1819, during which, largely under the teachings of Henry Clutterbuck, Thomas Mills, and others, the theory that fever was essentially a phlogistic or inflammatory process came into general favor, and the corresponding practice of vigorous depletion, chiefly by profuse venesection, was generally followed in these countries. A starvation regimen was enforced; the drinking of watery fluids in large amounts was encouraged, but wine and stimulants were prohibited.

In France the adoption of antiphlogistic practice during this period was due to the teachings of François Joseph Victor Broussais (1772-1838), whose writings date from 1816 and who had a strong influence on French practice for a couple of decades. Arguing from the fact that alimentary disturbances are common in fevers and many other disorders (without any knowledge of the intestinal lesions in typhoid), he taught that gastroenteritis was the primary and underlying cause and essence of manifold disorders, and especially of the various febrile diseases. So firmly did this idea become established that for a considerable period the term "gastro-entérite" was one of the principal names for typhus and typhoid fevers. The treatment of fevers practiced by Broussais and his followers in accordance with this conception of their pathology consisted mainly in copious withdrawal of blood by leeches and in starvation. The diet allowed—the "diète absolue" it was called—was practically no diet at all. All foods requiring digestion and which would therefore embarrass the supposedly inflamed alimentary tract,—broths, farinaceous food, fruits, etc.—were prohibited, broths being regarded as especially harmful. All that was allowed was sufficient drink to satisfy thirst, consisting of slightly sweetened mucilaginous drinks, or acidulated drinks like weak lemonade, gooseberry or raspberry water.

The next epoch in the history of typhoid dietetics was that of Robert James Graves (1797-1853) of Dublin, who has the reputation of having established the practice of liberal feeding in fevers. His deliverances covered the period from about 1835-1850. He rejected the phlogistic theory and antiphlogistic therapy of fevers, and believed that the current practice needlessly added the "horrible consequences" of starvation to the symptoms of the fever, and that it was "as hard to escape the physician as the disease." He therefore advocated what he regarded as liberal feeding, and so closely is his name identified with this practice that a jocular suggestion for his own epitaph—"He fed fevers"—once made by him, has become historical. This incident is thus related by William Stokes, the associate of Graves: "Once, when he and I were going through the convalescent wards, he expatiated on the healthy appearance of the patients, many of whom had gone through long fevers. 'This is all owing to our good feeding,' he said. 'Will you, when the time comes, write my epitaph, and let it be—*He fed fevers!*'" As a matter of history, it may be stated that this was not actually used in his epitaph. (Stokes, Lectures on Fever, 1874, page 328; *Medical Times and Gazette*, 1854, VIII, page 5.)

The diet recommended by Graves was as follows: For the first three or four days, water, weak barley-water, and whey. After that, mild nutriment was to be used, his preference being for well-boiled gruel made of groats, with sugar and lemon juice; also thin panada. Of the gruel and panada a spoonful of either was given every third hour. In the middle and late stages of the fever mild animal jellies and broths (preferably chicken broth) were given. Arrowroot was also allowed. Fruits were to be avoided. Food was to be given in the daytime only and not at night. Too much drinking was not permitted. This diet was much the same as the farinaceous diet used in the eighteenth century, which was therefore reintroduced by Graves. Judged by present dietetic standards, it can hardly be regarded as a very generous diet; and if it was considered liberal in Graves's time, the dietary previously in use must have been scanty indeed.

It was during the latter half of Graves's life that the true pathology of typhoid fever was discovered and the disease came to be recognized as a distinct affection, different from typhus. There had previously been glimmerings of clinical differences between different kinds of continued fevers, as in John Huxham's distinction between "slow nervous fever" (typhoid) and "putrid, malignant, petechial fever" (typhus) in 1750, and the synochus and typhus of William Cullen in 1769; the intestinal lesions in cases of typhoid had also been observed in a few instances; but the morbid anatomy of typhoid fever was first put on a substantial and enduring basis by Pierre Charles Alexandre Louis (1787-1872), whose classical researches on this subject were first published in 1829. The continued fevers of France that came under Louis's observation, however, were exclusively typhoid, and not

having had a chance to become familiar with typhus he did not realize that there were two distinct diseases and he regarded the lesions observed by him as pertaining to typhus. In America, also, the prevailing fevers were mostly typhoid; but typhus occasionally occurred, and it was through an opportunity of observing an epidemic of the latter that William W. Gerhard of Philadelphia, who had become familiar with typhoid in Paris, was enabled, in 1837, to announce definitely that typhoid and typhus were two distinct diseases. This, the first clear elucidation of the distinctions between these two diseases, based on sound pathologic principles, stands to the credit of American medicine; and the distinction very soon became generally recognized in the United States. In Great Britain and Ireland, however, the prevailing fever was typhus, and typhoid was so exceptional that the intestinal lesions occasionally seen at autopsy and described by the French writers were regarded as secondary and occasional complications of typhus. It was not until a series of papers on the subject was presented by Sir William Jenner, in 1849-1851, that a clear understanding of the distinctions between typhoid and typhus was finally attained by British physicians.

The recognition of the distinct character and intestinal lesions of typhoid fever at first had no influence on the dietetic management of the disease, and a farinaceous regimen much as reintroduced by Graves was generally followed down to the late sixties and the seventies of the last century. The medical manuals of this period specify the use of gruel, arrowroot, panada, and similar farinaceous food, with refreshing drinks flavored with fruit juices, for typhoid feeding. Some, but not all, of the writers also admitted broths, jellies, diluted milk, and the like. As late as 1874, Liebermeister, in his article on typhoid fever, in Volume I of von Ziemssen's "Cyclopedia of Practical Medicine," argued for a carbohydrate or farinaceous diet, and against a proteid or animal diet, on much the same grounds as had been previously adduced for centuries.

During the late sixties and the seventies of the nineteenth century, the present liquid diet, consisting chiefly of milk, gradually came into practically universal use. I have been unable to find any special papers or authorities that led to the abandonment of the farinaceous and adoption of the milk regimen; the change was apparently a process of gradual evolution, and in the literature since 1875 or 1880 the milk diet has been almost unanimously advocated.

At the present time, while a few authorities favor a more varied and more generous diet, nearly all the leading manuals on the practice of medicine prescribe rigid adherence to the milk and broth diet, and urge the dangers of solid and even of soft food in typhoid fever. Various arguments are presented in favor of this practice, the validity of which may be briefly examined. A characteristic example of the way in which the subject is usually presented, and one embodying most of the points involved, is afforded by the following passage from James H. Hutchinson's article on typhoid fever in Pepper's System of Practical Medicine, 1885 (Volume I, page 323): "The food must . . . be not only nourishing, but also readily digestible, and not likely to create irritation in its passage through the intestine. All solid food should therefore be excluded from the dietary of the patient as long as the fever lasts. . . . Milk as an article of diet is unquestionably to be preferred to all others in typhoid fever."

The general premises that the typhoid diet should be nutritious, digestible, and innocuous are generally agreed on; but in the actual application of these principles arise differences of opinion and practice.

Theoretical considerations which have an apparently reliable basis indicate that the daily diet of an average-sized typhoid-fever patient should yield about 100 grams of proteid and 2,000 calories of energy, a quantity that would be furnished by three liters (or quarts) of milk. As under the present system the amount given daily is only one and one-half to two liters of milk, or its equivalent, the legitimate question arises whether the standard of nutrition generally followed is not materially inadequate, and to what extent the conditions presented by the ordinary typhoid case may be due to partial starvation and what to the disease proper. Moreover, the fact that patients are deliberately compelled to suffer for weeks the distressing pangs of hunger, which might be taken as a call of nature for more food, without any attempt at relief, is another reason for suspecting that typhoid patients are still underfed.

No one questions the necessity for digestibility of the food in typhoid fever. There may be question, however, as to the relative digestibility of different kinds of food, and as to the digestive powers of the patients. The assertion is often made that in typhoid fever the digestive powers are entirely or almost entirely abolished; this belief appears, however, to be based more on vague impressions than on accurate measurements, and is probably far from the truth, since I have found by analysis of the published metabolism investigations in cases of typhoid fever that the average falling off of digestion is only five to ten per cent.

There is also no question as to the proposition that the food should be such as to cause a minimum amount of harm under the special intestinal and other conditions present in typhoid fever. The degree of innocuousness or harmfulness presented by different foods is a matter to be determined for each particular article and the idiosyncrasies of each individual patient. Various criteria as to innocuousness are laid down by the upholders of the present methods, such as minimum fecal residue, nonfermentability, etc., but the food articles now in use seem to be no more free from objections of this sort than articles that are forbidden.

From time immemorial solid food has been regarded as totally inadmissible in fever. In the literature, however, this doctrine is laid down dogmatically and without proof, as if it were self-evident, and did not require critical consideration and demonstration. A great deal is taken for granted in this assumption, and if it is true it is certainly worthy of being established on scientific dietetic principles rather than on dogmatic assertion or vague impressions. It is my own belief that soft and solid foods are not intrinsically contraindicated in typhoid, and that a critical consideration of the physiologic principles involved will show that they are no more objectionable, and in some respects are less so, than liquid foods. The idea seems to be that solid food is less digestible than liquid food, more irritating to the intestines, goes through the alimentary canal in a more solid and bulky form, or in some occult manner augments the disease processes in a way that a corresponding amount of liquid food will not. These suppositions need the test of criticism. Well-divided solid proteid food is as easily digestible as the liquid proteid of eggs or milk; both kinds of proteid have to go through exactly the same digestive process before they can be absorbed. Meat and eggs are certainly no more, rather much less, provocative of intestinal indigestion and fermentation than milk. The solid

matter of meat, eggs, and bread leaves much less fecal residue than does that of milk. The idea that solid food will remain solid, and liquid food remain liquid, in their passage through the alimentary canal is contradicted by common experience; since proper and properly prepared solid food enters the bowel in pasty or practically fluid form, while milk, regarded as the ideal liquid food, enters the bowel in solid masses.

That milk is self-evidently the best food for adults is open to question. If it were necessary to limit the diet to a single article of food, milk would unquestionably be the best, and it is one of the most important ingredients in any diet. It contains all the requisite food elements, proteid, fatty, carbohydrate, and saline, and is as rich in energy value as most fluid foods. It presents, however, certain disadvantages, as coagulability, fermentability, bulk, etc., and while it is a natural and complete food for infants it is not adapted to exclusive nourishment of adults except in amounts (over three liters or quarts per day) that are practically prohibitive. The necessity for practically confining typhoid diet to the one article, milk, however good a food it may be, and for excluding other articles that would afford greater variety and more nourishment, is not obvious. It also does not necessarily follow that because milk is fluid it is on that account more easily digestible, less irritating to the bowels, or leaves less fecal residue.

The argument is often offered that the superiority of the present dietetic methods in typhoid is shown by universal experience and approval. The appeal to universal practice and experience on its face seems a strong argument, yet a consideration of the history of medicine shows that it is an argument to be accepted with great reserve. There have been scores of theories and systems and methods of practice that for a time enjoyed universal approval and claimed justification on the ground of the results of general experience, which nevertheless in the end were found erroneous and were utterly discarded. What general experience may fairly be claimed to have demonstrated in the matter of typhoid feeding is this, that the present milk diet, one of medium nutritiousness, gives better results than any of the more restricted diets previously in use. An equally general trial of a diet even more liberal than the present one might give a showing of results better still. The claim that experience has shown the essential danger and inadmissibility of a diet more generous than the present one, or of the use of solid or soft food, is open to this objection, that such liberal feeding has never been given widespread trial, and there has been no general experience with it to show its inadvisability. The grave fears once entertained of the use of milk and broth were shown by actual trial to have been groundless; and the present similar fears of soft and solid food might likewise, on trial, prove to be unfounded. The occasional occurrence of *febris carnis* or even of a relapse from improper feeding, does not constitute a logical demonstration that liberal diet, properly given, is intrinsically harmful.

Believing, as I do, that typhoid patients should be given a more varied and more abundant diet than is now customary, my object in this study has been, not the mere academic one of presenting the history of defunct methods, but the more practical one of attempting to throw real light on this important question by endeavoring to determine the actual worth and validity of the grounds on which the present methods have been developed. The history of feeding in fever shows a progressive advance from a starvation regimen in the direction of more and more liberal diet. Methods and foods in one epoch regarded as highly injudicious and dangerous have, in succeeding periods, come into general use, and the feared objections proven groundless. We have come to the use of a diet of medium nutritive value, but there is still room for further advance. The habit of antiphlogistic therapy was through centuries of belief and practice firmly impressed on the professional mind, and it has been with difficulty and with fearful and cautious steps that the profession was emancipated from that practice. Indeed, it is possible that vestiges of the antiphlogistic habit are still apparent in the treatment of fever; physicians no longer bleed and purge and puke their patients to death, but they still partially starve them, and practice with complacency and good faith a system that subjects the sufferers to the tortures of the most distressing hunger and semi-starvation for weeks. The present attitude of the profession on some of the points involved is also suggestive of the state of mind that prevailed during the antiphlogistic era.

The evolution of the methods of feeding in typhoid fever seems to have been largely fortuitous and empirical, and the present practice has not been established on or subjected to the critique of scientific dietetic and physiologic principles, as has been done, for instance, in the matter of infant feeding. I have presented some reasons tending to show that the arguments advanced in support of present methods and doctrines are in some respects fallacious and questionable. A fuller and more detailed study of the subject I have presented elsewhere (in a paper read before the Medical Society of the District of Columbia, October 5, 1904, published in *American Medicine*, May 6, 1905); in the present paper I have endeavored to express the grounds of my belief that finality has not yet been reached in the methods of feeding in typhoid fever, and that a reconsideration and revision of the matter by the light of modern scientific dietetics is called for.

## ANIMAL REMEDIAL PREPARATIONS.

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Various glands, from freshly slaughtered sheep and other animals, employed either in the fresh state, desiccated, or as carefully prepared extracts, have within the past few years found a constantly increasing usefulness in therapeutics.

Brown-Séquard's enthusiastic claim that "all the glands of the body, whether excretory or not, supply to the body useful principles, the absence of which is felt, when these glands are extirpated or destroyed by disease," spread like wild-fire around the world, and gave the charlatans a remunerative field for humbuggery and flowery advertisements.

As a natural consequence, conservative and careful observers at first were rather skeptical in the acceptance of such sweeping statements, especially so as failure was the rule when these remedies were employed. The attention of the profession was, however, called to the subject, and not only Brown-Séquard and his associate, D'Arsonval, but the best scientific minds in the profession in every land, gave painstaking and untiring labor to a careful and systematic experimentation, which resulted in giving the materia medica some of its most positive remedial agents.

The striking effect of the employment of the thyroid gland, or a carefully prepared extract thereof in myxedema, is indeed an ideal illustration of Brown-Séquard's theory. We know that myx-

edema is caused by absence or disease of the thyroid gland, and, therefore, the result of the withdrawal of the secretion of the gland. In cretinism or congenital absence of the thyroid, or after operative removal of the gland, a similar condition exists. No form of treatment gave any material benefit to these conditions up to the time that the extract of the thyroid was first used. Astonishing results follow its employment. All the signs and symptoms of the disease disappear, under its constant use the individual may absolutely recover his health and remain well so long as the administration of the thyroid extract is continued. As soon as it is discontinued, the previously existing symptoms gradually reappear, thus proving beyond a doubt that it is the absence of the specific principle of the thyroid gland that is the cause of the disease. Unfortunately, like striking results have not followed the employment of all the other glandular extracts. The success of the thyroid treatment has, however, led to a more thorough study of biology and the allied sciences, and we have as a consequence not only the glandular extracts, but also extracts of bone-marrow, the nucleins, etc., all of which undoubtedly have their usefulness, though as yet not thoroughly defined.

The main difficulty with the definite and scientific examination of the active principles of these various animal secretions and organs, is their minute quantity, which limits a study of their chemical nature. Their great activity—as evidenced not only by their individual specific effect, but also by other manifestations, such as tachycardia, faintness, etc., following the administration of even small doses—seems to be caused by an organic principle belonging to the class of leucomains, lecithins and protagons, etc., and when we recall that, for example, the lecithins under certain experimental conditions split up into glycero-phosphate, stearic acid and cholins, the powerful actions of which are well known, we readily see that we have certainly arrived at the borderland of a more definite science of the future.

The antitoxic effect of cholin, caused by its oxydizing action on the blood, is probably one of the very few facts beyond dispute; however, it may be wisest not to attempt to discuss any especial line of theorizing regarding the chemical nature of this complex and as yet vague subject. A short résumé of the chemical and experimental facts and deductions up to the present time may not be amiss, after first giving a short history of their pharmacology.

On account of the very rapid chemical post-mortem changes in glandular structures and secretions, the greatest care, rapidity and aseptic precautions have to be observed in their study and to insure our finding what we are looking for.

Thyroid gland and its preparations have received the greatest amount of study and renown.

The active principle of the thyroid gland was discovered by Baumann, and is called thyroidin. It contains a large percentage of iodine, but it is thought that there are also other physiologically active substances in the gland. The internal secretion of the thyroid which comprises its function is a colloid material, which is elaborated by the alveoli of the gland and carried into the general circulation by means of the lymphatics. This secretion is essential to the general well-being of the individual, for when it is absent or deficient the effects are most apparent. There are two stages of treatment for its deficiency —first, the restoration to the normal, and, second, the maintenance of this normal condition after it has been attained. In the cases in which the treatment is not beneficial at the end of two months, it will probably prove useless.

Various conflicting theories are held concerning the importance of this gland in the animal economy, as may be easily seen by a rapid review of the recent literature on this subject.

Hutchinson reports that "iodothyrin is the only active physiological constituent of the gland." As to the presence of iodine, there is no satisfactory explanation, nor is it possible to say whether iodine is essential to the activity of the iodothyrin. If it is essential, Hutchinson thinks that it is due to its peculiar organic form and not to the fact of its being iodine. As yet no specific action of thyroid on any of the organs has been proven. It has a marked effect on the general metabolism, so marked as to suggest that its influence acts through the nervous system rather than through the tissues. There is, however, no proof of this." This author "does not regard iodothyrin as an ideal antifat remedy, for its action is early destructive of the proteid tissue, and not destructive of the fat alone, or to any great extent. The question is still open as to the final disposition of iodothyrin. It may be taken up and used again, or it may be excreted, for a trace of it may be found in the urine after the administration of thyroid."

"Nursing children of mothers who were being treated by thyroid have exhibited symptoms of thyroidism." Hutchinson thinks that "these toxic symptoms of thyroid are due to some other substance, induced by the increased metabolism brought about by the thyroid." This writer "does not believe in the hyperthyroidization theory of exopthalmic goiter. He thinks that it is the removal of the parathyroids that causes the nervous symptoms generally associated with thyroidectomy. These bodies contain iodine."

Osborne sums up the physiological action of the thyroid as follows: "This secretion seems necessary for the proper equanimity of the central nervous system and perhaps nutrition and development of it, to the proper quantity of mucin that shall appear in the tissues, principally the connective tissues, to the proper organization of phosphorus for the assimilation into bone salts, and by its vasodilator power to properly regulate the peripheral circulation, thus regulating the heat loss and the normal insensible perspiration of the skin, which, if disturbed, shows on the one hand in the drying of the skin in myxedema, and on the other hand in the increased sweating in Graves' thyroid disease. This gland seems also to have some power of regulating the rapidity of the cardiac contractions. It is probably easily excited to hypersecretion temporarily by emotion, and we know it to be normally enlarged and hypersecreting during menstruation and pregnancy." The circulation of the brain also falls under the influence of this vasodilator element, stimulating it in excess, causing cerebral excitement.

The gland begins to atrophy between the ages of forty and fifty. Extreme atrophy is far more frequent in women than in men—80 per cent. of all cases of myxedema occur in women. Osborne believes in regard to Graves' thyroid disease (exophthalmic goiter) that if there is cerebral excitement, cardiac palpitation and continuous loss of weight, treatment by thyroid is contraindicated. If the disease has progressed to the next stage in which there is increased connective tissue growth so that there is a condition of undersecretion with little palpitation, no headache, while there is an increase in weight, thyroid will probably be beneficial.

Sherman reports a case of obesity in which, by means of thyroid extract, he reduced the weight of the patient about forty-five pounds. Other similar cases have been reported. Beatson has suggested treating inoperable carcinomata of the breast by the

combination of thyroid administration and the removal of the tubes and ovaries. It is thought that about 20 per cent. of these cases are benefited by this combined treatment. After the menopause, removal of the ovaries is not of so much importance. Page and Bishop report good results in these cases from the use of thyroid alone. As to the benefit of this treatment in cases of carcinomata of other organs, there is no evidence. Coppez reports "five cases of optic neuritis following the use of large doses of thyroid for obesity. In addition to the amblyopia, nervousness, insomnia, and anorexia, shortness of breath developed, through the fact that this remedy is a cardiac depressant. In cases of arteriosclerosis or valvular trouble, it must be used with great care. The prognosis is, however, favorable, for with its discontinuance improvement goes on and even a return to normal in some cases takes place."

Good results have occasionally been recorded from the use of the thyroid in lupus, scleroderma, ichthyosis, psoriasis, alopecia, etc., prostatic hypertrophy, melancholia and rheumatic affections. It has been tried also in old syphilitic ulcerations, but with little success. Good results are reported from its use in cases of large contracting cicatricial masses, which resemble true keloid.

Stimson reports upon the action of this drug in gynecolgy, and states that he "finds the happiest results from its use in dysmenorrhea and ovarian neuralgia; in some cases of myxedema, and in women deprived of the thyroid gland, in endometritis with hemorrhages, in ovaritis, menorrhagia or metrorrhagia, cancer of the uterus, frequent abortion, uterine fibromata and myomata, in uterine hyperplasia and subinvolution, as a galactagogue, and in chronic ovarian and tubal disease."

Nicholson states that "thyroid extract acts as a specific in favoring metabolism, and believes in its use in puerperal eclampsia," for he "thinks the chief symptoms of this condition are due to thyroid inadequacy." "Thyroid extract," according to him, "is indicated in the preeclamptic state and after the onset of convulsions."

Davies states that "it is indicated in adenomata or cysts of the thyroid."

A tendency to hemorrhages is caused by giving thyroid, consequently the drug is beneficial in amenorrhea and like conditions. The thyroid function is closely related to the menstrual function, thus it is disturbed at the menopause.

Kashiwamura has contributed recently to the study of the thyroid in infectious diseases. These include diphtheria, scarlet fever, miliary tuberculosis, measles, fibrinous pneumonia, puerperal fever, typhoid fever, septicemia, and pulmonary tuberculosis. It was found that in these diseases the connective tissue of the thyroid is increased in amount, especially in diphtheria, typhoid and tuberculosis. In a large number of these cases there is an accumulation of colloid material in the interstitial lymphvessels, but this is not characteristic, as it is also seen in noninfectious processes. The substance of the gland itself is not characteristically changed.

Osborne suggests thyroid as the best alterative and preventive of further connective tissue formation in the sclerosis of organs, as in endarteritis, small, contracted kidney and cirrhosis of the liver.

MacIlwaine reports the case of a mother and daughter, both suffering from myxedema. He thinks it very possibly shows an inherent susceptibility of the thyroid to toxic influences.

Besides its use in myxedema, operative myxedema, cretinism, exophthalmic goiter, and obesity (in which, however, the heart needs careful watching), several cases of cure or improvement have been reported of diabetes mellitus, eczema, and even in hemiplegia. It is claimed also to render more active the process of bone formation, and is, therefore, useful in fractures.

O. T. Osborne states in regard to the dosage of thyroid that in the normal individual small doses would be little noticed for a long period, but that when large doses are given of either thyroid gland, extract, or iodothyrin, for some time there will be nausea and vertigo, with increased cardiac action, a tendency to increased sweating and diuresis, with possibly faintness, cerebral irritation and tremor, and even glycosuria may be produced. He believes that the urine should be carefully examined in cases of diabetes to determine its doing no harm. Otherwise it should not be given in any case when glycosuria exists. In cretinism the dose should be small, as should the dose of all organic extracts whenever administered, as the output of any one of the glands is very small in twenty-four hours. In the case of a child 0.03 gm. (½ gr.) three times a day suffices. If the temperature rises, the pulse grows rapid, or the child becomes nervous, irritable or sleepless, too large a dose is being given and should be diminished. Briefly, if there be cerebral excitement, palpitation and progress in loss of weight, thyroid treatment is contraindicated; if the patient is sleepy, apathetic, with little or no palpitation, no headache and is increasing in weight, thyroid will probably be of benefit.

In the administration of thyroid, the gland itself, raw or very slightly boiled, may be given. A quarter or the half of a sheep's gland constitutes the daily dose. But it is better to use the glycerin extract or the dried and powdered gland, as this is thoroughly efficient. A grain three times a day is the initial dose. This is increased to 15 or 20 grains a day and continued until physiological symptoms appear.

*Thymus gland,* or its extract, has apparently given somewhat similar results to the thyroid, with the exception that it does not stimulate the heart or cause increased metabolism as does the thyroid, and causes, therefore, no loss in weight.

Rushton Parker has used the extract in four cases of exophthalmic goiter. In none of the cases was the course of the disease or the symptoms materially influenced. However, Osborne declares that this treatment is beginning to have a large backing.

*The thymus* contains more nuclein and consequently physiological phosphorus than any other organ in the body. Its function is certainly exercised during early life, as it atrophies and disappears at the time of puberty. Osborne believes that the thymus treatment is often beneficial in hypersecretion of the thyroid. He also gives thymus to all of his tuberculous patients, and it always improves their condition.

Mendel believes that the thymus gland greatly influences the formation of the tissues, especially those of the osseous system during the period of growth. He says that the enlarged spleen may be due to its attempt to substitute for the defective thymus. He thinks that there is some relation between this gland and rachitis. Friedlaben made three hundred autopsies on children, and in each case of rachitis the thymus was greatly altered. During the last five years Mendel has treated more than one hundred rachitic children with thymus. The daily dose was as many grams of the fresh gland as the child was months old. There were no untoward effects in any case. The functional disturbances of the disease were quickly abolished. The abnormal sweating ceased. The attacks of laryngismus stridulus decreased, and the enlarged spleen and dis-

tended abdomen diminished in size. When the treatment was interrupted, the symptoms returned. In many cases the rachitic changes in the bones began to subside. The fontanelles decreased in size and dentition was promoted. The object of this treatment is to substitute the gland extract for the deficient internal secretion, while at the same time the general health is improved. In this manner the gland is gradually restored to its normal condition. If, however, the gland substance is destroyed by congenital syphilis or tuberculosis, this treatment cannot bring about a cure.

The dose of thymus is two or three 3-gr. tablets a day.

*Suprarenal therapy* has recently gained the most enthusiastic followers, and as its literature for the present is rather scattered, a somewhat lengthy review may be in order.

Suprarenal extract increases the tone of all muscular tissue. On this account, and also by its astringent effect upon the blood vessels, it is the strongest known stimulant to the heart and an ideal heart-tonic, although it does not seem to affect the normal heart. Because of this property it is also employed in Addison's disease, but the results in this field up to this time seem to be quite unsatisfactory. One reason for this may be that in many cases the treatment has been begun in too late a stage. It is also employed in diabetes insipidus and other diseases arising from or accompanied by vasomotor disturbances. Its aqueous solution has of late gained a well-earned reputation as a powerful astringent, whether applied locally or taken internally. It is probably the best hemostatic known, as it acts by contracting the small arteries, and has no chemical or other effect on the blood, is nonirritating and does not form a clot, as it does not coagulate; it does not combine with albumin and thus become inert, and as it acts in very dilute solutions, it has no cumulative effect. It relieves acute congestion, for example, in the early stages of inflammation.

Given by mouth in 0.3 gm. (5 gr.) doses, the suprarenal extract will quickly ameliorate congestion of any part of the body, the eye, ear, nose, throat, lungs, liver, kidney, bowels, etc. Floerscheim states that the capsules should be allowed to dissolve in the mouth, since the potency of the drug is diminished by the action of the gastric juice. He employs it in various pulmonary diseases and suggests its use as a general vascular tonic.

Solis-Cohen declares that suprarenal extract is not a specific for asthma, and is not indicated in those cases which are truly spasmodic, depending upon the contraction of the bronchial muscle. But it is valuable in those cases depending upon congenital defect of structure or of metabolism, by which the vasomotor system is affected.

Only one function of the suprarenal gland is established without doubt, that is the maintenance of vascular tension.

Hemorrhage from the nose or gums can be stopped even in hemophilia by the liberal application of the aqueous extract or emulsion. Myles does almost bloodless operations on "bleeders," and Otis has controlled hemorrhage from the bladder by the same means.

Moore has used it in diseases of the urethra successfully. It gives great relief in cases of gonorrhea with burning urination.

Meara has had great success with this drug in the treatment of pruritus of the vulva and anus.

Brunet reports cases of severe neurasthenia successfully treated with the extract. He also used it in gastrointestinal hemorrhage.

Peters thinks it relieves the pain of some ulcerating cancers, and may replace morphin, while Davies uses it to relieve pain in cancer of the breast, esophagus (local), and tuberculous laryngitis.

The extract is now largely superseded by the active principle adrenalin hydrochlorid. This is offered in a clear solution, and is used in congested membranes, though these will bleed sometimes when cut. It is useful in nasal catarrh, but it does not shrink polypi. Is used in shock and from narcotic poisons, as well as in anesthesia narcosis.

Crofton believes that there is a powerful diastatic ferment in the suprarenal gland, nearly as great in quantity as is found in the pancreas.

On account of its hemostatic and astringent action suprarenal extract is serviceable in eye, nose and throat work.

When applied locally as an aqueous extract, to the nose or throat, it whitens the inflamed mucous membrane in one minute, and is an adjuvant to cocain to secure anesthesia. Together with cocain in cases of superficial ocular surgery it is valuable in those patients in whom ether and chloroform are contraindicated.

Suprarenal extract given internally in 0.3 gm. (5 gr.) doses, reduces in a few minutes the turgescence of the turbinated bodies. It is thus valuable in epistaxis. Somers speaks of the possible danger of sepsis in its application in cases of epistaxis, and advises the addition of 1 gr. of carbolic acid to 1 dram of sterilized water containing 10 gr. of suprarenal extract. When this is filtered it is permanent and sterile.

Suprarenal extract is regarded as useful by some in hay-fever, both in local and general administration. Its effect in these cases, however, soon subsides, but if the application is renewed every two hours or more the condition sometimes permanently improves. Nasal hydrorrhea has been relieved by its use. It has been suggested that suprarenal may cause secondary hemorrhage, or an erectile condition of the nose which will surpass the original condition of a fresh coryza. Hopkins believes that after its use in nasal operations, intranasal packing is advisable on account of the danger of secondary hemorrhage. Tonsilitis is temporarily relieved by the local use of suprarenal extract, and even its internal administration often causes relief. Swain has great confidence in its use in quinsy. He sprays the throat with the extract and then applies cocain. The swelling subsides so that the patient is enabled to swallow a little milk, or very soft food, which before the treatment was utterly impossible. Boeker, in a case of acute edema of the throat, believes that this remedy saved a life. Solis-Cohen had the same favorable experience in treating a case of angioneurotic edema of the pharynx and tongue.

Clement Bloch reports edema of the soft palate and uvula, congestion of both tonsils and lateral pharyngeal columns, followed by superficial ulcers of the tonsils, after the use of suprarenal extract dusted into the nose. He attributes the edema and ulceration to the strong vasomotor action of the gland which produced venous stagnation.

Bates says that this remedy is most useful for the relief of deafness. Acute cases are permanently relieved in one treatment, and chronic ones are temporarily benefited. In the latter the internal use of five grains three times daily is often very useful. Curtis has had success in the treatment of acute laryngitis of singers whose vocal cords were congested or relaxed. Carpenter has used it in dental practice to reduce hemorrhage and swelling of the gums and to produce anemia. He finds it advantageous in fitting bands for crowns, adjusting cervical clamps, excising fungous growths and in pyorrhea

pockets. Somers recommends it in 5-grain tablets for the embarrassed respiration of peritonsillar abscess.

Suprarenal extract lessens the congestion of purulent inflammations of the conjunctiva and is on this account very serviceable in scleritis, conjunctivitis, keratitis, and even iritis. Many operations on the eye are made bloodless by its proper employment.

By reducing the congestion of the mucous membrane it is often very beneficial in tinnitus, caused by partial occlusion of the eustachian tube, and for the same reason also applicable in acute and chronic catarrhal otitis media. A case is reported in which the hearing was improved to the extent of several inches after two drops of adrenalin solution was applied. It was combined with other treatment, so how much was due to the adrenalin alone is doubtful.

Hill finds that it at least improves the mental condition in epileptics. He used it internally in combination with calcium chlorid and small doses of sodium bromid.

Crary has reported its use in exophthalmic goiter with improvement of cardiac action, tremor, general strength and disappearance of the goiter.

Bates reports on its effects in diseases of the heart. An intermittent pulse becomes regular; a weak pulse becomes stronger; the strengthened heartbeat equalizes the circulation, and consequently the circulation to all parts of the body, and so anemia, or hyperanemia, is replaced by a normal condition. Unfortunately, the action of this drug is but temporary in such cases.

Floersheim reports excellent effect from its use in mitral regurgitation, but states that it has little effect on aortic disease.

Kenworthy has had success with the remedy in cases of hemoptysis which had resisted all other treatment.

Schafer considers this the most efficient uterine contractor, whether in a pregnant or nonpregnant uterus, and whether applied directly to the muscular tissue or introduced into the circulation. Its value may be enhanced by the addition of calcium chlorid.

Stöltzner reports seventy-six cases of rachitis treated most successfully with suprarenal extract. In cases complicated with syphilis, intestinal catarrh, bronchitis, and pneumonia, an improvement by this method of treatment was never observed.

Postle reports benefit in a case of measles from the internal administration of suprarenal gland.

Holt reports a case of hemorrhage in the newborn successfully treated with the extract.

L. L. Skelton reports a case of Addison's disease in which suprarenal extract failed to afford relief. It did no more toward benefiting the case than did strychnia, digitalis or ergot.

As a preservative for suprarenal gland solutions, Seymour Oppenheimer has found that an almost permanent solution may be made by adding one dram of the dried suprarenal to an ounce of a one per cent. solution of resorcin.

*Pituitary body* has been applied with good results in acromegaly, and Dana claims some benefit from its use in paralysis agitans. Osborne believes that there is undoubtedly a relation between the thyroid gland and the pituitary body, as disturbance of one of these glands seems always to be associated with disturbance of the other. The pituitary is always diseased in acromegaly. There are also symptoms due to perverted secretion of the thyroid. He believes in the hypersecretion theory, and is convinced that giantism is due to hypersecretion of the hypophysis, while acromegaly is due to a disturbed or diminished secretion. It is quite probable that in certain stages of acromegaly too much physiological phosphorus, which is possibly formed by the pituitary, is retained in the body Moraczewski states that there is a tendency in acromegaly to retain in the system the chlorids, calcium, phosphorus, and nitrogen—the tissue-building substances. The one established use of pituitary substance is in the condition of acromegaly, when the toxic headaches are much relieved by pituitary substance.

*Spleen extract* is employed in Hodgkin's disease, leucocythemia, anemias, chlorosis, and all diseases with enlarged spleen; in exopthalmic goiter, and in enteric fever some good results have been noted. It seems to be beneficial in the treatment of exophthalmic goiter, though it has an irritating effect on the stomach. Carpenter contributes an enthusiastic article on this subject, wherein he claims that when given in doses of 0.3 gm. (5 gr.) three times a day it will reduce the temperature of typhoid fever without undue diaphoresis; besides it improves the symptoms and restores the patient to a normal condition both steadily and quickly.

Jez has prepared an extract made from the spleen, thymus, bone-marrow, brain and spinal cord of animals which he has immunized against *typhoid fever*. He has administered this remedy to typhoid patients, and concludes that it has a specific therapeutic effect in this disease. It had no injurious effects; besides, it assists in making a differential diagnosis. He states that its use shortens the duration of the fever, and in fact is attended by the most encouraging results.

*Hepatic extract*, as used by Gilbert and Carnot in a case of diabetes mellitus, due to functional debility of the liver, reduced the sugar in the urine. It is said to be beneficial in alcoholic cirrhosis.

Schober and Mallett have suggested the use of *parotid gland* for the pains of dysmenorrhea. Osborne reports a case of epilepsy in which he used this substance with the most astonishing results. The attacks ceased and have not recurred for over a year. It controls pain in simple ovaritis.

*Pepsin* as a commercial product, is in general derived from the gastric glands of the pig. There is a variety, however—ostrich pepsin used in Argentina, which is made from the gizzard of the ostrich. This extract is made in great quantities. The results from its use have proved to be variable. It is supposed to be a valuable aid in the digestion of albuminous food.

*Extract of pancreas* is used for "peptonizing" or predigesting food. It is made from the sweetbreads of animals. The medium in which it acts may be either acid or alkalin, contrary to the idea that it will not act in the stomach or in an acid medium. The longer peptonization is allowed to go on, the more bitter the product will become. In order to avoid this disadvantage it is often well to administer the pancreatic extract with the food. It is very valuable, especially in summer, in feeding invalids and infants. Its effects are variable in cases of diabetes mellitus. Von Noorden found that it gave good results in chronic steatorrhea accompanying diabetes.

*Renal extract* was of temporary benefit in nephritis and uremia.

*Pulmonary extract* was favorable in pleuro-pulmonary suppuration with osteoarthritis. The progress of the bony deformities was arrested.

*Nerve extracts* have been recommended in epilepsy, locomotor ataxia, chorea and neurasthenia.

*Testicular extract* or orchitic fluid has been the subject of more praise and condemnation than all the other animal extracts, since Brown-Séquard first heralded its praise as the very fountain of youth. It

is rich in nuclein and phosphorus, and as such is a good stimulant. Its action as a nerve tonic and aphrodisiac cannot be denied, though we may not recognize the claims made therefor in the treatment of neurasthenia, epilepsy, locomotor ataxia, etc. Professors Poehl and Senator have established beyond dispute that a properly made extract of the testicle (such as the hydrochloride) has a powerful antilaxic effect by reducing an abnormally diminished alkalinity of the blood to its normal state. By aiding metabolism and preserving the organism from autointoxication, its many champions also claim excellent results in many conditions from such causes as diabetes, mellitus, uric acid diathesis, rachitis, neuroses, tabes, syphilis, pneumonia, typhoid fever. In carbon dioxide poisoning or that from chloroform anesthesia, where the oxidizing power of the blood is reduced, this substance is claimed to restore the blood to its normal state. The elaborate and very fetching theories in this line are, however, though very interesting, too lengthy for this review. Thelberg gives the following statement of Poehl's views: It is said to induce quiet and refreshing sleep. Its influence on the sexual system is not specific, but is said to depend upon its general tonic effect. Finkelstein and others state that it should not be given with mineral acids nor with potassium bromide. It is also contraindicated in maniacal cases with sudden outbursts of excitement and in some forms of epilepsy.

*Prostate gland* extracts have been employed in hypertrophic changes of the prostate.

*Mammary extract* has been tried in the debility of women, in uterine hemorrhage and in menstrual backache, as well as in uterine fibroids, but its value is as yet experimental. Shober, however, has used it in uterine fibroids with good results. It has controlled bleeding, and inhibited the growth to a certain extent, and it makes the patient more suitable for operation.

*Ovarian extract* has been used to ameliorate the distressing nervous and vasomotor disturbances coincident with the menopause and after extirpation of the ovaries. Beneficial effect has also been claimed for its employment in chlorosis, in emenorrhea, in symptoms following oöphorectomy, and in amenorrhea from prolonged lactation and hysteria. Ferre and Beston say that an overdose may cause death. In the male it acts as an aphrodisiac. Subcutaneous injections are recommended by Vidal for neurasthenia without any genital affection. Six injections of 3-5 c.c have been said to cure the condition. Uterine hemorrhage has been said to be cured by its continuous use. Its therapeutic value is still unknown. The effects of the removal of the ovaries in cases of cancer of the breast are still experimental. Dorland states that the removal of the ovaries in cases of inoperable cancer—if these organs are active—often results in the arrest of the progress of the disease or even in the destruction of the neoplasm. The results are better if as much as possible of the growth is excised and thyroid extract be given in full doses—10 to 15 grains daily. This treatment is not so favorable in older women.

*Brain extracts* have their ardent advocates, who offer most attractive theories. Althaus suggests, for example, that their action is due, first to the injection of a highly specialized pabulum of nervous matter; second, to the decomposition of its lecithin protagon through the alkaline blood whereby not only glycerophosphoric acid, but also cholin, are formed. He claims that cholin, by its oxidizing action on the blood acts as an antitoxin. Cerebrin is highly recommended by Lion of Russia as a remedy in epilepsy. He advises the administration of from 5 to 10 grains daily. Besides this, the author employs the "bromide-diet," which consists in the withdrawal of sodium chloride and meat, and, instead, giving as a daily diet, milk, eggs, bread, gruel, potatoes, butter, sweetened tea, cider and three grains of bromide. The physical manifestations are quickly subdued. Dangerous patients become mild in disposition by means of this treatment. The method of treatment, that is, its duration, size of dose, etc., will have to be determined by further work in this line, as well as the real value of the treatment.

*Bone marrow extracts* have lately, and seemingly with good cause, become very popular in the treatment of both primary and secondary anemias. Various firms have prepared either extracts of the red marrow *per se*, or combinations of this extract with nucleo-albumins of iron which certainly are both rational and clinically successful. The near future will without doubt give further light on this subject. The extract is generally prepared by soaking the broken ribs of young animals in glycerin for three or four days. The glycerin is then strained and is ready to use. The dose is from one to three ounces each day.

177 West Eighty-third Street.

## THE HYPODERMIC USE OF THE SALICYLATE OF MERCURY IN THE TREATMENT OF SYPHILIS.

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To formulate a method of treatment by the use of one drug that would or could be applicable to every case of syphilis is out of the question, because of the unlimited manifestations of the disease and the many indications for treatment presented.

Taking for granted, however, that mercury in some form is indicated, we have, I believe, in the intramuscular injection of the salicylate of mercury a mode of administration that is free from most, if not all, of the difficulties encountered in the use of the drug when administered in the ordinary ways (mouth, inunction, vaporization, etc.), in that it is cleanly, safe, efficient, entirely practical for office or dispensary use, easy of administration, and capable of accurate dosage. It is entitled to consideration and trial as the routine treatment or foundation of treatment, to which may be added, or for which may be substituted, other treatment when required by special indications or conditions. It is equally well adapted to the modified expectant, the interrupted or the continuous method of treatment.

The objections that are usually offered to its general use, are that it is irksome to both the physician and the patient, painful to the latter, that there are ever present the dangers of embolism and fatal mercurial poisoning, and that the treatments are likely to be followed by the formation of abscesses and painful nodes of the site of the injections. These objections are groundless, for the observance of a few simple rules will prevent any of the accidents from happening.

By having the needle and syringe prepared as I shall afterwards describe, each treatment can be completed in five minutes. Dispensary patients can be treated in even less time. At the most, one treatment a week is enough for the usual run of cases. Surely this is less irksome to the patient than inunction daily for weeks at a time or medication three or more times a day, the latter necessitating the carrying about of the medicine and involving the

danger of detection. In addition, the patient is under the immediate and continual observation of his physician.

Embolism is avoided if the precaution of noting that the needle has not entered a vein is observed. Mercurial poisoning is ever liable in persons exhibiting idiosyncrasy, but fatal results are avoided in this as in other methods of administering mercury if we begin with small doses and gradually increase. Abscess formation is prevented by the aseptic precautions that should be observed before every hypodermic injection. If the proper technique is followed, painful nodes will not occur, except possibly after the first few injections.

The essential point in the successful treatment of syphilis is to get into the circulation the maximum quantity of mercury that the system will tolerate without ill effects. Leaving out of consideration the patients who are careless of or who neglect their treatment, the obstacles usually encountered are the local irritating effects of the mercury on the skin and the gastrointestinal tract, and these effects are almost surely avoided by the judicious hypodermic use of the salicylate. How often we see cases of syphilis as ordinarily treated, in which the symptoms are progressing but in which we are compelled to discontinue treatment because of the severe local effects of the mercury. Sometimes we can of course, by the use of other agents, control or lessen the local effects of the mercury until the constitutional effect is secured.

In these cases when treated by mouth we may know how much mercury is taken by the patient, but do we know how much is absorbed and how much is excreted unchanged? Of the absorption from inunction we know even less. We can only know that the patient is getting enough specific medication when we see that he is getting too much. In other words, we have to give too much mercury and thereby produce unpleasant effects, before we are sure that the patient is getting enough. If we use the salicylate of mercury hypodermically, we can regulate the dose without one-tenth of a grain, and we have practically no unpleasant local effects and only very exceptionally do we see any effect at all on the alimentary canal.

The technique that follows is that used in the clinic of Dr. Walter C. Klotz, at the Roosevelt Hospital O. P. D., and the recorded cases are from the same clinic.

The salicylate of mercury is suspended in liquid albolene 48 grains to the ounce, thus making a 10 per cent. preparation. For dispensary use this is put up in ounce quantities and sterilized.

The dose to begin with is usually ¾ of a grain. The interval between treatments, 4 days. The dose and the length of the intervals between the treatments are gradually increased until the patient is taking one and one-half grains weekly. The full dose of the 10 per cent. preparation is therefore 15 minims. If the patient has been taking mercury in some other manner, a larger dose may be used at the start. In some cases a dose larger than a grain and a half may be used to combat special symptoms, but in these cases the more frequent use of a soluble salt of mercury will probably give better results. Potassium iodide can be administered by mouth at the same time.

An ordinary hyperdermic syringe does very well, but any of the syringes designed especially for this purpose may be used. The needle should be at least one and a quarter inches in length, and of about 18 caliber. Needles of smaller caliber are impracticable, because the mercury will clog in them. It is essential that the needle be very sharp. At the dispensary we sharpen the needle on an oil stone frequently. When the needles wear too dull to admit of this sharpening they are returned to an instrument maker and resharpened at little cost. By getting needles that are originally about one and five-eighths of an inch in length a long life is assured them.

When not in use the syringe is immersed in an antiseptic solution. The needle is sterilized by boiling. In objecting to the hypodermic mode of treating syphilis one of the arguments used is that it is necessary for the physician to prepare his hands as for a major operation. This is not at all necessary. If the needle after sterilization is handled with a pair of sterile forceps and not allowed to come in contact with anything not sterile, perfect asepsis is maintained, as the hands need not come in contact, either directly or indirectly, with the needle or the site of injection. In private practice I have found it advisable to sterilize the needle immediately after use, and then keep needle, syringe, and forceps for handling, in an alkaline strongly antiseptic solution ready for immediate use when required.

The gluteal region is the usual site of injection, alternating from side to side. The muscles of the back or of the calf of the leg may be used if desired. The buttock is cleaned as is usual for a hypodermic injection. The patient's leg is placed so as to relax the gluteal muscles, and he is instructed not to jump when the injection is made. The syringe is filled with mercury, the needle is attached, and air bubbles are excluded. The needle is entered firmly and quickly into the muscles as far as the guard, care being taken to avoid injuring the periosteum. The relations of the anatomical structures in the vicinity should, of course, be borne in mind. The mercury is then driven very slowly and gently into the muscles, the needle quickly withdrawn, and the part massaged with a vigorous rotary motion for one minute. This massage prevents any hemorrhage from the puncture hole and lessens very materially the probability of any soreness or lameness following.

During the past year we have treated sixty-four patients by this method. A total of four hundred and ten treatments have been given, and we have never had an untoward result of the injections. At first this method was used only in selected cases when it was desired to get the patient quickly under the influence of mercury. Gradually its use was extended, until it is now employed in all new cases in which mercury is indicated. The results have been very satisfactory.

In this series of sixty-four cases thirty-three patients received between 1 and 5 injections, twenty-one patients received between 5 and 10 injections, ten patients received between 10 and 25 injections. Of these cases thirty-six received mercury in some other manner, either before or after the injections. Twenty-eight received hypodermic medication exclusively. Four patients discontinued treatment because of removal to out-of-town places. Nine patients came to the clinic not more than twice. This is about in accordance with the usual run of this class of patients, many coming to the clinic only for a diagnosis, and as soon as that is made they place themselves under the care of a private physician. In addition to these nine, twenty-seven patients discontinued attendance while under hypodermic treatment, but of these only five had any subjective symptoms of syphilis at the time of their last visit. We have at the present time twenty-three patients under active treatment by this method. In but two cases was it necessary to discontinue the injections. One patient complained so bitterly of the pain after

the first injection that it was not repeated. One patient complained after the first injection; treatment was discontinued for a while and later recommenced; this patient has since had eight treatments without any inconvenience. One patient requested the discontinuance of the injections after eight treatments. This is the only case in which complaint was made after any but the first few injections.

From observation I can say that in both secondary and tertiary cases the symptoms disappear more quickly under this than under any other treatment. Actual figures, however, I cannot at this time give because of the necessary brevity of the dispensary histories. At some future time I hope to be able to give more accurate data on this point.

As soon as a positive diagnosis is made, the patient is acquainted with the nature of the disease, the precautions necessary to prevent infection of others, and the hygienic adjuvants of treatment, and he is impressed with the necessity of continuing treatment, even in the absence of symptoms for a period of years.

This mode of treatment is then explained to him, its advantages are pointed out, and he is assured that it is practically painless. He is told that he will suffer some—possibly considerable—discomfort after the first treatment, that for from twenty-four to forty-eight hours after the injection he will feel as if he had been kicked and that he may be a little lame. but these symptoms are less after each treatment until, in a very short time, he will suffer no inconvenience, either at the time of or following the injections. He is requested to tell if he is caused more inconvenience than he cares to stand, and he is promised that the treatment will be changed as soon as he complains. As a rule the patients are willing to begin the treatment. If they have previously taken mercury by mouth they know personally of the disadvantages and drawbacks, and gladly consent to the change.

When they return for the second treatment they are apt to complain of the dull ache and pain following the first injection. They are again told that the second injection will cause much less discomfort than the first, and that the future ones will cause none at all, and they are advised to continue the treatment for a short time longer at least.

By giving a little attention to this point, we have been able to get the patient's cooperation in almost every case, for it is a fact that except after the first few injections there is no pain or discomfort connected with the injections, and the patients offer no objection whatever to continuing the treatments. After the first few treatments they will continue of their own accord. Patients who have had treatment both by mouth and needle and return to the clinic after an absence, invariably request that the latter method be used.

In conclusion, I want to recommend this treatment for trial in every case of syphilis in which the administration of mercury is indicated for a period of time. It possesses many advantages over the methods in vogue, and has but few and slight disadvantages when carefully employed.

24 West Sixtieth Street.

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**Disinfecting the Confessional.**—On the advice of the Mexican Board of Health, the government has issued an order for the daily disinfection of confessionals in all the churches of the capital. Priests neglecting the order are subject to fine and imprisonment. According to the health board, the confessional may be an active means of spreading contagious and infectious diseases, and its purification is important in controlling epidemics

## CARCINOMA OF THE MALE BREAST CURED BY THE RÖNTGEN RAY.*

By SINCLAIR TOUSEY, A.M., M.D.,
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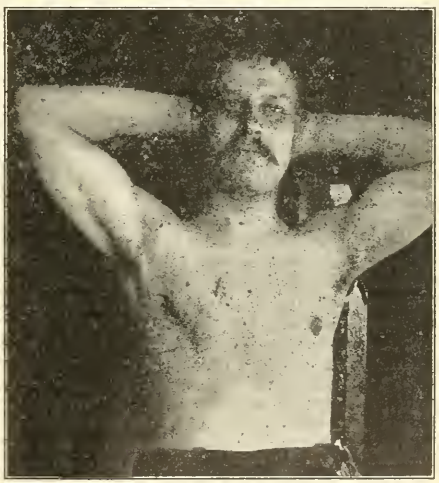
SURGEON TO ST. BARTHOLOMEW'S CLINIC.

This patient, Albert D., is a strong, well-developed man of 33 years, a ribbon weaver, married and with nothing in his family history to account for malignant disease. Although he was not conscious of pressing his breast against the apparatus at which he works it seems probable that this was the case. About December, 1901, he noticed a hard swelling of the right breast, which increased in size until its removal by myself in November, 1902. The operation consisted in an elliptical excision of the breast, and a plastic operation for covering the defect. No involvement of the axillary glands was present and they were not removed. The tumor presented the gross appearance of a fibroma, but the pathological examination showed it to be malignant. The following is the report of Dr. E. E. Smith: "The specimen consists of the nipple and skin for a radius of



two inches, together wih the underlying subcutaneous fat, gland, and connective tissues which are invaded with a hard growth involving the central portion of the entire specimen. The gross appearance is suggestive of fibroma. Sections have been cut from various portions and show a dense fibrous structure with only here and there cellular elements which, however, characterize the specimen as carcinomatous." In May, 1903, the man returned to St. Bartholomew's Clinic with a tumor of the left breast, which was somewhat softer and not so adherent to subjacent parts, but was more tender than the other. *X*-ray treatment was adopted, and after five months the tenderness disappeared. It was seven months before the tumor began to diminish in size, and it entirely disappeared after eleven months' treatment. There is now no sign of recurrence, although he has had no treatment for 13 months. The application had been of such a strength as to keep the skin constantly somewhat reddened, and with a scaly desquamation. But at no time was this reaction sufficient to produce swelling or vesication or tendency to ulceration.

*Case shown at a meeting of the Surgical Section of the New York Academy of Medicine May 5, 1905.

The tube was nearest the affected breast, but the rays were allowed to reach the entire front of the chest and the axillæ. An eight-inch induction coil was used with a Caldwell interrupter, and a primary current of five amperes. The tube was a light anticathode, 35 centimeter Gundelach tube with a medium vacuum (about 2½-inch resistance and 5 radiometer) and the anticathode was at a distance of nine inches from the skin. The exposures were for about nine minutes; for the first five months once a week, and after that twice a week.

The case is typical of a class of cases in which the greatest degree of malignancy has not yet developed, and no metastases have occurred. Such cases I believe are sometimes susceptible of cure by the *x*-ray.

63 West Fifty-sixth Street.

## REMARKS ON THE PRESENTATION OF A PORTRAIT OF DR. ANDREW HEERMANCE SMITH.*

By GEORGE L. PEABODY, M.D.,

NEW YORK.

*Mr. President and Fellows of the Academy:*

In a charming book, by Schaler, professor of geology in Harvard University, which he calls "The Individual: A Study of Life and Death"—a book which I can cordially commend to you all—the author speaks very thoughtfully and very sanely upon the attitude of man toward death. In the course of an analysis of the very general fear of death which is common to nearly all of us, he comes to consider the dread of being forgotten as one of the usual causes of our fear. It is certainly a very common feeling in man to be somewhat resentful of the brief duration of our fame after we die.

It is a little surprising how complete an oblivion awaits the average of us. To quote Shaler on this point, let me read you the following:

"This vanishing of men, even when they were persons of no small importance, was forced upon my attention by an instance which illustrates the point in a striking manner. About thirty years ago, while looking up the history of New England earthquakes, by chance I made the acquaintance of John Winthrop, Hollisan professor of mathematics and astronomy in Harvard University in the eighteenth century. I found at once that he was a man of power, who had played a large part in his time; that he had really founded the science of seismology in that he had first applied computative methods to the observation of earthquakes; that he had made excellent observations on the transit of Venus while on what was, perhaps, the first scientific expedition in this country; that he was a Fellow of the Royal Society and a member of the Governor's Council, the latter in those days an index of station of no mean sort. Furthermore, that from his lectures probably came the movement which led to the development of the interest of Count Rumford and Benjamin Franklin in physical science. Chagrined at never having heard of this master, I sought at once to see how singular my ignorance was. I inquired in succession of one hundred well-informed persons, including all the members of the then faculty of Harvard College, and found but three who had any recollection of the name. Yet in the society of a college town there is a greater likelihood of traditions being preserved than in the ordinary associations of men."

*Presented to the New York Academy of Medicine, May 18, 1905.

Nature's methods are the best in this as in most of the other relations of life, of which we doctors, sooner or later, come to regard death and oblivion as merely a part. Those who come after us will have their own lives to lead, their own duties to perform, and only their own finite means to apply to all their ends. If we had the power arbitrarily to enforce upon them a memory of ourselves and a familiarity with our lives and our actions, think what a harm we should do them, and through them to all the after-coming race if we were to exercise this power. We should of necessity compel them to omit from their memories facts of far more importance to them to make place for us and our petty concerns.

But I cannot believe that it is well that every individual of every age should be forgotten, or even that only those of very unusual importance, such as victorious soldiers, should be allowed to survive. As that friend of all of us, collectively and individually, Jacobi, has so well said, fame should occasionally fall to the lot of him who saves human life and alleviates human suffering, as well as to him whose highest aim is to destroy life.

It is an inspiration to the present, as it will surely be to the future, in every association such as this Academy, to keep before it the memory of those who have done most to foster its ideals and to advance its welfare. Not only are we helped in our daily routine of duty by a knowledge of the way in which they wrought, but theirs are the footprints in the sands of time, which bid us to be hopeful in our hours of darkness, and to take courage in our efforts to emulate them. The ideals and welfare of the Academy of Medicine are worthy objects of a life's devotion; and we are all rendered better members and stimulated in the performance of our duties to our fellow men by hallowed memories of those whose portraits hang upon these walls.

It is strange how enduring the perishable canvas becomes when once we value it for the worth either of the artist or of the man whom it brings back to us. There are paintings in this country, as there are many more in Europe, hundreds or thousands of years old whose many early abiding places have crumbled to forgotten dust as the centuries have passed, and have left them still as beautiful memorials to us and to those who shall follow us.

Books, too, are far more lasting than are the buildings which may chance to house them. There are many valued volumes upon our shelves which have long outlived the many previous homes that have given them passing shelter.

Dr. Andrew Heermance Smith will survive by the writings that he has given to us; and I conceive it to be a pious duty, as it is a pleasure of friendship to present to the Academy this, his portrait, which I do on behalf of his friends.

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**Tuberculosis Among Negroes.**—Miss Lilian Brandt says that the negro death rate from consumption, which before the civil war was less than that of the whites, has increased with such rapidity that it now is about three and one-half times greater than the latter. The following figures show the death rate from consumption between the ages of fifteen and forty-four for every 100,000 persons in 1900:

Negroes in United States, 584; Ireland, 428; Bohemia, 235; Scandinavia, 234; France, 221; Germany, 206; Scotland, 201; Canada, 200; United States—native-born whites, 163; England, 151; Italy, 150; Russia, 131; Hungary, 113; Poland, 67.

# MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

THOMAS L. STEDMAN, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, July 29, 1905.


## THE PANAMA CANAL AS A MEDICAL PROBLEM.

THE dependence of great interests upon the advice and work of members of the medical profession has never, perhaps, been more forcibly brought home to the people at large than in the present question of constructing the Panama Canal. The engineering and administrative problems involved are without doubt of immense magnitude, but at present they must take second place in point of practical importance as compared with the task of rendering the Canal Zone habitable for the working forces. It was not technical difficulties that baffled the genius of De Lesseps in his attempt to unite the oceans, but financial mismanagement at home and disease on the Isthmus. The former element presumably need not enter into our calculations, but the work of sanitation still remains as a necessary preliminary to the task of excavation. Medical knowledge, particularly of tropical diseases, has made great advances during recent years, and the experience gained in the sanitation of Cuba will prove invaluable; but one of the notoriously most insalubrious regions of the globe cannot be rendered healthful in a short space of time, nor such diseases as yellow fever, beriberi, malaria, and dysentery be snuffed out like the flame of a candle. Progress with the work on the canal is not therefore to be gauged by the number of cubic yards of rock and soil removed, but by the statistics furnished in the health reports. These show that the labors of Col. Gorgas and his aides have met with most satisfactory results, in spite of the croakings of the sinecure hunters who keep returning from the Isthmus disappointed and shorn of their golden hopes.

This fact was emphasized by President Roosevelt in his address to the Associated Physicians of Long Island on July 12, at Oyster Bay, in which, after commending the work accomplished, he said that the alarmist reports which have lately been coming from the Isthmus might safely be disregarded, as they emanated almost entirely from people who were anxious to justify their defection from the spot where work was to be done by painting the local conditions in as lurid colors as possible. It was more than likely, he continued, that from time to time there would be troubles as regards sanitation, just as there would be difficulties in the engineering and administrative departments, and that such difficulties would encourage a large number of excellent but timid persons to express dire forebodings as to the outcome, and to fear that the whole thing would be a failure. It would not be a failure, however, but would be a success, because every check would be treated not as a reason for discouragement or for abandoning the work, but as an indication of the direction in which improvements and modifications in plans were necessary in order to avoid a recurrence of just that particular difficulty. What was being done in Panama was but a sample of the things that this country has done during the last few years, and in which the medical profession has borne so prominent a part.

## FISH AS FOOD.

THE question of fish as food is a very wide one, viewed from whatever standpoint. By a few the value of fish as a nutritive agent is exaggerated, while some go to the other extreme and declare that fish as an article of food possesses no especial nutritive qualities. As usual, the truth lies in the happy mean, and fish, although not necessary to the preservation of good health, yet holds quite an important place in a diet table.

The U. S. Department of Agriculture has issued recently Farmers' Bulletin No. 85, written by C. F. Langworthy, Ph.D., which considers fish as food from all aspects. It is shown that the market value of fish is affected by various conditions. Among these are the locality from which they come, the season in which they are taken, and the food on which they have grown. "In general," says Dr. Langworthy, "it may be said that fish from clear, cold, or deep water are regarded as preferable to those from shallow or warm water, while fish taken in waters with a rocky or sandy bottom are preferable to those from water with a muddy bottom."

As to the preservation of fish, it is stated on good authority that in commercial practice 25° F. is regarded as the proper temperature for storing fish which has been previously frozen. For dried fish the proper temperature is 25° F., for fresh fish 25° to 30°, for oysters 33° to 40°, for oysters in the shell 40°, and for oysters in the tub 35°. Oysters should not be frozen. With regard to the nutritive value of fish the author treats the subject at considerable length, and supplies comparative tables in which is shown the nutritive value of all kinds of edible fish, of other animal foods, and of vegetable foods. Fish is like meat, essentially a nitrogenous food, although oysters and other shell fish contain some carbohydrates. So far as cost is concerned fish compares with the cheaper meats, and the cereals are the least expensive sources of protein. Referring to the digestibility of fish Dr. Langworthy states that experiments have demonstrated that fish and lean beef are about equally digestible. In each case about 95 per cent. of the total dry matter, 97 per cent. of the protein, and over 90 per cent. of the fat were retained by the body. Other experiments of the same character indicated that salt fish is less thoroughly digested than fresh fish. As with meat the leaner kinds of fish, such as cod, haddock, perch, pike, etc., are more easily digested than the fatter kinds, as salmon, shad, and mackerel. The information with respect to the digestibility of shell fish is scanty. It is, however, of general belief that oysters belong to the more easily digestible class of foods.

The writer places the chief uses of fish as food (1) to furnish an economical source of nitrogenous nutrients, and (2) to supply the demand for variety in the diet, which increases with the advance of civilization. The old theory of early writers that fish con-

tains large quantities of phosphorus, and is, therefore, particularly valuable as brain food, has no foundation in fact. The percentage of phosphorus in specimens thus far analyzed has been no larger than is found in the flesh of other animals used for food. But even if such were the case, there is no proof that phosphorus is valuable as a brain nourisher. Physiologists declare that phosphorus is no more essential to the brain than nitrogen, potassium, or any other element which occurs in the tissues. Nevertheless, physiologists particularly recommend fish as a desirable food for persons of sedentary habits, because it seems to be less "hearty." As Langworthy points out, although such statements do not depend upon experimental evidence, they are thought to embody the result of experience.

As regards the possible dangers from eating fish, the author draws attention to the fact that fish may contain parasites, some of which are injurious to man, which, however, are destroyed by thorough cooking. Ptomain poisoning usually occurs when putrefaction of the food is present, so that great care should be taken to eat fish only when it is in perfectly good condition. It is said that there is an act of Parliament, passed in 1698, which has never been repealed, permitting the sale of mackerel an Sunday except during the hours of divine service. The frequent occurrence of poisoning from the eating of stale fish which had been caught on Saturday, and not sold until Monday, was the cause of the enactment of this permissive law. Fish which has been frozen is especially likely to contain injurious ptomains. Canned fish should never be allowed to remain long in the can after opening, but should be used at once. It goes without saying, that oyster beds should be free from sewage pollution, and oysters when "floated" or "fattened" should never be placed in water contaminated by sewage.

## WORK AS A THERAPEUTIC MEASURE.

It would seem from observation, as well as from current medical literature, that the medical profession was growing to look with more and more favor upon the benefits of therapeutic measures other than drugs in the treatment of certain diseased conditions. Electrotherapy, hydrotherapy, phototherapy, psychotherapy, mechanotherapy, heat and cold, rest and diet, with numerous other measures are practised, one or more, in a great variety of disturbances, and with signal success in many instances. Hydrotherapy was laughed at a few years ago; the application of electricity was formerly in the hands of totally incompetent and uneducated men, but now we have the study of these remedial agents as a part of the curriculum in leading institutions of medical learning throughout the country. Weir Mitchell has established the rest cure for neurasthenics; the influences of diet have been carefully studied and applied to disordered conditions; establishments have been instituted where hydrotherapy and electrotherapy may be used in properly indicated cases by those who thoroughly understand their application to diseases. Finsen has proven the great benefit of light treatment in conditions hitherto thought to be incurable. Gymnasia are found in all centers, where the benefit of mechanotherapy has been demonstrated.

A potent factor, that of work, in reestablishing health, mental and physical, has, however, as yet not received the attention and study that it deserves, for without doubt work is the greatest factor in the maintenance of health. Work does not, in the present discussion, mean physical labor alone, for the mind must be employed at the same time in order to secure the best results. Congenial work with mind and hands should be encouraged in all persons, for its prophylactic as well as its curative influences. Rest will prove serviceable doubtless in numbers of cases, but its application should be restricted and carefully studied. There are many conditions where absolute rest will not only prove useless, but really harmful. To send a man from an active business life to one of complete inactivity will often prove disastrous, as much so as to proscribe all food for the obese. Another mistake is arbitrarily to prescribe the character of work for which the patient may have no liking, and which he is incapable of accomplishing. Such work cannot be cheerfully done and entails a very great hardship to the one undertaking it.

The nervous will complain that they do not feel like work. If left to themselves and told to do absolutely nothing, not even to read, they are sure to dwell upon their infirmities, and grow thereby morose and hypochrondriacal, thus increasing their invalidism. The desire for work should be encouraged in all conditions and in all classes. If one's interest is aroused even to a slight degree, a continuance in the work will develop a desire for occupation. One will never feel like work if one has nothing to do. Work will often accomplish what medicine, however properly applied, will not, for it is not alone that we must earn our bread by the sweat of the brow, but every man and woman should work for the pleasure of it, as well as for the health-giving, brain-expanding results, and the benefit of example. Let idle men and women employ the mind and body in congenial work if they would escape numerous ills to which flesh is heir, for work is necessary to the proper performance of the various functions of the body, a fact not sufficiently dwelt upon by physicians. It is the remedy for the neurasthenic, for work will give occupation to the mind and body, and keep the patient from dwelling upon his infirmities. Exercise will be followed by increase of appetite, the skin and excretory organs will become active, and elimination of toxic materials will be increased.

## TESTS OF HEALTH.

The bane of medicine is a tendency to generalization. We are told in our college days, if we happen to have a sensible teacher, that we must consider the patient rather than the disease, but our textbooks deal with the disease perforce, and we insensibly take our cue from them and fall into the rut of treating tuberculosis or typhoid fever rather than the tuberculous or typhoid patient. The same is true in our counsels regarding right living to the well. Because exercise is, generally speaking, beneficial, we fall into the habit of advising it for everybody; because alcohol in excess is bad for all, and even in moderation for many, we make ourselves disagreeable by forbidding the least indulgence to everyone regardless of individual conditions. It is time this was changed. We should learn to discriminate and to recognize the broad fact that all men are not alike. Each indi-

vidual is a law unto himself in the matter of health, and until we appreciate this truth there will be little progress in the exercise of personal hygiene. One of the first steps in this individualization of hygiene is obviously the establishment of a test of health, one which may be applied to determine how far from or how near to the danger point each individual may be.

In an article on "Individual Factors in Hygiene" in the *Boston Medical and Surgical Journal* of June 15, 1905, previously commented upon in these columns, Drs. Cabot and Brown refer to two possible tests as perhaps worthy of more careful study. "We have noticed," they write, "in quite a number of persons that information of some value can be obtained by noting the degree of infection of their hangnails. Everybody has some hangnails, but when the individual is below par, they begin to get inflamed. Another possible test is the condition of the reflexes, some of the minor reflexes especially. In the last report of Phipps' Institute for Tuberculosis there is an account of the reflexes of tuberculous patients, especially the hypothenar reflexes. We have watched in ourselves for some time the condition of this reflex as compared with our own general condition, and are beginning to watch it in some other persons, too. Perhaps certain individuals can measure their condition by noting the condition of their reflexes. One of us finds that when he loses sleep or is overworked this hypothenar reflex comes out very prominently; scratching the ulnar side of the forearm with a pencil makes the abductor minimi digiti stand out. When he is in first-rate condition the reflex cannot be elicited."

## THE NEED OF SLEEP DURING SCHOOL LIFE.

Growing youths, like men, although to a lesser extent, differ in their need of sleep. As a general rule, however, the lad at school between the ages of 13 and 16, requires nine to ten hours of sleep. The curriculum of schools now is extremely trying. Not only has the standard of education considerably advanced, but sports hold such a high position in all schools of note, that the day is wholly taken up by physical and mental exercise of so strenuous a character that a sufficiency of sleep to recuperate exhausted nature is a *sine qua non* in the preservation of health. Dr. Dyke Acland recently read a paper in London on the matter (*Medical Times and Hospital Gazette,* June 3, 1905), in which his conclusions were based on the forty great high-class schools of Great Britain, as well as on the four best schools of America. The results gathered by this inquiry showed that though head masters, medical officers of schools, and physiologists were of the opinion that growing boys needed nine to ten hours of sleep, yet in many instances the time of quiet in the dormitories was considerably less than this. All the four American schools reached the highest standard—9½ to 10 hours—while in many of the English schools the time for sleep was as little as 8 to 8½ hours, and in a few cases even less, only two reaching the American standard. As remarked above, growing boys need a large amount of sleep, and when this is denied them, neither their bodies nor their minds can develop properly. Our English contemporary points out that this lack of hours of rest falls most heavily on the clever boys who by reason of their ability are raised to higher forms in which the time given to school work is longer, and asks if this may not explain in some measure the disappointing mediocrity in later life of the boy who gave promise of brilliant mental capabilities.

A conference of masters and medical officers of the great schools of England is to be called to consider the subject, a course fully justified by its importance.

## THE HISTOLOGICAL BASIS OF ACROMEGALY.

While enlargement of the pituitary body has been observed in the large majority of cases of acromegaly in which post-mortem examination has been made, such enlargement has been wanting in a small minority. Besides, in another small number disease or destruction of the hypophysis has been unattended with symptoms of acromegaly. Accordingly, opinion is not unanimous as to the etiological relations between the one condition and the other. Of other hypothetical explanations—namely, that which makes the disease dependent on changes in the nervous system, that which regards it as an anomaly of growth, that which makes an increase in the vascular canals of a large and persistent thymus gland the etiological factor, that which assumes loss of function of the organs of generation, with the deflection of an excess of blood to the extremities and consequent hypertrophy, and that which regards disease of the thyroid gland as the causative factor—all are even less satisfactory than that which attributes the symptoms to disease of the hypophysis. More recently the view has been put forward that acromegaly is due to excessive functional activity of the cellular elements of the anterior lobe of the pituitary body as indicated by multiplication of the chromophilic cells. A case that lends support to this view has recently been reported by Dr. Dean D. Lewis (*Bulletin of the Johns Hopkins Hospital,* May, 1905). The patient was a man 46 years old, in whom symptoms of acromegaly had been noticed for six years, death resulting from cerebral embolism and secondary hemorrhage, complicating multiple valvular disease of the heart. Although the hypophysis presented a normal appearance macroscopically, it was found on histological study that the chromophilic cells were increased in number and irregular in distribution, while the stroma was reduced in amount. It seems probable, further, that the changes described in other cases as adenoma, sarcoma, and other forms of neoplasm, have been, in reality, of the same character.

**Borrowing Trouble.**—Jersey City officials are said to be getting disturbed over the transportation of patients from New York City to the sanatorium for consumptives, which New York is about to open in Orange county. At a recent meeting of the Jersey City Health Board a resolution was offered regulating the movements of consumptives while in Jersey City. The resolution requires the railroad company which will transport the patients to carry them across the river in boats specially set apart for their use and forbid that they be allowed to make their way to trains through the station rooms or passageways or to ride to or from the farm where the sanatorium will be located in the trains run for general passenger traffic.

# News of the Week.

**Yellow Fever in New Orleans.**—A number of cases of yellow fever have been reported from the Italian quarters of New Orleans known as Little Palermo. Up to July 25 there had been 154 suspected cases with 32 deaths. The section affected covers eighteen squares, and provision has been made for the disinfection of all houses in that section, the screening of all cisterns, and the killing of all mosquitos. Dr. Souchon, President of the Louisiana Board of Health, is reported to have said that the fever was brought from Belize. Quarantines have been declared against New Orleans by the State boards of health of Texas, Alabama, Florida, and Mississippi. Texas has, as usual, instituted a genuine medieval quarantine, fumigating all New Orleans mail before distribution, prohibiting railways from bringing passengers from New Orleans into Texas, and establishing inspection stations at every railway entrance on the eastern border of the State. Mississippi is working in the same old-fashioned way, with shotgun quarantines, but the authorities in Mobile propose to commit such persons as arrive there to a hospital, where they will remain under scrutiny for five days—the usual period of incubation for yellow fever. If any of these develop yellow fever they will be screened from mosquitos and treated.

**The California State Medical Society.**—The attempt recently made to obtain a charter for a new State Medical Society in California was made by certain Eclectic physicians of the State. The regular Medical Society of the State of California was incorporated in 1870. This society, acting in harmony with the Homeopathic Society of the State, secured the enactment (in 1901) of a medical law, requiring the passing of an examination as a requisite for license to practice. Many of the Eclectic physicians of the State are opposed to any legislation which tends to restrict the practice of medicine by any one, and some of them recently filed with the Secretary of State an application for a certificate of incorporation under the name of the "Medical Society of the State of California." The Secretary of State, however, refused to grant these articles of incorporation, for the reason that the regular State Society was incorporated under the same name. All the papers in the case were turned over to the Attorney General, and the matter is now in his hands.

**The St. Louis Skin and Cancer Hospital.**—On July 1 the St. Louis Skin and Cancer Hospital opened its doors for the reception of patients. This institution, situated on the southeast corner of Jefferson and St. Charles street, consists of a completely equipped hospital of forty beds, and an outpatient or dispensary service. As the title indicates, only skin and cancerous diseases will be treated. The institution is founded upon the research idea for cancer and allied types of malignant diseases. A pathologist, who will devote all of his time to the needs of the hospital, has been appointed, and he will conduct such scientific investigations as the opportunities of the hospital and clinic will permit. A training school for nurses has been established in connection with the hospital. Inoperable and incurable cancer cases, as well as the operable ones, will be admitted to the hospital. The Society hopes, in the near future, to have a home, situated somewhere in the suburbs of the city, for the former cases. The following medical staff has been appointed: Drs. G. Baumgarten, N. B. Carson, J. R. Clemens, M. F. Engman, A. E. Ewing, E. C. Burnett, W. E. Fischel, Frank R. Fry, George Gellhorn, John Green ,John B. Keber, F. J. Lutz, Guthrie McConnell, H. G. Mudd, Greenfield Sluder, J. B. Shapleigh, Ellsworth Smith, Jr., Justin Steer, and Fred Taussig.

**New Hospital for Bermuda.**—Although a lunatic asylum was established in Bermuda as long ago as 1846, and has a daily average of fifty-two patients, a small cottage hospital in the outskirts of Hamilton, the capital, which is kept up by voluntary subscriptions, is the only provision in the way of hospital accommodation. There has been, however, so large an increase in the population of recent years, and the islands have become such a favorite holiday resort for tourists from the United States, that it has begun to be realized that the time has arrived for the establishment of a general hospital, to be supported partly by a subsidy from the general revenue of the colony and partly by the fees of paying patients. A committee of the General Board of Health and others have accordingly drawn out a scheme for the consideration of the Executive, and as soon as the question of site for the extension of the existing hospital or for the erection of a new one has been decided, it is the intention of the Governor to place the matter before the Legislature.—*British Medical Journal.*

**Payment for Special Medical Services Rendered Naval Officers.**—Rear Admiral Lamberton recently sent to the Naval Department a bill for $327 received from an oculist. The Secretary of the Navy sent the case to the Controller of the Treasury for an opinion. This officer ruled that, although the law prescribes that officers must be treated by naval medical officers, in this case such treatment was impossible, because none of the medical officers was an expert oculist; the resort to special treatment was therefore justified. But the law also prescribes that an officer cannot be reimbursed for medical expenses unless he was on duty at the time they were incurred. Admiral Lamberton will accordingly have to pay out of his own pocket so much of the oculist's bill as relates to the three months during which he was on sick leave. The remainder of the account will be paid by the Government.

**Crichton Browne *vs.* Osler.**—In an address before the Public Health Congress in London on July 20, Sir James Crichton Browne adduced many instances in disproof of the Osler theory that the world's effective vitalizing work was done between the ages of 25 and 40. Much of the world's best work, he said, had been done by men over 40. If the world were deprived of their work it would go back to the twilight of ages ago. As a good working hypothesis, he said, we should regard the normal term of man's life as one hundred years, and every child should be brought up impressed with the obligation of living to this age, and should be taught to avoid irregularities in living which tend to prevent the attainment of this ambition.

**Ambulance Accidents.**—On July 6 there was a collision in Brooklyn between a trolley car and a Seney Hospital ambulance, in which two surgeons were injured. A week or two before that a surgeon of the Cumberland Street Hospital was injured in the same way, and about the same time there was a collision between a car and another Brooklyn hospital ambulance in which the driver and surgeon were thrown out but not seriously injured. On July 15 a Lebanon Hospital ambulance was rammed by a Fordham trolley car and mashed to bits. The doctor and driver, together with a patient were thrown out. The doctor and driver were badly cut and bruised, but the patient, who

already had a bad scalp wound, received no further injuries. The next day an ambulance from the Harlem hospital was struck by a Third Avenue electric car, and the driver and surgeon were thrown out and slightly injured. The ambulance was a new one which had been presented to the hospital a month ago, in place of one that had been wrecked by a Second Avenue electric car at 125th Street.

**Seaboard Air Line Surgeons.**—At the closing session of the meeting of this association, held at Old Point Comfort on July 13, the following officers were elected: *President*, Dr. G. Neuffer of Abbeville, S. C.; *First Vice-President*, Dr. W. F. Monroe of Sanford, Fla.; *Second Vice-President*, Dr. G. G. Holliday of Portsmouth, Va.; *Third Vice-President*, Dr. J. W. Palmer, of Airley, Ga.; *Chairman of Executive Committee*, Dr. Southgate Leigh of Norfolk, Va. The association meets next year at Savannah, Ga.

**The Death Rate of New York** for the week ending July 22 was twenty-eight in a thousand, said to be the highest since 1901. The total number of deaths was 2,119, as against 1,726 for the corresponding week of last year. Of these 151 were caused by sunstroke and 109 by heart disease. Spinal meningitis claimed twenty victims, two less than for the corresponding period last year. The high death rate was due directly and indirectly to the intense heat which prevailed last week.

**Suspected Plague Ship Quarantined.**—On the arrival in this port of the British steamship *Indrani* it was learned that since her departure from Yokohama in April two sailors had died at sea of what was suspected to be bubonic plague, and that a third man was ill. The vessel was held in quarantine until she had been thoroughly fumigated, and all the crew were sent to Swinburne Island, where they will be detained until any danger of possible infection is thought to have passed.

**New British Red Cross Society.**—A meeting was held at Buckingham Palace on July 17 for the purpose of organizing a new Red Cross society under the name of the "British Red Cross Society." Queen Alexandra presided and delivered a speech outlining the objects of the organization, and appealing to the women of the empire to take up the work. In time of peace, she said, the society would act separately from the War Office and the Admiralty, but would be under the control of these departments in time of war. A resolution was passed authorizing the appointment of an executive committee, of which it is expected Sir Frederick Treves will be chairman.

**Honors for American Surgeons.**—At a special graduation ceremony at Edinburgh University last Saturday the honorary degree of Doctor of Laws was conferred on William Stewart Halsted, Surgeon in Chief of the Johns Hopkins University of Baltimore; Cameron of Toronto, Shepherd of Montreal, and W. W. Keen of Philadelphia, all of whom were attending the celebration of the quarter-centenary of the Royal College of Surgeons.

**A Mother of Twenty-five Children.**—A woman resident in Mountain Top, Pa., who died recently at the age of forty-seven years, had given birth to twenty-five children. She was married when she was fourteen, and the first baby was born fourteen months afterward. There were but two sets of twins in all the twenty-five, and all are alive now but seven. Some of the eighteen survivors are married, and twelve grandchildren also survive.

**Mr. Edward T. Devine,** General Secretary of he New York Charity Organization Society, Professor of Social Economy at Columbia University, Director of the New York School of Philanthropy, and Editor of *Charities*, was elected President of the National Conference of Charities and Correction at its session in Portland, Ore., on Wednesday.

**Fatal Accident in a Women's Hospital.**—The roof of the chapel of the Women's Hospital at Fermo, Italy, fell in while mass was being celebrated, on Sunday morning, two weeks ago. Sixteen women and fifty children were killed, and sixteen women and a large number of children were injured.

**Dr. Horace Newton Allen,** retiring envoy extraordinary and Minister Plenipotentiary from the United States to Corea, has returned to this country. He was Minister eight years and in the Consular and Diplomatic Service for fifteen years. He resided in Corea twenty-one years, having gone there originally as a medical missionary.

**American Medical Editors' Association.**—The annual meeting of this Association was held in Portland, Oregon, July 10, under the presidency of Dr. Harold N. Moyer of Chicago. The following officers were elected: *President*, Dr. H. Waldo Coe of Portland, Oregon; *Vice-presidents*, Drs. James Evelyn Pilcher of Carlisle, Pa., and Frank P. Foster of New York; *Secretary-Treasurer*, Dr. J. MacDonald, Jr., 92 William Street, New York. The next annual meeting will be held in Boston in June, 1906.

**New Portsmouth (Ohio) City Hospital.**—The Hempstead Academy of Medicine of Portsmouth, Ohio, has passed a resolution urging the City Council to take early action in the matter of building a new city hospital, and promising the support of the profession.

**Alliance (Ohio) City Hospital.**—The staff has elected the following officers: *President*, George B. Haggart; *Vice-president*, J. N. Nelson; *Secretary*, W. C. Manchester; *Treasurer*, John K. Tressel.

**Census of Physicians.**—The Academy of Medicine of Toledo has taken a census of all physicians in Lucas County, Ohio, both regular and irregular. Many physicians who had a license from the State Board had not had it recorded in the Probate Court. They were notified to do this.

**The Wayne County (Mich.) Medical Society.**—The list of officers recently published in this column as of this society was that of the Homeopathic Practitioners' Club. The officers of the regular county society are: *President*, Dr. A. E. Carrier; *Vice-president*, Dr. C. A. Aaron; *Secretary-Treasurer*, Dr. Wm. J. Stapleton, Jr.

**A Lawn Fete in Aid of St. Francis' Hospital of Evanston, Ill.,** which was given by the auxiliary association recently, was a success financially, the receipts exceeding one thousand dollars. This money will be used to aid patients of the hospital who are unable to support themselves until some permanent means can be found for providing for them.

**The Constitution of the A. M. A.**—At a meeting of the House of Delegates of the American Medical Association in Portland, Oregon, July 13, Dr. W. H. Sanders of Alabama moved that a committee of five be appointed by the chairman to consider the validity of the present constitution of the Association. The other delegates, however, did not appear to regard the question of validity as of any special importance and promptly laid the motion upon the table. What's the constitution between friends, anyway?

**Circular on Infant Feeding.**—A little over a month ago the Illinois State Board of Health issued a circular on infant feeding. This edition has been exhausted, and a new one has now just

been issued. The great demand made by the physicians of the State speedily exhausted the first edition. Requests for this circular have been received from every State in the Union. The Health Department of Indianapolis has requested the privilege of purchasing several thousand copies for distribution in that city.

**Increased Death Rate in Boston.** A large increase in Boston's death rate for the week ending July 22, over the corresponding week of last year is reported by the Board of Health. Sixteen deaths were the direct result of the high temperature, and death in many other cases was hastened by the heat. The total number of deaths reported for the week was 239, against 195 for the corresponding week of last year.

**Association of Municipal Engineers and Hygienists.**—A society formed of municipal engineers and hygienists of the French-speaking countries of Europe will be founded at a congress to be held in November, 1905, in Paris.

**Obituary Notes.**—Dr. William W. Bass, one of the oldest graduates of Middlebury (Vt.) College, died July 21 at his home at Dorchester, Mass., after a long illness. Dr. Bass was born in Middlebury, Vt., in 1810.

Dr. Anna Frances Donohue of this city died July 20. She was born in Newburgh, N. Y., in 1873, and was a graduate of the New York Medical College and Hospital for Women in 1894, and was attending physician to the same institution.

Dr. William O. Mendenhall of Richmond, Ind., died July 18, at the age of seventy-one years. He was a graduate of Rush Medical College, Chicago, in 1870.

Dr. Thomas G. Horn of Colorado Springs died July 14, at the age of seventy-eight years. He was a graduate of the Medical Department of Washington University, St. Louis, in 1868.

Dr. O. B. Harriman of Hampton, Iowa, died July 9. He was born in Warren, N. H., September 29, 1836. He was graduated from the Dartmouth Medical College in 1860, practised medicine at Rockford, Ia., for a few years, and moved to Hampton in 1865. He was the first president of the Franklin County Medical Association.

Dr. Robert Dunn McIlwaine of Petersburg, Va., died July 13, at the age of forty-two years. He was a graduate of the Medical Department of the University of Virginia in 1885.

Dr. William S. White of South Omaha, Neb., died July 15 at the age of sixty-one years. He was a graduate of the Medical Department of Washington University, St. Louis, in 1872.

Dr. Herman J. Schiff of this city died suddenly at Alexandria Bay on July 24. He was born in New York in 1863, and was graduated from the Medical Department of Columbia University in 1884. He served as interne at Mt. Sinai Hospital, and at the time of his death was attending surgeon to that hospital and to St. Mark's.

Dr. Joseph Burr Bennett, one of the oldest homeopathic physicians of Brooklyn, died on July 23 in his eighty-ninth year. He retired from practice many years ago.

Dr. Benjamin Edge died at his home in Jersey City on July 25. He was born May 17, 1851, and was sent to London, where he received his early education at Clapham College. Returning to this country, he completed his medical studies at Bellevue Hospital, receiving his degree in 1879. In 1884 Gov. Abbott appointed him a member of the State Council of Charities and Corrections. In 1901 Gov. Voorhees made him a member of the State Reformatory Commission.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

IMPERIAL CANCER RESEARCH FUND—LEAGUE OF MERCY—MEDALS FOR TROPICAL RESEARCH—HOSPITALS AND APPEALS—COLLEGE ELECTION—SUNDAY FUND—SPECIMENS BY POST—SIR O. LODGE ON TEETH AND BRAINS.

London, July 7, 1905.

On Wednesday the Prince of Wales, as President, took the Chair at the third annual meeting of the Imperial Cancer Research Fund. Many important and interesting statements are made in the report. Records of 5,000 cases examined microscopically have been obtained from various hospitals. The statistics lead to the inference that the frequency of sarcoma increases as life advances in a manner analogous to that of carcinoma. It is not at present possible to decide if cancer is really increasing, but no known form of infection determines the number of deaths it causes. It is stated in the report that all the features of cancer can be produced experimentally, but it still debated whether it arises in small circumscribed groups of cells from which all subsequent growth proceeds, or if a transformation of tissues surrounding the primary site also takes place at the commencement. In recent experiments the features of cancer have been reproduced by growths originating in a few isolated cells introduced into healthy mice. Under artificial propagation a malignant growth is an independent organism and behaves like a succession of "organisms without organs" and may be compared to a succession of generations of animals maintaining the species, rather than to the growth of the individual, but it can only maintain its existence in the species in which it has arisen. The power of growth is amazing. A mouse tumor has produced more tissue than would equal several thousand mice; so that the amount necessary to kill an individual is infinitesimally less than the power of division in the cells. The enormous cell division proceeds, in artificial propagation, in young and healthy animals, quite as well or better than in older ones. The experiments show no analogy to exist with any infective diseases, and the parasite hypothesis has no support.

The action of radium and the processes responsible for the disappearance of some tumors in mice subjected to it have been studied, and it seems that it does not act in a uniform manner under experimental conditions apparently identical. Radium has no specific action on cancer cells, but it acts on the nourishing and supporting tissues of a tumor, and if this action coincides with a favorable phase in the cells, a tumor might be absorbed, as is observed when a growth spontaneously disappears.

Sir William Church moved the adoption of the report, and referred to the statistics as confirming the conclusions of last year and to the remarkable results of experiments. The perpetual multiplication of the cancer cells in favorable conditions was not, he said, found at all times, and the results showed the necessity for further study of this excessive proliferation and reproduction. This property separated cancer from infective diseases, in confirmation of which healthy mice kept for long periods with those inoculated had not taken the disease. The action of sera had been studied. No definite action had been obtained by injecting sera into cancerous mice. Radium and radioactive solutions had been also studied, and though both exercise an influence on the growth and development of both normal and abnormal tissue, there is so far no proof that radium emanations have any specific effect on tumor tissues. The solutions could not safely be introduced into the body in quantity enough to produce any effect. He thought he might venture to say that the work done in the past year marked real progress. The malignancy of cancer seemed to reside in the power of the cells for unlimited growth, and if they could find out the nature of this they might succeed in limiting this proliferation and thereby neutralizing the malignancy. The committee was indebted to Sir William Ramsay, Professors Borel, Jansen, von Leyden, Michaels, and also to the Indian, Colonial, and Foreign offices as well as to other bodies and private individuals. The resolution was seconded by Mr. John Tweedie and unanimously carried. Thanks were also voted to the committee and the honorable treasurer. The latter's report appealed for further funds, as it had been necessary to draw upon capital.

The Prince of Wales, in reply to a vote of thanks for presiding, made a sympathetic and earnest speech, thanking the bodies and individuals who had assisted in the work. He also expressed gratification that Sir W. Church had consented to continue on the executive committee, of which he had been reelected chairman.

There was a large gathering on Saturday in the grounds of Marlborough House in response to an invitation of the Prince and Princess of Wales to the garden party in connection with the League of Mercy. The Prince made a speech in which he thanked the workers for the League, and expressed gratification at another successful year in which £14,000 had been handed over to King Edward's Hospital Fund, making £46,000 during the five years of the League's existence. On Tuesday the King sanctioned a number of awards in the Order of which His Majesty is sovereign.

Princess Christian, as President of the Liverpool Tropical School, received Sir A. Jones and Professors Ross and Boyce and presented medals to Dr. Laveran of Paris, Sir P. Manson, and Colonel Bruce.

The removal fund of King's College Hospital is to benefit by £20,000 from the estate of the late Miss M. F. Hasker, on condition that one of the blocks be named after deceased and a mural tablet placed on it recording the benefaction.

The Bristol Royal Infirmary has received an anonymous donation of £500.

The Middlesex Hospital has considered the decision of the King's Fund respecting the maintenance of medical schools, and the governors have affirmed the desirability of assisting their school which has been carried on for the last 70 years. It was agreed to procure the authority of subscribers for the Board to set apart a portion of their contribution to this purpose Already about 200 subscribers have assented to this proposal and only five have declined to do so.

At the dinner of the Royal Hospital for Incurables it was stated that it has become necessary to reconstruct the drainage and that this is likely to cost some £6,000. The institution accommodates 200 inmates and gives small annuities to upwards of 700 persons. Donations to the amount of £3,872 were announced.

About £2,000 is appealed for to rebuild a hospital at Karnal which was partially destroyed by the recent Indian earthquake. At a meting to promote this object Sir T. Stevenson compared this "trifling sum for an institution of 25 beds with the enormous sums raised in London where £1,000 is sufficient for only one bed."

Yesterday there was an election at the Royal College of Surgeons to fill four vacancies on the Council. Messrs. Edmund Owen, Golding-Bird, Godlee, and Harrison Cripps were elected.

The amount of the Hospital Sunday Fund collections transmitted to the Mansion House up to yesterday morning reached £7,000. More will be coming in during the next week or two.

It is proposed that the British Medical Association should try to obtain a Royal Charter.

The Postoffice regulations as to the transmission of pathological specimens have not always been duly observed, and the authorities have called attention to the fact that any one sending deleterious material otherwise than as provided for by these regulations is liable to prosecution, even a patient sending something to his doctor, or the latter sending to a laboratory. The rules are made for the protection of the public and the postal servants, and cannot be considered unnecessary.

Sir Oliver Lodge, speaking at Birmingham yesterday at the opening of a new dental hospital, said he asked an eminent dental surgeon why our teeth were going so bad, and he replied that it was due to the development of brain. The more of brains one had the less of teeth. It certainly did appear, said Sir Oliver, that teeth were among those parts of the human organism which were tending to become extinct, like the toes, for all our toes, he expected, would go if we persisted in wearing boots.

Personally he did not think that we had too much brains. The remedy rather was a little more brain. People said we had too much science because we had learned how to make smoke and noise, and spoil the face of the country, but we had really just enough science to make a mess of things and not enough to put them right again.

## OUR PARIS LETTER.

(From Our Special Correspondent.)

ELECTION OF GRÉHANT, YERSIN, AND WERTHEIMER—OSTEOPERIOSTEAL LIPOMATA—PRESERVATION OF THE OVARIES AND UTERUS IN OPERATIONS ON THE ADNEXA—PALPEBRAL REACTION TO SYPHILIS IN MACAQUE MONKEYS—EXPERIMENTAL SYPHILIS AND ITS MICROBE—COLONIAL CONGRESS—NECROLOGY: CHARLES MAURIAC—MONUMENT TO PROFESSOR TARNIER.

PARIS, June 30, 1905.

The Academy of Medicine, at its meeting on May 30, elected as a titular member in the section of anatomy and physiology Gréhant. At the following meeting two national correspondents were elected,—Yersin of Nha-Trang, and Wertheimer of Lille.

The Surgical Society has devoted several meetings to the discussion of osteoperiosteal lipomata. Routier reported the observation of a boy 13 years old who had a subclavicular tumor; this was fluctuating, a little painful, and was fastened to the external third of the clavicle by a pedicle. The diagnosis of cold abscess was made but two successive punctures did not give any result. The tumor was removed. It was then seen that the growth was a lipoma which was attached to the clavicle by a pedicle, infiltrated with osteoid tissue and from which fibrous prolongations spread out in the shape of a fan.

Guinard called the attention of the society to a variety of osteoperiosteal lipoma of congenital origin; he had observed this tumor in a girl of seven months. It was situated in the subspinous fossa of the scapula. It was interesting to note that recurrence took place three years after its removal. Grave symptoms developed in the evolution of the primary tumor and in that of the recurrent tumor. Guinard thought that recurrence took place from a lobe of the tumor which had not been removed at the first operation. As to the occurrence of the symptoms, he thought this a mere coincidence, believing that the tumor had grown, in both cases, under the influence of a general intoxication. Nélaton, Broca, Delbet, Kirmisson, and Monod, reported personal observations of osteoperiosteal lipomata, after which Monod took up the discussion again. He thought that the name subperiosteal lipoma ought to be reserved for those tumors which are situated beneath the periosteum and in more or less extensive contact with the bone. Walther ended the discussion by an interesting observation of an osteoperiosteal lipoma of the thigh, very probably congenital, with trochanteric insertion, in a boy 15 years old.

At the last three meetings the Surgical Society has discussed a communication from Tuffier concerning the preservation of the ovaries and uterus in operations on the adnexa. Tuffier proposes to replace uteroadnexal castration by the simple removal of suppurative or infected tubes, preserving the uterus and ovaries. There is no theoretical objection to this method, and practically the results obtained in thirty-two cases of this investigator have been excellent. Operative mortality shows one death in the thirty-two cases. Operative sequelæ are simple and there have been only two recurrences. Routier declared that he was not satisfied by the proceeding defined by Tuffier; he believed in an absolutely conservative treatment or in one absolutely radical. Faure declared that this question had been discussed for a long time by gynecologists. He said that the difficulties concerning this problem related to the condition of the ovaries. He thought that the determination of pain in the course of the clinical examination ought to serve as the criterion—for want of better evidence—and ought to direct the conduct of the surgeon. Personally he was in favor of the radical treatment.

At the Hospital Medical Society, Thibierge and Ravaut offered an interesting communication concerning the palpebral reaction to syphilis in macaque monkeys. These men have determined that the free border of the eyelid always reacts even when simultaneous inoculation of other parts may be negative. The palpebral reaction of this species of monkey to syphilis is sufficiently differentiated to be applicable to the diagnosis of lesions, the nature of which cannot clinically be determined.

At the Society of Internes of the Paris Hospitals Metchnikoff also communicated his researches in experimental syphilis. In the case of 14 chimpanzees, all contracted syphilis after incubation of from 22 to 35 days. Out of 14 animals, seven showed secondary phenomema; but these animals are so delicate in our climate that tertiary symptoms have not been observed. It has been proved that syphiletic virus does not pass through bougies which allow the passage of the virus of peripneumonia of cattle. Heated to 48°, it loses its virulence; it does not lose it when mixed with glycerine. The recent researches of Schaudinn verify the conclusion that syphilis is caused by the spirochæta pallida of Schaudinn, and is pathogenic for the human being, for anthrophoids, and for certain varieties of the lower order of monkeys.

At the Colonial Congress held in Paris, June 5 to 9, much time was devoted to medicine. Three very interesting questions were considered: Medicine and Colonial Hygiene; International Hygiene and Prophylaxis; Pharmacy and Materia Medica. Regnault presented a paper on hemoglobinuric bilious fever. Following this lecture came a discussion. The Colonial Congress decided that various obscure points ought to be cleared up in relation to this disease. Dye gave a report on the transmission of yellow fever due to the mosquito (stegomyia fasciata). The sleeping sickness was comprehensively discussed by Brumpt. A very interesting report of Margain on the

régime of foreigners in the colonies was read. He showed that alcoholism and absinthism were the most frequent causes of mental disturbance. As there are no insane asylums in the colonies, these patients had to be brought back to France. Margain thinks that asylums for these patients should be built in the colonies. He also believes that special infirmaries should be built for foreign soldiers in time of war.

Charles Mauriac, one of the masters in the hospital, and whose name has become inseparable from the Ricord Hospital, is dead. He was the author of the following works: Lessons in Primary and Secondary Syphilis; Treatise on Tertiary and Hereditary Syphilis; and Treatment of Syphilis. Mauriac published besides, a large number of monographs on venereal diseases and on gonorrhea.

The monument to Tarnier, who was professor of clinical obstetrics at the Faculté de Médecine in Paris, was dedicated June first. Bienvenu-Martin, Minister of Public Instruction, presided. At the base of the monument were engraved these words: "To the Master Who co - secrated His Life to Mothers and Infants, from His Colleagues, His Pupils, His Friends, His Admirers." Brouardel presented the monument to the city of Paris in the presence of the Vice-President of the Municipal Council of the Prefect of the Seine, of the Director of Public Assistance and of Pinard and Budin, delegates from the Faculté and the Académie de Médecine.

## OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

THE WOUNDED ON THE RUSSIAN CRUISERS IN MANILA HARBOR—THE MORALE OF THE CREWS—SMALLPOX FROM THE UNITED STATES.

MANILA, P. I., June 8 1905.

THE inhabitants of Manila have had an excellent opportunity to observe the effect of the Japanese gunnery upon some of the Russian vessels that took part in the great sea fight in the Korean Straits. On Saturday evening, June 3, six days after the engagement, three Russian cruisers, the *Zemtschug*, the *Aurora*, and the *Oleg*, put into Manila Bay in a badly damaged condition. The vessels were under the command of Admiral Enquist, who is the only Russian admiral that was in the fight who was not either killed or captured. The ships awaited quarantine inspection by the Manila quarantine authorities. No quarantinable diseases were found and in consequence pratique was granted at once. After this the first concern was for the wounded. Of these there were 160 upon the three ships. Fifty-three of them were in need of immediate hospital care. The U. S. Naval authorities offered the use of their new hospital, which has just been completed at Cañacao, Cavite. The Insular Government tendered the use of its Civil Hospital, the Army offered the First Reserve Hospital, and the use of the new St. Paul's Hospital, which is just about to be opened, was also offered. In view of the fact that the status of the vessels, as to whether they could remain long enough for repairs, had to be determined by the Washington authorities, it was decided to remove, for the first at least, only 53 of the worst cases. These were taken to the Naval Hospital at Cañacao. One of the vessels had 13 men killed in action, one 14, and the other 15. The *Aurora*, the flagship, had her captain killed, and upon the *Oleg* there were two officers killed. Of the 53 wounded taken to the Naval Hospital, some 20 had fractures of the various bones, most of which were compound, comminuted, and infected. In fact the wounds of all the men mentioned above were infected before they left the ships. So far as observed, the wounds were all caused by either fragments of shells or splinters. Of the entire number not one could be attributed to small bore guns because they were all of a lacerated character both at the point of entrance and at that of exit. Most of the injured had more than one wound. One man, who was a member of a gun crew of nine was its only survivor, and he had 35 wounds.

The appearance of the men as a whole, even those who had received no physical injuries, was pitiable in the extreme. They all seemed broken in spirit and they had the appearance of having undergone a severe mental strain. Many of them had no doubt had little or no sleep for the ten days previous, and the mental anxiety which they had undergone since leaving Russia, over six months ago, has told upon them severely. From a physical standpoint it would be correct to say that they had originally excellent physiques, but from an intellectual standpoint it could not be said that they possessed the features that indicate a high grade of mental development.

The facilities for treating the wounded aboard were not good and the supply of dressings was inadequate. The space allowed a surgeon of a war vessel appears to be entirely too small, and unless much better accommodations are provided for doing aseptic work the same poor results must be expected in the future. Upon the Russian vessels one of the greatest drawbacks was the lack of ventilation, and this, coupled with the fact that the ships were painted black, made the heat in the compartments occupied by the wounded almost unbearable. From the meager information obtainable about the vessels at the present time, it appears that they were not designed with the view of using them in tropical countries, and for that reason the men underwent many unnecessary hardships.

The U. S. Army Transport *Sherman* arrived in Manila June 2 from San Francisco with a case of smallpox aboard in the person of one of the cabin stewards. One case and one suspect had already been taken from the vessel at Honolulu. In view of the fact that the cabin passengers were most exposed and therefore most likely to convey the infection it was deemed necessary to remand the vessel to Mariveles for the disinfection of all persons on board and their effects. Over 1,500 people were treated.

## Progress of Medical Science.

*Boston Medical and Surgical Journal, July 20, 1905.*

**Observations Upon the Actual Results of Cerebral Surgery at the Massachusetts General Hospital.**—After some remarks on the methods pursued in following up the histories of patients after they have left the hospital, E. A. Codman classifies the cases as follows: (1) Operations for removal of a tumor if possible; if not, for relief of pressure symptoms, 28; of these 7 died within two weeks, 11 showed no improvement, 7 were improved, 3 not traced. (2) Operations purely to relieve pressure symptoms, 8; of these 4 died within two weeks, 2 were not improved, 2 not traced. (3) Operations for the relief of epilepsy, 21. Of these 12 showed no improvement, while 9 were improved. (4) Operations for drainage of cerebral abscess, 6. Of these 5 died within two weeks, while 1 was improved.' The author calls attention to the fact that the iodide test often delays the operation for months, and that the public must consent to autopsies if brain surgery is to be advanced. He lays stress upon the necessity of preventive measures against shock, hemorrhage, sepsis, post-operative paralysis, and speech disturbance. The records of this series of cases show that of all brain tumors, very few are removable and that of these the greater number arise from the dura. Rather surprising is the fact that those really removable, as shown by autopsy, are most difficult cases to handle and that in the hands of the surgeons who operated not one of the 28 cases has been successful as a radical procedure. A considerable percentage of those improved was so benefited only by the relief of pressure: the failure to improve the others was due most likely to strangulation of the motor cortex through the trephine hole or to damage done to the brain tissue. Lumbar puncture was not found a satisfactory method of relieving intracranial tension, nor was any good accomplished by exploration in the brain tissue by incision, probing, or the use of aspirating needle unless there was on the surface of the brain some indication of the presence of a cyst or tumor.

**Report on Results of Brain and Cord Surgery.**—Dr. J. J. Putnam considers in outline the five cases of the Codman tumor series in which the greatest improvement has followed operation; also, in a similar way the six best cases of the epilepsy series. He finds in a general way that the cleaning up of the results of old injuries to the skull and its membranes results favorably in a fair number of instances, due to the removal of reflex irritations and the securing of better conditions of local nutrition of the cortex. Results are strangely variable, however, and cannot be predicated in advance. Doubt still surrounds the proposed method of excising motor areas of the cortex in cases with localized aura. The author considers that surgeons with a distinct neurological training are needed to obtain the best results in this class of patients.

**Results in Non-traumatic Surgery of the Brain at the Boston City Hospital.**—W. N. Bullard considers the results in a series of 44 cases, 39 intracranial and 5 spinal, classifying them in a general way as Codman has done for the Massachusetts general series. He confines his detailed observations to the epilepsy series, 18 cases, 3 not being traced. In 12 injury was the apparent cause of the neurosis. Of these 3 were not relieved; in one the result was doubtful, while improvement followed in all the others. Of the 3 non-traumatic cases, one with apoplexy and multiple cysts was relieved; of the 2 idiopathic cases one was improved, while in the other the disease progressed in spite of possible temporary relief. Some of the best results have been obtained in cases of long duration. Cystic cases might be supposed to offer the more favorable prognosis, but from the small number of cases under consideration, the author does not venture any conclusions on this point.

*New York Medical Journal, July 22, 1905.*

**The Value of the Recognition of Errors in Refraction in Functional Diseases of the Nervous System.**—E. D. Fisher asks if there is any rational reason for supposing that errors of refraction, no matter what their intensity, can induce such well-defined diseases as epilepsy, chorea, neurasthenia, melancholia, or general paralysis? In regard to epilepsy, many convulsive seizures often considered as epileptic attacks are not so at all. Many causes may produce convulsive seizures, but they are not epilepsy. It is practically impossible for an irritative eye lesion to produce that true epileptic condition which presents not only convulsive seizures but also impaired mentality, loss of mental concentration, gradual tendency to dementia, and at times delusions of changed personality. We should always rectify any existing ocular abnormalities just as we do those of other organs, but by so doing we do not cure true epilepsy. The same general principle holds true of chorea. The author has never seen the chronic form of this disease affected by correction of refractive errors. Many cases exhibiting choreiform movements may seem to be benefited, but in the acute form the malady is self-limited. In regard to melancholia, the author is unable, from looking over reports of the hospitals for the insane and from his own personal experience, to find direct relation in cases which have recovered to treatment for any special organic disease of the eye, stomach, uterus, or other organ.

**Congenital Absence of the Kidneys.**—The patient of L. W. Glazebrook was a dissipated woman of thirty-eight years who died as the result of a debauch. She had never undergone any surgical operation. The autopsy revealed absence of the left kidney. The right organ was abnormally large, showing the ordinary appearance of the "large white" kidney, weighed eight ounces, and measured six by two and one-half by one and one-half inches. The ureter bifurcated about three-quarters of an inch from the organ, one branch passing upward into the upper lobe, the second downward to the lower. No normally situated pelvis was found, but at the termination of the two separate ureters, there was a distinct pelvis for each. The ureter proper was of normal size and communicated with the bladder at the normal place. No evidence of the left ureter was found on the opposite side of the bladder. In shape the specimen was of a characteristic kidney shape, being in no way deformed. The bifurcation of the ureter near the kidney suggested the idea that it might be a variety of horseshoe kidney, but its shape in no way bore out this suspicion.

**Rapid Healing in Septic Cases, Including the Use of Iodoform Wax in Bone Cases.**—A. T. Mann refers to the advance in modern surgical methods, instancing the use of carbolic acid followed by alcohol in abscess cavities, local conditions thus allowing of union by first intention when opposing surfaces are coaptated. He finds the acid-alcohol method of special service in circumrectal fistulæ. He then refers to the use of iodoform wax as popularized by Moorhof. The wax is made of iodoform, sixty parts, oil of sesame forty parts, and spermaceti, forty parts. The author then describes a series of cases seen in Moorhof's clinic treated with this preparation, and appends some personal experience. He finds that we can clean out the cavities found in conditions of osteomyelitis, fill them with the bone wax, and suture the soft parts over them for first intention union. The wax is gradually replaced by an ingrowth of tissue, largely of bone.

*The Medical News, July 22, 1905.*

**Clinical Features of the Benign Stenosis of the Pylorus.**—H. L. Elsner divides these into functional and organic (congenital or acquired). Functional stenosis are likely to be transitory, the patients being highly neurotic. There are also cases of intermittent hyperchloridria without ulcer in which we assume the presence of pyloric spasm recurring at rather long intervals. Such a spasm may safely be considered secondary in the majority of cases, and its presence must always lead to a strong suspicion of associated organic disease. Congenital organic stenosis follow both immediately or are not long postponed. Persistent vomiting beginning after the ninth or tenth week of life is not due to congenital pyloric stenosis, as most of the latter cases die before the end of the third or fourth month. Ford's modification cannot possibly relieve a stenosis of high degree. Acquired stenosis, intrapyloric, may be cicatricial, fibrous (general or localized), hypertrophic, dependent on ulcer, due to acute inflammation, syphilis, tubercle, non-malignant growths, traction, or distortion. Extrapyloric stenosis may arise from so many causes that classification of them is difficult. A fasting stomach which is found distended and contains food remnants must always arouse suspicion. A leading symptom of stenosis is vomiting. Another symptom of great value is peristaltic unrest. The stomach tube is indispensable as a diagnostic agent. Tetany is a symptom of great value in diagnosis of gastrectasia. The previous history of the patient, age, and heredity must be taken into account. The later in life the stenosis occurs the more likely is it to be malignant. Treatment is embraced in the following propositions: (1) Such foods only to be taken as the dilated stomach with motor weakness can prepare to be forwarded beyond the point of resistance for further digestion. (2) We should strive to prevent stagnation of food with associated fermentation and the formation of organic acids, (3) must empty the distended stomach as far as is possible; (4) prevent tetany and other nervous and distant symptoms; (5) improve the general condition, and (6) treat associated symptoms as they arise by rational and natural methods, including the use of drugs, attempting by these to overcome or counteract the effect of secretory and motor anomalies.

**The Relation of Some of the Metabolic Diseases to Intestinal Disorders.**—T. B. Futcher reviews the main facts we know concerning alkaptonuria and ochronosis and cystinuria. In alkaptonuria the urine, of normal appearance when voided, soon becomes deep brown and ultimately black if exposed to the air. The ingredient causing these changes probably comes from tyrosin and is called homogentisic acid. The condition is in the vast majority of cases (perhaps all) congenital. After it is found that the patient's urine in infancy stained the diaper a dark brown. The condition persists through life. Curiously it is found that a very large percentage of the cases collected have been in the children of first cousins who do not themselves manifest the anomaly. The general health does not seem to be affected. Associated with the condition is ochronosis or pigmentation of the cartilages first described by Virchow in 1866. Cystinuria is a condition characterized by the spontaneous deposit in the urine of hexagonal crystals of cystin. It is not commonly associated with any definite symptoms. Occasionally there are present digestive disturbances, often anemia. Renal calculi may form out of cystin. The substance is commonly related to putrefactive changes in the intestine. Futcher discusses in his considerations of these rare affections many chemical problems, and this part of his paper must be consulted by those interested. He also adds a few words on the topics of diabetes and gout, but considers that intestinal disorders have very little influence in their causation. Acetonuria, however, may be an exception to the truth of this general statement. As far as we are aware at the present time intestinal disorders play no special part in the etiology of gout.

*American Medicine, July 22, 1905.*

**Vicarious Action of the Bowels for the Kidneys in Tuberculosis.**—Lawrence F. Flick and Joseph Walsh call attention to the fact that it has long been recognized that in certain cases of tuberculosis there is a looseness of the bowels not due to ulceration. This looseness has been termed irritative diarrhea and has been ascribed to errors in diet. A careful study of the number of cases which have been under observation a long time clinically, and which have come to autopsy, lead us to believe that in these cases the looseness of the bowels is due to the vicarious action of the bowels for the kidneys, and that nature is really trying to protect the system by this vicarious action. Eleven cases are reported. In all of them there was severe diarrhea usually over a protracted time. In all the intestines were practically normal and the kidneys showed acute alterations. The cases were studied clinically from four weeks to three years; diarrhea lasted from four weeks to eight months. In three cases out of the eleven the autopsy showed the ileum slightly congested; in all the remaining cases the intestinal tract, with the exception of the appendix, was normal. Several forms of nephritis were found, toxic nephritis, parenchymatous nephritis, diffuse nephritis, and interstitial nephritis. In seven cases out of the eleven there were scattered tubercles in the kidneys. The diarrhea was considered to be a vicarious action for the kidneys because no other definite cause was found. The rest of the paper deals with nephritis in tuberculosis, its frequency, its etiology, its symptomatology and its treatment. It is caused by the growth of tubercle bacili in the tissue of the kidneys and by the toxins secreted through the kidneys from other lesions elsewhere. It also may be caused, perhaps, by the dead tubercle bacilli in the process of elimination. The treatment is by means of magnesium sulphate and nitroglycerin.

**A Brief Report on Research in the Writer's Laboratory on Bacterial Toxins and Immunity.**—Victor C. Vaughan based his work upon the theory that the bacterial cell is, in its essential part, a chemical compound made up of many groups. He had endeavored to split up the cell molecule of the colon bacillus into its constituent groups and to study the physiological action of these groups. The result of the work has been to show: (a) That the

colon bacillus even when grown upon proteid-free mediums, contains a highly poisonous group and that animals treated with repeated doses of this group have their resistance to living cultures of the colon bacillus multiplied from two to four times; (b) that a group similar to that mentioned can be obtained from egg albumen and peptone, and that animals treated with this also show increased resistance to the living bacillus; (c) that animals treated with successive doses of that portion of the colon cell left after the removal of the poisonous group acquire a specific immunity to the colon bacillus; (d) that the blood-serum of animals treated with either the poisonous group or the nonpoisonous group of the colon bacillus do not agglutinate the living colon bacillus; (e) that cultures of the colon bacillus contain a fatty acid which either as a free fatty acid or as a neutral soap dissolves red blood-corpuscles.

**Relapsing Fever.**—F. Creighton Wellman shows that this disease has a wide proved distribution in tropical countries. It is quite probable that it has been overlooked in other places or mistaken for other conditions. The parasite is sometimes very scarce in the blood and may be overlooked in many instances. The affection would seem to have as good a claim to be ranked as a tropical disease as has malaria, leprosy, plague, and other diseases which are only partially dependent on climatic conditions for their survival. Practitioners in the tropics should be especially careful to search the blood of suspected patients before making a diagnosis of "double continued fever," etc.

*Journal of the American Medical Association, July 22, 1905.*

**Intravenous Injection of Ergot.**—Torald Sollmann and E. D. Brown report the results of experiments, made chiefly on dogs, to determine the circulatory effects of ergot in therapeutic doses, normally and in the pathological conditions in which the drug is recommended. Intramuscular injections were first employed, but the effect was so slight they changed to the intravenous method, that used by other investigators. The animals were anesthetized, the injections made into the femoral vein, and the blood-pressure tracings taken with a mercury manometer, the connection being filled with 25 per cent. magnesium sulphate. The conclusions reached are, in substance, as follows: The typical effects of the intravenous injection of ergot consist in a large and abrupt fall of blood pressure, followed by a prompt recovery, and generally by a slight and short rise. The volume of the organs varies generally in the same direction as the blood pressure. The changes in the latter are mainly cardiac. This is confirmed by myocardiograms from the intact and excised heart. Ergot causes first a lessening and then an increase of the excursions; both phenomena may occur while the ergot is being injected; the rate of the heart is but little altered. The effect must be directly on the cardiac muscle. There are some oncometric evidence that ergot has a slight vasoconstrictor action, but this is slight and inconstant. There was no evidence of strong constriction or of high rise of blood pressure. With intramuscular injections the preliminary fall of blood pressure is absent. The action is independent of the dose, within wide limits. The relative predominance of fall and rise vary somewhat in different preparations; age, however, does not impair their effect on the circulation. Lowering the blood pressure by any method greatly lessens the effects. Shortly after the destruction of the spinal cord, however, ergot produces a relatively good rise of pressure. Large doses depress the vagus center and the vasomotor endings. It is not acutely fatal, however, in very large doses. The experiments do not point to any useful therapeutic action of ergot in modifying the circulation. The authors, however, do not wish to be understood as denying the clinical evidence in its favor, they merely claim that it lacks experimental evidence in its support.

**Inguinal Hernia of the Bladder.**—After reporting a case in which the included bladder was wounded in operation for hernia, S. C. Plummer discusses the diagnosis of the condition which, in the majority of cases, is unrecognized until operation and sometimes not even after the bladder has been injured. He thinks the reason of this is that we have been taught to consider it a pathologic curiosity and are not sufficiently on the outlook for it. The urinary symptoms should not be neglected, and conditions which lead to suspicions of the presence of the bladder during operation, such as the presence of an unusual amount of fat in the canal, the location of the tumor, the difficulty of separating it from the true hernial sac, the recognition of its musculature when present, the possibility of passing a catheter or sound into the hernia, the large size of the inguinal opening, the frequency of direct hernia, and the difficulty of finding a neck to the true hernial sac, should all be looked for. The paper is instructive in its details of the condition.

**Looping the Cord.**—The frequency of the condition of looping of the cord is estimated by H. C. Jones as rather greater than is usually alleged. He thinks it existed to a greater or less extent in nearly half of the cases he has attended, over 1,400 altogether. He reports a case that seems to him extraordinary. The signs of fetal life had ceased at the end of the seventh month, but delivery occurred at term, and a macerated fetus was born with the cord wrapped four times around the left leg and once around the right. Delivery occurred without rupture of the membranes. He thinks it possible that death of the fetus did not occur immediately at the time of strangulation of the cord. Its condition and the fact that it was carried to term suggest that a low degree of vitality may have existed for a part of the period. He says "it must be apparent that so complicated a looping about the extremities as shown in this case could only have been brought about by instinctive efforts to disentangle them" and compares the impulse here shown with that of animals to free themselves from a tethering rope.

*The Lancet, July 15, 1905.*

**Simplification and Use of Tracheal Injections in Pulmonary Tuberculosis.**—This topic is considered by Mendel of Paris, who notes current objections to the method, viz., that the injections are not easy to give, that laryngologists do not usually treat tuberculosis, and the prejudice against manipulative interference with the trachea. In reply, Mendel states that an injection of non-irritating material, properly given, does not cause cough or other disturbance, and that a simple method is quite within the reach of any medical practitioner. If the tongue of the patient is protruded and held outside the mouth, and if he, at the same time, refrains from swallowing, the pharynx forms a funnel in which the only inferior outlet is the glottis; for the orifice of the gullet is closed, except during the act of swallowing, so that a small quantity of liquid projected *against the wall of the pharynx* runs down into the air passages. A diagram is given illustrating the above anatomical relations. This method the author calls the medial method. He prefers, however, what he calls the lateral method. A syringe is used ending in a tube with a short distal curve of very small radius. The patient is opposite a window. The operator holds the tongue and passes the syringe with the tube horizontal, being careful not to touch the tongue. The outside of the curve is then applied firmly to the base of the left faucial column. The operator presses firmly outward against this so as to steady his hand during the expulsion of the injection. The nozzle of the tube thus rests horizontally in the glossoepiglottic groove, hidden by the base of the tongue. The patient should remain passive, and breathe without effort. The contents of the syringe are discharged with sufficient force against the lateral pharyngeal wall to turn round this wall and thus reach the posterior wall whence they run into the larynx. For the injections Mendel prefers eucalyptol dissolved in olive oil.

**The Chemical Mechanism of Gastric Secretion.**—J. S. Edkins regards it as probable that in the process of absorption of digested food from the stomach a substance may be separated from the cells of the mucous membrane which passing into the blood or lymph later stimulates the secretory cells of the stomach to functional activity. He considers this theory supported by the following observations: If an extract in 5 per cent. dextrin of the fundus mucous membrane be injected into the jugular vein there is no evidence of secretion of gastric juice. If the extract be made with the pyloric mucous membrane there is evidence of a small quantity of secretion. With dextrin by itself there is no secretion. Extracts of fundus mucous membrane in dextrose or maltose give no secretion; extracts of pyloric mucous membrane give marked secretion; dextrose or maltose alone brings about no secretion. If extracts be made with commercial peptone it is found that no secretion occurs with the fundus mucous membrane, a marked secretion with the pyloric mucous membrane; the peptone alone gives a slight secretion. If the extracts be made by boiling the mucous membrane in the different media the effect is just the same—that is to say, the active principle, which may be called "gastric secretion," is not destroyed by boiling.

**The Duration of Life After the Appearance of Albuminuric Retinitis.**—S. Snell states that albuminuric retinitis occurs in about 30 per cent. of all cases of Bright's disease. It seems to be more frequent in males. From a study of the statistics from the practice of other men, and from his own personal experience, he regards the retinal changes as a signpost of the systemic deterioration produced by the renal lesion. It portends a fatal termination, possibly in a few months, rarely deferred for more than two years. An exception to this statement obtains with reference to

cases occurring in pregnant women, for it not infrequently happens that with the termination of gestation, the albumin disappears and the retina clears up, though vision may remain seriously affected. But the condition is not under the circumstances named so fatal to life as in ordinary chronic nephritis. Snell maintains that a sharp distinction must be drawn between private and hospital practice, for those better situated can take the hygienic care requisite in Bright's disease. Moreover alcoholism may play a more important part in hospital patients.

*British Medical Journal, July 15, 1905.*

**Acute Salpingitis Caused by an Inflamed Appendix Bursting into the Mouth of the Fallopian Tube.**—J. Bland-Sutton operated on a patient suffering from pelvic pain accompanied with acute febrile signs. A tender swelling was felt on the right side of the uterus. When the abdomen was opened, the appendix was seen adherent to the fimbriated end of the right Fallopian tube. The tube itself was distended and adherent to adjacent structures. The appendix, tube, and ovary, were excised but their relationship was left undisturbed. Section of the hardened specimen showed that the lumen of the tube was filled with pus. Its coelomic ostium had been firmly occluded and the fimbriæ were withdrawn into the lumen of the tube. A narrow channel led from the interior of the appendix through its wall, near the tip, directly into the lumen of the tube. The patient had an uninterrupted recovery.

**Case of Cutaneous Anthrax Treated without Excision with Antianthrax Serum; Recovery.**—William Mitchell observed this case. The patient was a wool carder. When he first saw her, there was a pustule about one-fourth of an inch in diameter on the center of the upper eyelid. It was slightly pitted in the center where there was a small dark spot. Around its margin was a ring of indistinct vesicles. No pus was found in the vesicles. Local anthrax was diagnosed and antianthrax serum was injected subcutaneously. Microscopic examination of the fluid from the vesicles showed the characteristic anthrax bacilli in large numbers. In all, 100 c.c. of antitoxin was administered. Recovery was uneventful. However, the serum did not fulfill expectations so far as preventing necrosis was concerned. There is complete ectropion of the upper eyelid. All of the tissues superficial to the cartilage seem to be gone in the upper eyelid. The writer states that it is impossible to say what influences the serum had in bringing about recovery. No marked reaction could be noted after its use. However, he thinks from the favorable results obtained in Italy with the serum that one is justified in hoping that a remedy for this disease has at last been found. Large initial doses of 50 to 60 c.c. afford the best results. Serum treatment alone, without excision, when the anatomical situation of the lesion makes this possible, does not seem justifiable.

**An Experimental Inquiry into the Infection of Operative Wounds from the Skin, the Breath, and the Air.**—J. Rupert Collins has made various researches regarding these points. He believes that with an adequate use of the proper antiseptics in the proper order it is possible to obtain a degree of sterility of the skin which will stand the test of considerable maceration and friction. In order to attain this sterility, a prolonged careful scrubbing is necessary in order to remove the outside cuticle. The idea that by increasing the strength of antiseptics, the period required for disinfecting the hands can be shortened is erroneous. The best results are obtained by the use of a primary antiseptic which disintegrates rather than condenses the albumin of the skin, followed by an antiseptic which forms a hard, firm albuminate upon the surface of the skin. As to the air of the operating room, it is difficult to conceive any plan by which it can be made and kept absolutely sterile throughout an operation. However, many precautions to secure this end could be observed which are now neglected. The room should contain the minimum of furniture. As little moving about as possible should be indulged in. Air admitted to the room should be filtered through cotton-wool. All spectators should be kept outside of the room, observing the operation through a glass screen. All of those in the room should be clothed in a complete suit of sterilized material. As to the question of the surgeon's breath being a source of wound infection, the writer declares that it is only from solid particles discharged by a sputtering action that infection can occur from the breath. The infection carried by the breath in ordinary speech is doubtless small.

*Berliner klinische Wochenschrift, July 3, 1905.*

**The Treatment of Vaginismus.**—Budin says that he does not believe in either forcible dilatation under anesthesia or in incisions for the purpose of relieving this condition. He has used a method of gradual dilatation under local anesthesia with much success, and says that it has never failed him. For two or three days antiseptic vaginal douches, for example, of bichloride of mercury 1-4000, are prescribed. Then the vulva and the introitus are anointed with an ointment consisting of 1.5 g. of cocaine and 30 g. of vaseline. After ten to fifteen minutes the sensitiveness of the parts is greatly reduced, so that after a fresh application of the ointment the dilatation can be begun. The index finger can soon be introduced completely; it is withdrawn and a second finger is introduced with it, advancing very slowly and gently. Then Hegar dilators, warmed by immersion in hot water, are introduced. This is sufficient for the first session. The douches are repeated night and morning, and two days later, the mucous membrane is anesthetized in the same way and the dilatation is repeated with one or two fingers and the Hegar dilators. The douches are continued, and usually at the third treatment four fingers can be inserted. Sometimes only two sessions are required, sometimes four are necessary. The bougies are increased in size until the spasm of the muscles has disappeared, and the connection, preceded by the application of the cocaine ointment, can take place.

**Myomata and the Menopause.**—Winter says that the current belief has been that after the onset of the menopause uterine myomata become of less importance clinically and lose their dangerous attributes. He has used his material of 718 patients treated for myomata and including sixty-one cases in which the menopause had set in, for the purpose of studying this question. The results of the statistics in this list show that in the majority of cases the onset of the menopause entails cessation of the growth of the tumor and subsidence of the symptoms caused by it. The symptoms caused by myomata after the menopause are dependent on the not unusual expulsion of submucous growths, through their increased tendency to sarcomatous degeneration, and through hemorrhages sometimes arising from unknown causes. Sometimes myomata continue to grow after the menopause without any secondary degenerations; subserous growths are the most likely to do this, and interstitial ones the least. Operative interference for myomata after the menopause is not infrequently necessary; according to the author's figures, it is required in five per cent. of the cases. He accordingly concludes that the onset of the menopause does not involve the relief from the concomitants of myomata that is generally supposed.

*Munchener medizinische Wochenschrift, July 4, 1905.*

**The Spirochæta Pallida and Syphilis.**—Kiolemenoglou and Cube report the results of observations undertaken to determine the relationship of the spirochæta pallida to syphilis. In a series of syphilitic cases organisms corresponding to the spirochæta pallida were found, and control tests were made with non-luetic material. Unmistakable specimens of the spirochæta pallida were discovered in the balanitic secretion of an inflammatory phimosis (possible concealed chancre?), in the pus of a gonorrheal abscess of the Bartholinian gland of a patient suffering from specific leucoderma, in simple balanitis, in the pus of scrofulous abscesses, in the necrotic material of an ulcerating carcinoma, and in the secretion of pointed condylomata. Negative results were obtained in acute gonorrhea, the blood of syphilitics, in acne vulgaris, impetigo, and tuberculous sputum. The author feels that there is no doubt as to the identity of the organisms found in these cases, and in every instance the spirochæta refringens was also present in large numbers. In addition there were often found in the same field with the spirochæta pallida and refringens other forms of spirocheta which in many respects, such as size, morphology, and staining properties, differed from both of the former types. Some of these simulated the typical organisms so closely that it was practically impossible to differentiate them. The spirochætæ were always found most abundantly in situations in which there was decomposing secretion, so that it seems not unlikely that all the forms are simply saprophytes. At any rate it is decidedly premature to term the spirochæta pallida the causative agent of syphilis.

**A Case of Extrauterine Pregnancy with Extensive Deformity of the Fetus.**—Wiener describes this case which was that of a woman of twenty-eight who had had one normal labor. Between two and three months after cessation of menstruation she experienced sudden sharp abdominal pain which lasted about two weeks and was associated with a bloody discharge. Some months later on account of abdominal pain, vomiting, and very great increase in size of the abdomen an attempt was made to induce labor, but without effect. The patient was kept in bed, but her condition became steadily worse until when Wiener was called in at a period about corresponding to full term, she seemed almost moribund. She was in too

bad condition to move, so the laparotomy had to be done in her bed in a wretched farmhouse, but she made a good recovery, and some months later was able to do her work again. On opening the abdomen a great mass of adhesions was encountered, in the center of which was the spherical placenta and the full term macerated fetus. This had been subjected to tremendous compression against the placenta so that the parts were reduced to the thinness of paper. There was but little hemorrhage on removing the child and placenta, and the cavity remaining was drained with iodoform gauze. The author says that it is usually taken for granted that the occurrence of a pronounced bloody discharge indicates death of an extrauterine fetus, but that this was not the case in the present instance. Another interesting feature was the extreme degree of pressure which must have been brought to bear on the fetus and placenta by the abdominal walls in order to reduce them to the shapeless mass in which they were found.

**Aleppo Boil.**—Naab describes this affection, which is extremely common in the neighborhood of Bagdad, and especially along the course of the projected railway to the Persian Gulf. The disease is found all the year round, in cities more than in villages, and in all the regions of Asia Minor that are swampy or near river valleys. The author gives numerous reasons which have convinced him that the mosquito serves to transmit the infection, and he states that newcomers who have followed his advice to sleep only under mosquito nets have never been affected. He himself had ample opportunity to study the disease, as he contracted it during a journey with an infected compatriot, and in due time developed twenty-seven boils. After an incubation period of about a week a small itching nodule appears which gradually increases in size and at the end of about five months breaks open and begins to discharge serous fluid. The epidermis gradually breaks down, and for about five months longer there is an abundant purulent discharge accompanied by enlargement of the neighboring lymph nodes. The sores then slowly cicatrize, and in a little over eleven months are completely healed, and, owing to this fact, the disease is locally known as the "year boil." Of the various plans of treatment tried by the author the application of methyl violet in eight per cent. alcohol seemed to give the best results. One attack confers immunity.

*Deutsche medizinische Wochenschrift, July 6, 1905.*

**The Diagnosis and Treatment of Chronic Perityphlitis.**—Boas, in discussing this subject, endeavors to show that the determination of the indications for operation as well as the diagnosis in these cases falls entirely within the province of internal medicine. He admits that in nearly all cases the hope of effecting an absolute cure by medical measures is slight, but he considers that under certain conditions, as in old age, operation may be dispensed with. He points out that the American classification of chronic appendicitis into two forms, the recurrent and the relapsing, has not met with the recognition on the part of the Continental surgeons that it deserves, and he urges its adoption, as the prognosis is quite different in the two types. Speaking with the reservations necessary in dealing with so uncertain a disease, he expresses the belief that the cases which begin as the chronic form, that is without any initial acute attack, always remain chronic, and that acute exacerbations with high temperature and the symptoms of perforation are the exception. The diagnosis of these chronic cases is often extremely difficult and in many cases the presence of cutaneous hyperesthesia limited to the region of the appendix is a valuable though not an infallible sign. Boas does not believe it is very often possible to be sure of palpating the appendix as there are too many chances of mistaking other structures for it. A useful measure is to make continuous temperature observations, comparing the temperatures obtained by rectum and in the axilla. If a difference between the two of more than .5° C. is repeatedly found, it speaks in favor of an inflammatory process in the pelvic organs.

**The Treatment of Incarcerated Hernia.**—Brix says that the country practitioner who is obliged to do his work without the conveniences and assistance possible in the city is often forced to struggle with an obstinate incarcerated hernia, and finds his suggestions for operative intervention met with refusal. Under such conditions, after fruitlessly exhausting every device he could think of, he thoroughly froze the surface of the tumor with ethyl chloride spray, and then found that the volume of the mass had diminished so much that reduction could be accomplished with great ease. On numerous subsequent occasions he found the plan equally serviceable and he warmly commends it in such cases. The cold produced by the evaporation of the ethyl chloride is so intense that great vasoconstriction results both in the constricting ring and in the incarcerated mass, so that the former becomes larger and the latter diminished in mass, whereby reduction becomes easily possible.

*French and Italian Journals.*

**Treatment of Bronchial Dilatation by Pneumotomy.**—Tuffier presented a report concerning an observation made by Antipas in relation to a child four years old who showed all of the signs of a suppurating cavity at the base of the lung, with vomiting. Pneumotomy showed that the suppurating cavity corresponded neither in dimension nor in position to the lesions diagnosed by auscultation. The cavity was small, of the size of a nut, and consisted of a bronchial dilatation. Antipas drained this cavity. A permanent fistula was established and the young patient finally succumbed to an acute pneumonia. Apropos of this case, Tuffier advocates pneumotomy in cases of bronchitic ectasia. He declares that he would be disposed in future cases to have recourse to a thoracoplasty which would favor pulmonary retraction and the spontaneous obliteration of bronchitic dilatation.—*Gazette des Hôpitaux Civils et Militaires*, July 4, 1905.

**Multiple and Symmetrical Osteogenic Exostoses.**—Teissier and Deneachau had under their care a child who showed multiple and symmetrical osteogenic exostoses. One of these growths was situated on the upper third of the right humerus and was the size of a large orange. By the *x*-ray, its ossification was seen to be almost perfect. The interesting point of this case was that in relation to heredity, for the father has similar exostoses and a congenital malformation on the left ulna. In two other children there were also malformations; one showed exostoses and the other scoliosis. Finally, the paternal grandfather had similar tumors on the upper and lower extremities; these were congenital and were well known to all the inhabitants of the village. The affection was hereditary and has been noted in three generations.—*Le Bulletin Médical*, July 8, 1905.

**Sleeping Sickness in a White Man.**—Sicard and Moutier report the case of a man twenty-eight years of age who was attacked by the sleeping sickness. The affection had been contracted two years before in Gambia, a country in which trypanosomiasis is very common. The beginning of the illness was marked by headache, lassitude, and generalized asthenia. Later, partial contractures and epileptiform crises developed, followed by torpor. For eight months the man has slept heavily for from ten to twenty hours a day. Fever has also been present. The patient suffers from incontinence of urine and feces and has a sacral eschar. The trypanosoma has not been found either in the blood or in the cerebrospinal fluid; but in the white man the investigation of these fluids does not always meet with positive results.—*Journal des Praticiens*, July 8, 1905.

**Gonorrheal Endocarditis; Determination of the Gonococcus in the Blood During Life and in a Valvular Vegetation After Death.**—Widal and Faure-Beaulieu report this case. The patient was a boy seventeen years of age, suffering from aortic insufficiency due to an old attack of rheumatism which had followed gonorrheal infection. Thirty-four days after the beginning of the gonorrhea, the symptoms of an acute endocarditis developed. A second murmur became audible. Fever was intermittent. Embolism of the left popliteal artery supervened. The patient died twenty-four days after the beginning of the endocarditis. The gonococcus had been cultivated from the blood. At autopsy, besides the old lesion of aortic insufficiency a recent vegetation was found on the mitral valve, and microscopical examination revealed in it the presence of the gonococcus. This double determination of the gonococcus—in the blood during life, and in the valvular vegetation after death, proved the gonorrheal nature of the endocarditis and once more the reality of gonorrheal septicemia.—*Gazette des Hôpitaux Civils et Militaires*, July 4, 1905.

**Structure of the Normally Inserted Placenta in Cases of Premature Detachment.**—Guido Biancardi has examined the placenta in several cases of premature separation and gives us the results. (1) In some cases of early detachment of a normally inserted placenta, without any sufficient cause conditions of structure exist which may account for the detachment. (2) Such conditions are primary fatty degeneration of the placenta, associated with inflammatory lesions and secondary extravasations of blood, and alterations of villi, even the fetal portion taking part in the changes. The cause of these alterations is an endometritis continuing into pregnancy. (3) There is nothing special about these alterations differing from those arising from other pathological conditions of the placenta. (4) The location, extension, and nature of the lesions may account for some peculiarities in the symptomatology of the case.—*Annali di Ostetricia e Ginecologia*, May, 1905.

# Book Reviews.

Die Chronische Gonorrhoe der männlichen Harnröhre und ihre Komplicationen, von Prof. Dr. F. M. Oberländer und Prof. Dr. A. Kollmann. Parts II. and III. Liepzig: Georg Thieme, 1905.

We reviewed Part I. of this work about three years ago. Like its predecessor, the volume containing these concluding parts is essentially written for the busy practitioner, or for him who struggles with the obstinacies of chronic gonorrhea. Coming as this book does from the originator (Oberländer) of the urethroscopic method of dealing with this disease, and from him who further developed the dilatation method (Kollmann), it carries the weight of authority. The authors, with characteristic fairness, do not condemn the means employed by others; indeed, they emphasize on page 3 of the introductory to Part II. that "the good results obtained by a physician with his own instruments and methods naturally depend in part upon his being specially drilled in their use." As regards their own methods and instruments, the authors are especially strict. They freely discuss the apparently brilliant results in light cases, which seemed to be severe, and refrain from taking credit for the cure in such patients. They again lay special stress upon the diagnostic value of visual inspection of the urethra in chronic gonorrhea. They say in this connection: "Urethroscopy, with effective, practical instruments, is the best and safest aid to diagnosis." They show that, while the technique of urethroscopy is very readily acquired, adequate recognition of diseased appearances demands much practice. The question whether chronic gonorrhea in the male can be successfully treated without instrumentation is one of the propositions that still comes to the specialist. Oberländer and Kollmann show that even trifling cases demand instrumentation for their diagnosis; that with aseptic precautions, which they fully detail, cautious instrumentation is never dangerous, and that without instrumentation the conditions which underlie chronic gonorrhea of the male urethra are not curable. The rare exceptions hereto are shown to be cases in which a true chronic gonorrhea was not present. Even in these, repeated introduction of instruments is inevitable to confirm complete cure. In connection with this problem, the circumstances and conditions are detailed which temporarily prohibit instrumentation. As a principle for success, Oberländer and Kollman demonstrate that "in the treatment of chronic gonorrhea it is the highest art to arrest instrumental treatment at the proper time and await the outcome. Oftentimes surprising results are the consequence." The thoroughness of the work is not made evident by the preceding meager excerpts. Throughout it is concisely written, serving as a book of reference not only for the specialist but for the general practitioner as well. The only unfavorable criticism that would be just meets its field in the index, which, while occupying nine pages, is inadequate for the nearly 700 pages of text of the three parts of this admirable work.

It will certainly be desirable if the authors give heed to this necessity in future editions, which are sure to be demanded. The profession has waited long for the parts now published; it will agree, on reading, studying, and putting to practical use the knowledge contained, that, though the delay has been long, the volume has been well worth waiting for.

The Doctor's Window. Poems by the Doctor, for the Doctor, and about the Doctor. Edited by Ina Russelle Warren. With an Introduction by William Pepper, A.M., M.D. Chicago, Akron, O., New York: The Saalfield Publishing Co., 1904.

This is Volume V. of The Doctor's Recreation Series, edited by Charles Wells Moulton. It is a well arranged and most judiciously selected anthology of verse written by or about the medical man, first published in 1897, at which time the introduction by the late Dr. Pepper was written. The book derives its title from the first selection, the poem of that name (on a little gleam of sunshine in a dismal back yard) by Austin Dolson, which is, of course, familiar to most readers, whether medical or lay. There are other selections by Oliver Wendell Holmes, James Whitcomb Riley, S. Baring-Gould, John G. Saxe, Locker-Lampson, Whittier, Walt Whitman, Will Carleton, and Eugene Field; by Byron, Ben Johnson, and Chaucer; and, among contemporary medical men, by Weir Mitchell, Andrew H. Smith, Edward D. Freeman, William Tod Helmuth, Samuel W. Kelley, Frederick Peterson, John C. Hemmeter, E. B. Ward, and a number of others. The selections, some of which are familiar, but many new, are very good, and those written by physicians are by no means the least entertaining. We wish more could have been taken from medical writers, for these are usually hidden in the pages of local journals or medical magazines, where they will be lost for all time unless framed in some such collection as this. There are many such that have found no abiding place here, though they are well worthy of it, but another volume would be needed to hold them all. There is enough here to give the reader many a pleasant half-hour when he is too tired with the work of the day to read anything of a serious nature or even a novel calling for any connected thought. The printing and binding are excellently done, uniform with the other volumes of this interesting series.

Endoscopie de L'Urètre et de la Vessie. Par le Dr. Georges Luys, Ancien Assistant du Service des Voies Urinaires a l'Hôpital Lariboisière; Ancien Aide d'Anatomie à la Faculté de Médecine de Paris. Préface par le Dr. Henri Hartmann, Professor agrégé à la Faculté de Médecine de Paris, Chirurgien de l'Hôpital Lariboisière. Paris: Masson et Cie., 1905.

This work on urethral and vesical endoscopy is the first of its kind to appear in France, though many such have been published in the German and English languages. The author, whose work on the separation of the urines from the two kidneys has shown him to possess an inventive faculty of superior order, here treats of the importance of urethroscopy, especially in the diagnosis and treatment of chronic affections of this canal, and describes the instruments for this purpose which he has perfected. The technique of urethroscopy and cystoscopy is described in very clear and simple terms, and the text is elucidated with a number of excellent illustrations. Dr. Luys prefers direct cystoscopy, which presents many advantages, he believes, over other methods. The author is one of the most original of the French workers in diseases of the urinary apparatus, and his book is one that should be in the hands of every student and practitioner of this rapidly advancing specialty. It forms a companion volume to the work on "La Séparation de l'Urine des deux Reins," by the same author, which was reviewed in these columns about a year ago.

Le Tube Contourné du Rein: Etude histologique anatomo-pathologique expèrimentale. Par Le Docteur Francis Rathery, Interne médaille d'or des hôpitaux de Paris. Paris: G. Steinheil, 1905.

In this volume the convoluted tubules of the kidney receive the attention of the author. The book represents a considerable amount of work in the pathological laboratory; it contains seven chapters and concludes with a résumé of numerous experiments and a bibliography. The first chapter contains the details of technique; the second and third deal, respectively, with the convoluted tubule in animals and in man; chapter four treats of lesions produced experimentally; the fifth discusses the pathological anatomy of the tubules in man; the sixth is devoted to the subject of nephrotoxins; and the last chapter discusses the bearing of heredity on renal disease. The chapter on nephrotoxins is the longest and most important of the subjects here presented.

Practical Dietetics. With Special Reference to Diet in Disease. By W. Gilman Thompson, M.D. Professor of Medicine in the Cornell University Medical College in New York City, Visiting Physician to the Presbyterian and Bellevue Hospitals. Third Edition, enlarged and thoroughly revised. New York and London: D. Appleton and Company, 1905.

As this book is so well known, it is hardly necessary to do more than call attention to the appearance of a new edition. The volume has been considerably enlarged, especially, the author says, in the sections dealing with the analysis of gastric contents, intestinal autointoxication, milk as a food, diabetes, and in the portions concerned with the dietetic treatment of disease. Reference to these topics proves that they are well in accord with modern views, and that the new matter is worthy of the old. The subject of feeding both in health and disease is so vital a one that it is rather surprising that more books are not written on it. The plates deserve but little praise, with the exception, possibly, of those numbered III and VI, and they call to mind the young lady in Calverley's poem, of whom it is said that "she does not seem to serve a useful end, and certainly she is not beautiful." Maranta is misspelled both on the plate depicting its starch grains and in the list of illustrations, which latter has not been revised to correspond to the paging of the new edition.

The Rôle of Modern Dietetics in the Causation of Disease. By J. Sim Wallace, M.D., D.Sc., L.D.S. Hon. Dental Surgeon West End Hospital for Nervous Diseases and Assistant Dental Surgeon National Dental Hospital, W. London: Baillière, Tindall & Cox, 1905.

The volume before us is a collection of published and unpublished essays on subjects which are of common interest to the medical and dental practitioner. The author shows the influence of bad teeth, insufficient mastication, soft foods, nasal obstruction, etc., on the causation of disease. Some "speculations and suggestions" in the final chapter are excellent food for thought, and well worthy of digestion.

# Society Reports.

## AMERICAN MEDICAL ASSOCIATION.

*Fifty-Sixth Annual Meeting, Held in Portland, Ore., July 11, 12, 13, and 14, 1905.*

(Special Report to the MEDICAL RECORD.)

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### SECTION ON MEDICINE.

*Second Day—Wednesday, July 12.*

**General Considerations on the Pathology of the Kidney.**—Dr. W. T. COUNCILMAN of Boston presented this communication as the opening paper of a "Symposium on Nephritis." In the absence of the author the paper was discussed, in brief, by Dr. RICHARD C. CABOT of Boston. He said that cases of nephritis or renal trouble which were manifested by albumin and casts were at times moderately severe or mild cases, but not of the severest form. For instance, one might meet with occasional hemorrhagic infarctions, in which a portion of the kidney was thrown out of function, and yet no albumin or casts were seen. In some cases in which the functions of the kidney was partly destroyed no albumin or casts would appear. It seemed to him that in the moderately severe cases we got these clinical manifestations. In the relation of edema and nephritis, he said that Dr. Councilman would have shown that the association between them was unreliable. The classification of the forms of nephritis he considered to be very important and was practically the same that he had presented in former communications on this subject. He divided nephritis according as the glomeruli showed or did not show important changes. Amyloid nephritis was not classified under these heads. Out of thirty-six autopsies there was only one case of amyloid nephritis which was accompanied by cardiac hypertrophy; while out of eighty cases of chronic interstitial nephritis, seventy-six showed marked hypertrophy of the heart. In the glomerular cases, the association of hypertrophy of the heart was regular and constant. He emphasized the fact that kidney disease was always a part and never a whole; it was one branch of an infectious process, or toxic process, widespread in the organism in which the kidney forms only one part.

**Albuminuria in Nephritis and Bright's Disease.**—Dr. ALFRED STENGEL of Philadelphia emphasized the necessity of distinguishing nephritis in the pathological sense from nephritis (Bright's disease) in the clinical sense. He reported 581 cases, among which there were 51 cases of undoubted clinical nephritis, or Bright's disease, exclusive of chronic interstitial nephritis. In all there was a constant and more or less uniform albuminuria. In 74 cases of arteriosclerosis there was albuminuria, not always constant, without casts in 16, with casts in 58. A number of these properly fell under the name of chronic interstitial nephritis. In 187 cases there was occasional albuminuria in association with acute infectious diseases, gout, diabetes, tuberculosis, and syphilis, cystitis, pyelitis, cardiac disease, movable kidney, gallstones, etc. In 41 cases there was occasional albuminuria; in 215 cases there was no albumin at any time; and in 11 cases casts were found without albumin. Among 154 cases of cardiovascular disease, albubin or casts or both occurred in 81, and no albumin or casts in 73. In conclusion he said that the purpose of his paper had been primarily to direct attention to the fact the albuminuria and the presence of tube casts were extremely common occurrences in various general diseases, and that though they might indicate in a sense inflammatory conditions of the kidney, such were of pathological rather than clinical significance, unless the albuminuria was considerable and more or less constant. The nature of the accompanying tube casts should not be too greatly relied upon in determining the seriousness of the renal lesion. It should be remembered that the modern method of centrifugation and the consequent examination of quite fresh urine increased the likelihood of our discovering casts; and there was no sharp line of distinction between the comparatively insignificant cylindrical of the mildest grades of renal irritation, and the definite hyaline casts of more decided disease.

**Cylindruria.**—Dr. CHARLES P. EMERSON of Baltimore briefly discussed the formation and significance of casts, especially the hyaline, with a classification of this group. He also presented a study of all cases that occurred in the Johns Hopkins Hospital.

**The Relation of Kidney Conditions to Puerperal Eclampsia.**—Dr. PHILIP KING BROWN of San Francisco said that sources of his information for this paper were statistics from hospitals and private sources on eclampsia and kidney conditions, the literature on eclampsia and metabolism, personal observation on urea elimination in pathological conditions of pregnancy, and experiments on the muscular irritability of pregnant and non-pregnant animals. He offered the following summary: (1) Albumin was present in fully 80 per cent. of normal pregnancies. (2) Albumin and casts were found in 30 per cent. at least of all pregnancies. (3) There was no reason to suppose that the renal condition thus revealed was the cause of eclampsia. (4) That there was some connection, however, between the albuminuria and the extra renal cause of the eclampsia, was likely in view of the nearly constant association of the two. (5) It has been shown that neither any normal end product nor any known intermediary product of metabolism was the cause of eclampsia. (6) It was reasonable to suppose that deficient thyroid activity played a part at least in some of the cases of eclampsia. (7) There were probably several causal factors to the separate or concomitant action of which eclampsia seemed to be due. (8) The most significant experimental work done up to this time pointed to the fact that in the placenta was found the toxic substances which probably were responsible for eclampsia. (9) There was good evidence that these same substances were in all probability the causes of the headaches, edema, abdominal pain, and particularly the albuminuria present in the non-eclamptic and non-nephritic cases. (10) The nervous systems of pregnant women were in an abnormally sensitive condition. Their blood had been shown to be abnormally toxic. There was no conclusive proof of an increased or diminished toxicity of the urine. (11) My own experiments have shown that the muscles of the pregnant guinea pigs could be thrown into convlusion more easily than those of non-pregnant animals.

**The Dietetic Treatment of Nephritis.**—Dr. F. C. SHATTUCK of Boston presented this communication and said that the leading principles pertaining to the dietetic treatment of nephritis might be stated somewhat as follows: (1) Such control as we might have to-day of nephritis lay in diet and mode of life rather than in drugs. (2) Such drugs as were useful were so in their effect on the general organism or on the heart rather than on the kidneys directly. (3) In all cases of nephritis our broad aim was to spare the kidneys unnecessary work, not forgetting that the urinary was but one of the systems which comprised the body. (4) In acute nephritis, as well as in acute exacerbations of the chronic forms Doctors Diet and Quiet should work together. Starvation for a few days proportionate to the intensity of the process and the strength of the patient, was the keynote of the dietetic management. (5) In the chronic forms we sought to lengthen and lighten life, an aim often largely within our power of attainment. Especially in the contracted form of kidney disease many years of life, much of the happiness which comes from achievement, days and nights of comfort might hinge on our skill in adapting sound principles to the particular case and in securing the cooperation of the patient in carying out the same persistently, not spasmodically. Dietary restriction should be in the main quantitative rather than qualitative. Alcohol in moderation was

not necessarily a poison, and might be an aid to digestion. (6) The excess of proteid, not proteid in itself, was harmful to the chronically sick kidney. (7) A varied was more likely than a monotonous diet to promote the manufacture of good blood and thus to promote good nutrition of the body in general and of the myocardium in particular. (8) The amount of albumin was in itself no guide as to the extent of dietary restrictions.

Dr. John A. Witherspoon of Nashville, Tenn., said that he had been very much impressed with the reparative and recuperative powers of the kidneys for a number of years. He believed that men were in too big a hurry and made their diagnoses too quickly. Many of the prognostications offered would be changed if the cases were watched for a sufficient length of time. Medicine played but a small part in the treatment of disease, and especially in that of kidney disease, and more attention should be paid to diet and general management.

Dr. W. Ophüls of San Francisco referred to certain experiments carried on to determine the relation between albuminuria and nephritis, the kidneys being examined at autopsy. He showed that a large amount of albumin and casts of any kind might be present in the urine and still no lesions noted, either microscopically or macroscopically, beyond congestion, which could give rise to the conditions found.

Dr. L. Duncan Bulkley of New York described his own acute attacks of nephritis when his urine was black as coffee, thick and solid; he cured himself by dieting upon milk, taking it at the body temperature. He emphasized the importance of knowing just what the kidneys were doing day by day, and the frequent testing of the urine.

Dr. G. W. McCaskey of Fort Wayne, Ind., said that a few years ago he was impressed with the fact that physicians were underfeeding their patients and he began giving an ordinary diet. He insisted upon more attention being paid to the condition of the gastrointestinal tract because he was a believer in a cause of nephritis being the toxins which were absorbed therefrom.

Dr. Woods Hutchinson of Portland, Oregon, did not believe that Bright's disease was primarily a disease of the kidneys, but often the result of an arteriosclerosis or fibrosis due to the action of toxins, and the kidneys suffered from their attempts at elimination of these. Milk as a food in nephritis was harmful because it swarmed with bacteria. Any diet which diminished the amount of intoxication in the tissues and built up the patient's strength was the one best fitted in cases of nephritis.

Dr. A. P. Francine of Philadelphia spoke of the work done at the Phipps Institute. In a series of 53 cases of pulmonary tuberculosis only one kidney was found to be normal, and in 34 of them evidences of tuberculosis were found.

Dr. James J. Walsh of New York emphasized the importance of an early diagnosis of nephritis and said that attention should be directed to such kidney lesions by the high tension pulse, accentuated second heart sound, fluttering sensations referred to the heart, with certain digestive disturbances, etc.

Dr. Frank Billings of Chicago spoke of the misinterpretation of casts and albumin in the urine and said that many individuals died of apoplexy when they were the subjects of Bright's disease and with the urine filled with albumin and casts. Cardiovascular and degenerative changes in other parts of the body might give expression in the urine.

Dr. John H. Musser of Philadelphia emphasized the importance of making complete examinations of the urine in order that one might lay down proper dietetic treatment, make a study of the nitrogen output, and a study of the elements found that were secondary to putrefactive changes occurring within the intestinal tract.

Dr. H. M. Fussell of Philadelphia sounded a word of warning by saying that if they said that albumin and casts occurring in the urine did not mean a nephritis, the general practitioner might say, Why examine the urine at all? It was of the greatest importance that the urine be carefully examined and in a routine manner in order to determine the presence of these danger signals.

Dr. L. Leroy of Nashville, Tenn., believed that the future classification of nephritis would be based upon the etiology. He said he had found many kidneys doing functional work well and yet with certain of the pyramids the seats of advanced degenerations. He advocated the use of boiled meats which were rid of their extractives which had such an irritating effect upon the kidneys.

Dr. J. A. Lichty of Pittsburg called attention to the use of the sphygmograph in estimating the blood pressure, and thought that more attention should be made to its use in determining the existence of nephritis.

**Symptoms, Diagnosis, and Prognosis of Amebiasis in the Tropics.**—Dr. W. E. Musgrave of Manila, P. I., presented as the opening paper of a symposium on animal parasites and tropical disease a very lengthy communication on this subject. He discussed the subject under the following clinical divisions: Latent and masked infections, mild and moderately severe cases, severe cases including gangrenous and diphtheritic ones, infection in the children and in the aged. The clinical forms changed from the one to the other and might do so several times during the course of the disease in the same patient. The amebic process in all was essentially chronic, but acute symptoms from concurrent or secondary infection by other agents were frequently seen. Constipation was a very prevalent condition in the tropics, particularly among women, and, as might be inferred, might frequently mask amebic infection in the early stages, and the latent and less active forms until irreparable damage might have been done to the colon. The mild and moderately severe cases formed the great majority of those seen in Manila at the present time. A particularly noticeable thing, both in children and in the aged, as well as in natives of the Philippine Islands, was the great relative infrequency of liver abscess. He had not seen a case of liver abscess in more than one thousand clinical cases, and one hundred autopsies of natives of the Philippine Islands. The most important clinical manifestations in a question of diagnosis were the bowel evacuations, particularly their odor, and the presence or absence of blood. Abdominal soreness increased on pressure, and extending particularly along the colon, was most common and, taken singly, was one of the most valuable symptoms. Its diagnostic importance was greatest when so-called "indigestion" was quite common. Loss of weight, especially in the presence of a good appetite, was quite important, and was the best guide to the progress being made by the infection. Neither one nor all of these symptoms taken together were sufficient for an absolute diagnosis; but when taken together, in cases where careful palpation revealed a thickened, tender colon in places where it might be felt, this made the nearest approach to a sure diagnosis, without microscopical examination of the feces. Waiting for bloody mucous stools to appear before making a diagnosis and instituting treatment was responsible for a large percentage of the present mortality from the disease in Manila.

**The Pathology of Intestinal Amebiasis.**—He offered the following conclusions: (1) Intestinal amebiasis was a peculiarly ulcerative condition of the intestine caused by amœba coli (Losch) usually confined to the large intestine, though occasionally (7 in 200 cases) the ileum was affected and more often (14 in 20 cases) the appendix was involved. (2) In the majority of cases the condition affected the entire bowel (159 in 200 cases), though it might be limited to one or more portions, most commonly the cecum and ascending colon (23 in 200 cases). (3) The ulcers showed a tendency to be undermined, due to the lack of resistance on the part of the submucous layer of the bowel. (4) The organisms might enter the blood vessels very early in the disease and might be transported to the submucosa without lesions of the muscularis mucosa.

(5) The disease is a subacute chronic inflammatory process, as shown by the character of the exudate and infiltration, by the early formation of granulation tissue and by the absence of leucocytic infiltration. (6) Complete healing might be accomplished, or a condition of chronic atrophic enteritis or chronic catarrh might persist, known as sprue or psilosis.

**The Mode of Infection in Uncinariasis.**—Dr. CLAUDE A. SMITH of Atlanta, Ga., gave a lantern slide demonstration showing the natural and artificial conditions under which the larvæ of the uncinaria developed. He also referred to the chances of the larvæ gaining access to the human body, and the seasons of the year and conditions under which this was likely to occur.

*Third Day—Thursday, July 13.*

**Recent Advances in the Physiology of Human Nutrition.** Dr. FRANK BILLINGS of Chicago said there was no subject of greater physiological importance or of greater moment for the welfare of the human race than the subject of nutrition. How best to maintain the body in a condition of health and strength, how to establish the highest degree of efficiency, both physical and mental, with the least expenditure of energy, were questions in nutrition which every enlightened individual should know; yet even the expert physiologist was uncertain as to what constituted a proper dietary for different conditions of life and varying degrees of activity. We heard divergent views regarding the needs of the body as to the extent and character of the food requirements, contradictory statements as to the relative merits of animal and vegetable foods. There was a lack of agreement regarding many of the fundamental questions that constantly arose in any consideration of the nutrition of the body. Especially was this true regarding the so-called dietary standards, or the food requirements of the healthy adult. Certain general standards had been adopted, but one was forced to the conclusion that these standards had an uncertain value when one saw instances of individuals living in apparent health under a dietary not at all in harmony with the recognized standards. We needed definite knowledge of the physiological necessities of the body for proteid or albuminous foods, those foods which we are accustomed to speak of as essential, or absolutely requisite for life. Have we, through years and generations, established the habit of taking undue quantities of proteid food which might be largely in excess of the physiological requirements of the body? If so, then we had to consider the possibility that an excess of daily food might be more or less responsible for many diseased conditions, which might be obviated by a more careful observance of the nutritional needs of the body. The definite information as to what the real necessities of the body for proteid foods had recently been carefully studied by Russell H. Chittenden, Director of the Sheffield Scientific School of Yale University, and Professor of Physiological Chemistry, in a series of experiments, which had been published in book form under the title of "Physiological Economy in Nutrition." The result of Chittenden's experiments, with the experiments and conclusions of Professor Pawlaw upon the work of the digestive glands, and the "Theory of Protein Metabolism," by Otto Folin, of McLean Hospital for the Insane, Waverly, Mass., afforded a clearer view of the physiology of nutrition than we had hitherto possessed.

**Methods, Value, and Limitations of the Knowledge of the Gastric Contents.**—Dr. GEORGE DOCK of Ann Arbor, Mich., believed that instrumental and laboratory examinations with reference to the stomach were unduly neglected in practice, and many failed to make such examinations because they thought the passage of the stomach tube was difficult. In his experience this was not so. Training and practical experience were necessary for its success. He said the absence of hydrochloric acid in cancer was frequent, but cancer might be present with hydrochloric acid preserved for a long time, and even in excess of the normal amount. But such exceptions and contradictions occurred in all branches of diagnosis, and they should teach us to discover other details. He said he could cite a number of cases in which there was not an excessive secretion by hydrochloric acid in gastric ulcer. Single or a few examinations were misleading. The value of estimations of hydrochloric acid he believed to be greatest in the functional diseases of the stomach, or rather cases in which the stomach functions were altered, without gross organic disease primarily in that organ, though there might be functional or organic diseases in other organs that might have a part in the production of the gastric anomaly. Often it occurred with no gastric symptoms, or with trifling ones, but with distant symptoms. In functional diseases the greatest help was often derived from frequent estimations of hydrochloric acid under various kinds of dietetic and other treatment. There was still room for further investigation in the methods of gastric chemical examination. Günzberg's reagent he used largely. To determine the amount of hydrochloric acid dimethyl-amidoazo-benzole was most satisfactory. For the total acidity the phenolphthalein reaction was used. Test for the combined hydrochloric acid was not necessary, as a rule. Of abnormal or pathological acids, lactic was the only one requiring chemical tests, for acetic acid or butyric acid often occurred in large quantities, and could be detected by the odor. The determination of pepsin was not necessary in ordinary work, since it was rarely absent when hydrochloric acid was present in sufficient quantities. The digestive functions could easily be shown by the biuret test.

**Non-gastric Diseases Presenting Gastric Symptoms.**—Dr. J. H. MUSSER of Philadelphia discussed the symptoms of gastric diseases simulating various diseases of the stomach in certain infections, in intoxications, in organic disease of the brain and spinal cord, in diseases of the heart and blood-vessels, of the lungs and the kidneys. He also considered the significance of pain, vomiting, modifications of secretion, etc., in non-gastric disease.

**Food Stagnation from All Causes.**—Dr. CHARLES G. STOCKTON of Buffalo said that food stagnation was one of the most important of the gastric disturbances. The local symptoms were distress and sense of weight, sometimes pain, together with eructations of gas, regurgitation of the stomach contents, and often vomiting. Constitutionally there were usually found evidences of autointoxication and starvation. He divided the cases into two classes—first, those in which stagnation resulted from depression of the motor functions of the stomach, without the presence of any actual obstruction; second, those in which there was actual obstruction to the overflow of stomach contents, regardless of the kinetic energy of the gastric walls. After considering the causes of these two classes of cases, he said that the diagnosis was not difficult, and that it might be suspected when patients complained of eructations of food taken a long time previously. It could be demonstrated only by the use of the stomach tube. The motor power might be assisted by certain mechanical measures, especially by skillful massage over the region of the stomach, by trunk rotation and flexion, and by the alternate hot and cold douche over the epigastrium, and by external and internal faradization. Benefit undoubtedly followed the use of the simple carminatives, bitter infusions, and temporarily the diffusible stimulants. Failure or success depended more upon general management of the patient, upon proper rest, exercise, recreation, diet, mental state, etc., than upon the mere local treatment of the stomach. In cases of motor insufficiency depending upon spasm of the pylorus from over-irritability of tissue, whether from hyperchlorhydria, hyperesthesia, or simple erosion of the pyloric mucosa, surgery should not be considered. The proper treatment consisted in lowering the acidity of the gastric secretions, soothing the gastric mucosa, and the selection of an unstimulating, liquid or very soft diet, which was free from all irritating particles. Lavage, followed by soothing lavements of the mucous membrane, was of great assistance. He emphasized the fact that a stomach

on which the gastroenterostomy had been performed was by no manner of means as good as a normal stomach. But if an ulcer continued to give trouble, if pain and spasm frequently occurred, he recommended pyloroplasty, if the ulcer could be safely excised, otherwise gastroenterostomy. In benign hypertrophy of the pylorus, without ulcer, he advised operation, preferably pyloroplasty.

Drs. G. W. McCaskey of Ft. Wayne, Ind., Morris Manges of New York, J. S. Miller of Chicago, J. M. Anders of Philadelphia, F. C. Shattuck of Boston, J. L. Bond of Ukiah Cal., James J. Walsh of New York, J. A. Lichty of Pittsburg, C. M. Cooper of San Francisco, Norman Bridges of Los Angeles, discussed these papers.

**A Type of Tuberculosis on the North Pacific Coast.**—Dr. Woods Hutchinson of Portland, Ore., referred to a type of tuberculosis on the North Pacific coast, particularly in Oregon, Washington, Idaho, and Montana, which was marked by the following characteristics: A remarkably rapid course, running from three to nine months; a weak and rapid pulse, ranging from 105 to 145; a wide range of daily temperature, more subnormal depression than elevation, the morning temperature not infrequently being 95°, the afternoon, from 101° to 103°; rapid infiltration and boad-like consolidation beginning in both apices, and extending toward the base with almost total absence of cavitation; if cavities were present, they were small and scattered; there was marked infrequency of pulmonary hemorrhage; there was slightness or absence of cough and other symptoms of pulmonary irritation. This type of tuberculosis was most frequent in the native born. He asked if this was a hitherto undescribed type, and was it due to climate, or to some special development of unusual virulence in the bacillus, or was the lung, or heart chiefly at fault in tuberculosis, or was oxidation deficient or excessive in the consumptive? He then gave the rationale of open-air treatment.

Drs. Wm. F. Cheney of San Francisco, J. S. Miller of Chicago, Norman Bridge of Los Angeles, Philip K. Brown of San Francisco, Wm. Ophulus of San Francisco, M. C. Robbins of Spokane, D. E. Osborne of St. Helens, California, Herbert C. Moffitt of San Francisco, discussed this paper.

**Coccidioidal Granuloma.**—Dr. W. Ophuls of San Francisco, Cal., read this paper. He said that they had in California a peculiar form of oidiomycosis of which so far no case had been described in people who had not been in his State except the very first case of this form of infection which was observed by Wernicke in Buenos Ayres, and later and more accurately described by Posadas. One paper established fully the morphology of the parasite in the tissues and the nature of the lesions which it produced, but at that time, 1894, the organism was looked upon as a protozoon. This view of the animal nature of the parasite proved to be erroneous, in the course of the examination of a new case of this disease which occurred in 1900, when it became apparent that the parasite could be cultivated and developed in the cultures in the form of a mould-like growth. It probably belonged to the oidia, and he, therefore, proposed the name *Oidium coccidioides*. The parasite in coccidioidal granuloma differed from the various fungi described in blastomycetic dermatitis, first by the absence of budding during its development in the tissues, second by its mutiplication by endosporulation, third by certain differences in its growth on artificial culture media. He said there were now on record 10 cases of coccidioidal granuloma to which he could add 3 new cases, making 13 in all. In one of the cases reported a very remarkable feature was that tubercle bacilli and no other parasites were found in the adrenals, whereas no tubercle bacilli, but many oidia could be demonstrated in the meninges. A great variety of lesions were produced by the parasite, and a great variety of organs were affected, and the clinical symptoms, of course, depended entirely upon the localization and intensity of the disease. So far no typical clinical picture could be given, but, in some cases, there was a striking resemblance to tuberculosis. The most characteristic manifestations of this disease were nodules consisting of granulation tissue at various stages of development, but in addition suppurative processes usually of a chronic character. The infection with *Oidium coccidioidcs*, therefore, produced either submiliary, miliary, or larger nodules, which resembled tuberculosis very closely. These nodules might caseate. Later the caseous material might liquify and cavities containing pus-like material might be produced in this way. He described the cutaneous lesions which seemed to have been the primary seat of infection in some of the cases. The disease seemed to be almost limited to California. The cases had been found at considerable intervals in San Francisco, in people coming from the country who had no apparent relation to one another. From what was known of the cultivation experiments, it seemed quite possible that the oidium occurred in nature, and caused infection only occasionally. It had been suggested that the trouble might be primarily an animal disease, and only occasionally transmitted to human beings, but it had not been as yet possible to adduce any evidence in support of this theory. The resemblance of the disease to tuberculosis was so great clinically and anatomically that the true nature of the cases was recognized only when a careful microscopical examination was made of the diseased tissues or of the pus in the lesions.

Dr. H. A. Rykfogel of San Francisco discussed this paper.

**Affections of the Thyroid in California.**—Dr. Herbert C. Moffitt of San Francisco believed that affections of the thyroid, like aneurysms and early arteriosclerosis, were more common in San Francisco than many other cities of the United States. It was stated that 5 per cent. of the young women entering the University of California in 1904 had enlarged thyroids. Since January 1, 1905, he had noted moderate enlargements in 75, and large goiters in 8 patients, out of 546; 14 cases were in men. This gave a percentage of 15.2 in individuals nearly all of whom were native born, or who had lived in California for years. Of myxedema there were 53 cases from San Francisco, and 83 throughout the State. Thirteen had decidedly large thyroids, the myxedema resulting from changes in old goiters. Twice the condition resulted from operation on goiter. Emphasis in description was laid chiefly on skin, voice, and mental changes and disturbances in locomotion. Three women had frequent epileptiform attacks which did not yield to thyroid medication, although the skin and mental conditions improved. Endeavor had been made to distinguish between myxedema of thyroid and of mixed thyroid and parathyroid origin. Some attributed considerable influence to the parathyroids in determining sexual and mental changes. He had records of 61 cretins now living in the State and all native born. In a majority of them there was absence of palpable thyroid enlargement. Exophthalmic goiter appeared to be much more common in the country about San Francisco Bay than in other parts of the State. His list included 33 well-marked cases of exophthalmic goiter, excluding *formes frustes*. Of these 9 were in males, and 24 in females; 7 occurred in patients with goiters of years' standing. He said there was danger in labeling too many indefinite nervous affections with a convenient diagnosis of a *forme fruste* of exophthalmic goiter, which only a combination with cardinal symptoms would justify. He had seen enlargement of the thyroid with nervous symptoms and tachycardia, the result of masturbation in young men. The senseless administration of thyroid extract in large doses for obesity, arteriosclerosis, and other cases of supposed thyroid insufficiency, the speaker said, should be discountenanced. The reports of treatment in myxedema and cretinism were very enthusiastic. It was usually not necessary to give large doses of a good thyroid preparation; in cretinism he began with one grain daily, and rarely went beyond the 5 grains. Opinions were in accord that preparations representing the whole gland could not wholly be re-

placed by the active principle iodothyrin. It was very difficult to judge of the efficacy of any method of treatment in an affection notoriously so uncertain in course and symptoms as Graves' disease. From the evidence at command, it was not possible to say that the parathyroids were in any way influenced in Basedow's disease. The possible influence of the thyroid in California as an etiological factor in their very common arteriosclerotic and renal affections should be remembered.

Drs. James J. Walsh of New York, E. F. Wells of Chicago, C. Quevil of Tacoma, G. W. McCaskey of Ft. Wayne, Ind., George S. Whiteside of Portland, C. R. Grandy of Norfolk, Va., J. A. Lichty of Pittsburg, and C. Johnson of Clinton, Ia., discussed this paper.

**Value of Various Hemoglobin Instruments to the General Practitioner.**—Dr. M. H. Fussell and Dr. Marius B. Marcellus of Philadelphia called attention to the value of blood examinations in general. They used the Fleischel, Dare, and Tallqvist scale in the following manner: The blood of fifty cases was examined with each of the instruments. Each examination was made with at least two individuals, and frequently by three or four individuals. This was done so that the different instruments might be used upon the same case to discover any instrumental difference, and discern any *individual* difference, in the use of the different instruments. It was found that with the various instruments the differences were as follows: Average differences between Fleischel and Dare, 3.3 per cent.; between Fleischel and Tallqvist, 3.2 per cent.; between Dare and Tallqvist, 3.3 per cent. The personal differences: With Dare, 1.85 per cent.; Fleischel, 2.9 per cent.; Tallqvist, 1 per cent. The greatest personal difference was with the Dare, 15 per cent.; Tallqvist, 10 per cent.; Fleischel, 8 per cent. The conclusions were as follows: (1) Any one of the instruments studied by them was sufficiently accurate for practical purposes. (2) No practitioner should neglect to use one of these instruments, and the Tallqvist scale was cheap and reliable. (3) The Tallqvist scale could be used for routine observation, and either of the other instruments for detailed or more accurate work. (4) The Dare instrument was just as accurate as the Fleischel, and took much less time to manipulate.

**Election of Officers.**—*Chairman*, Dr. Herbert C. Moffitt of San Francisco; *Secretary*, Dr. J. S. Miller of Chicago; *Alternate to House of Delegates*, Dr. George Dock of Ann Arbor, Mich.

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SECTION ON SURGERY.

*Second Day—Wednesday, July 12.*

**A Clinical Chart for the Record of Patients in a Small Hospital.**—Dr. George F. Wilson of Portland, Oregon, claimed that much scientific work is done in a great many hospitals throughout our country which is lost on account of a lack of clerical help, and the exacting duties of the resident staff in other directions. He presented a chart for criticism and suggestions which, preserved in its original form, included all necessary data, avoided the copying of histories, and when filed away or bound with a proper index, both of the patient and the disease, preserved all in a manner readily acceptable and did away with much clerical work in the way of repetitions.

Dr. Wright of Salt Lake City considered the chart was too large and that the spacing was not satisfactory.

Dr. Harry M. Sherman of San Francisco objected to the necessity of writing on both sides and to the fact that the chart was to be kept by some one other than the physician himself.

**Preliminary Report of a Study of Tetanus.**—Dr. James M. Anders of Philadelphia stated that the prevailing views showing tetanus to be a purely surgical isease were corroborated by his observation. He dealt with its distribution and prevalence in the United States; gave reports of endemic and epidemic occurrences with interesting cases of vaccination tetanus and puerperal tetanus, and tabulated cases not previously reported. He then followed with a brief review of the bacteriology, etiology, pathology, clinical history, and treatment, with special reference to the cases collected by himself; gave the results of the serum treatment and the conclusions drawn from his collective investigations.

Dr. L. L. McArthur of Chicago called attention to the importance of the early diagnosis of these cases and stated that in Chicago since the World's Fair, twelve years ago, it had been the custom among physicians to administer antitoxin in all cases of suspected or developing tetanus, before even receiving the report of the bacteriologist.

Dr. McCuster of Fort Wayne objected to the method of serum injection before a positive diagnosis had been made, and felt that the thorough cleansing of the wound was all that was necessary.

Dr. Walsh of Erie, Pa., reported a case of death from tetanus, although the patient had been thoroughly treated by him within an hour of the accident.

Dr. McLean of California dwelt at some length on the value of the antitoxin treatment and detailed the methods of its use.

Dr. Anders closed the discussion by arguing in favor of prophylactic treatment.

**Cysts of the Spleen.**—Dr. W. A. Bryan of Nashville, Tenn., gave a classification of splenic cysts with their etiology, structure, symptoms, and differential diagnosis. He also reported a case, reviewed the cases operated upon, and gave the results.

**Indications for the Removal of the Pathological Spleen.**—Dr. B. D. Davis of Omaha reviewed the recent physiology of the spleen; the several pathological conditions suitable for splenectomy; splenic anemia; malarial spleen; sarcoma; tuberculosis, and abscess. He reported a case of successful splenectomy and gave the clinical, blood, and pathological findings.

Dr. M. L. Harris of Chicago called particular attention to the blood condition in tetanus.

Dr. Charles A. Powers of Denver described some cases of cysts of the spleen on which he had operated.

Dr. Schleeter of St. Louis reported a case of rupture of the spleen in a boy fourteen years of age, and gave the blood count.

Dr. A. H. Cordier of Kansas City reported several cases on which he had operated, and urged a careful diagnosis before operation.

Dr. H. G. Marxmiller of Cincinnati considered that the subject should be divided into the medical and the surgical spleens, and advised the examination of a dried specimen of blood before operating.

Dr. McDonald of San Antonio reported a case operated upon by himself six years ago in a woman who has since borne children.

Dr. Jepson of Iowa thought the cases should be divided into two classes, the one to be called primary and the other secondary, and laid considerable stress on the blood count.

Dr. Griffiths of Kansas City reported the case of a child operated upon by himself, where the splenic condition followed a severe attack of whooping-cough.

Dr. Bryan closed with some references to non-parasitic cases.

Dr. Davis closed by calling attention to the blood variations before and after operation.

**Lip Operation for Cancer and Deformity, with Report of Cases.**—Dr. W. W. Grant of Denver described in detail a new operation for carcinoma of the lips and deformity of the mouth, which he claimed was superior to the ordinary operations for these conditions.

**Esophagectomy, with Report of Case with Prothetic Appliances.**—Dr. Wallace I. Terry of San Francisco showed a patient on whom he had performed his operation, which consisted of removing the upper portion of the esophagus down to the level of the sternum for recurrent

carcinoma; he having previously done a total laryngectomy.

Dr. Sala of Rock Island reported a case of cut throat where all the important blood vessels fortunately were missed and the man was eventually able to swallow fairly comfortably after the esophagus had granulated over.

Dr. Jacob Frank of Chicago mentioned a case similar to Dr. Terry's in which he had operated for carcinoma of the larynx, and in whom the remarkable result was obtained of the patient being able to articulate loud enough to be heard by everybody in a room with a seating capacity of three hundred.

**Cancer.**—Dr. William L. Rodman of Philadelphia called attention to the increasing frequency of cancer and the fact that not only was the parasitic theory not proven but that the weight of evidence was against it. He went into some detail concerning the diagnosis, prognosis, and treatment, both of the cancerous and of the precancerous stage.

Dr. A. W. Sherrill of Louisville reported having operated on three cases of cancer of the intestine, and expressed surprise at the frequency of this condition.

Dr. Tinos of Milwaukee urged that the operation when done should be radical and complete.

Dr. J. J. Hamilton of Idaho reported a case of cancer of the rectum for suggestions.

Dr. J. Clark Stewart of Minneapolis described an operation performed by himself for epithelioma of the lip.

Dr. McLenahan of Baltimore believed that cancer could be as well recognized by the naked eye as by a frozen section.

Dr. Martin of New Orleans called attention to the frequency of cancer among the negroes, although the general belief was that they were more or less immune.

Dr. Levings of Milwaukee called attention to the apparent relation existing between tuberculosis and cancer, and gave instances of families where this seemed to have been proven.

Dr. Rixford of San Francisco argued in favor of the removal of the glands in cancer of the breast.

Dr. Boucher of Hartford reported half a dozen cases of intestinal operations, most of them for cancer.

Dr. Parham of New Orleans described his method of operating in these cases, and referred to a method recently published in some German literature. He also stated that only negative results were obtained by the use of the Doyen serum.

Dr. Charles A. Powers of Denver believed that cancer was very likely to develop at the site of leucoplakia.

**A New Method of Incising and Suturing the Liver to Reestablish Its Continuity, and for the Control of Hemorrhage.**—Dr. Jacob Frank of Chicago described in detail his method of operating, particularly in the controlling of the hemorrhage. He stated that his chief object was to bring his flaps together, and obliterate all dead space, as this reestablished the continuity of the liver surface and left no raw surface or ragged edge.

**Gallstones in the Common Duct.**—Dr. W. D. Haggard of Nashville, Tenn., mentioned a number of cases on which he had operated, and looked upon stones in the feces as an indication for operation. He considered that operation in the presence of prolonged jaundice was dangerous, and mentioned a number of differential points between tumor and stone obstruction.

**Non-Calculous Cholecystitis.**—Dr. Davis S. Fairchild of Des Moines, Iowa, called attention to the number of cases operated upon for gallstones where no stones were found. In addition he mentioned that practically no changes were sometimes observed in the appearance of the gall bladder in spite of the supposed gall bladder disease.

Dr. McLaren of Minneapolis did not think that hemorrhage need be feared in operations on the liver. He, however, believed that stones in the feces were almost always associated with stones in the common duct.

Dr. Porter of Fort Wayne reported a case that had been perfectly well for ten years following an attack of gallstone colic, which finally came to operation for the relief of obstruction to the flow of bile.

Dr. Grothan of Nebraska did not agree with the statement that stones necessarily were still present in the liver because some had at some time been passed.

Dr. Cooper of San Francisco discussed the question from a medical point of view and called attention to important medical signs of gall bladder disease.

Dr. A. J. Ochsner of Chicago called attention to the three most important points in Dr. Frank's paper: (1) The importance of making distinct flaps, (2) the clean surface, and (3) the care required in closing the liver wound. He reminded the members that acute obstruction of the common duct was no longer operated upon in as great haste as previously, and that of late greater success had attended the operation. He briefly described an operation performed by himself, and claimed that the vomiting of bile was due to an anatomical fact.

Dr. J. H. Carstens of Detroit argued strongly in favor of more prompt operating and less medicating in cases usually diagnosed as gastritis, which were really nothing more than cases of gall bladder disease.

Dr. William J. Mayo of Rochester, Minn., spoke in favor of Dr. Frank's method of controlling hemorrhage in liver surgery, and added that the injection of hot water into the liver was very beneficial for the same purpose. He urged the necessity of carefully differentiating one's gall bladder cases, and reminded the members that one could never be sure a case was going to do well. He then dwelt upon the relation between jaundice and pain, and particularly the great variability of the former.

Dr. J. J. Hamilton of Idaho reported a case of gall bladder disease where the patient operated upon himself without an anesthetic, removed six stones, and made a good recovery.

Dr. Frank, in closing, believed it was possible to readily control hemorrhage in liver operations, and urged that liver surgery should be put on a plane with appendicitis.

Dr. Haggard closed by stating that he was always dubious about accepting the statement of a patient that they had passed gallstones unless they could produce them.

Dr. Fairchilds laid stress upon the fact that many of the most serious cases of gall-bladder disease occurred where no stones were present.

**Penetrating Wounds of the Abdomen.**—Dr. R. Winslow of Baltimore dealt particularly with military wounds, and stated that stab wounds are not as serious as gunshot wounds. He gave some of his personal experiences in civil practice, with the results of treatment.

Dr. Cooper of San Francisco referred to his experience with wounds of the abdomen as observed in the South African war, and called attention to the importance of the stomach being empty at the time of injury.

Dr. McRae of Atlanta detailed his method of treating gunshot wounds of the abdomen, and called especial attention to the danger in cases where the bowel was separated from the mesentery. He spoke in favor of the avoidance of the old method of using gallons of water in flushing the abdominal cavity after injury.

Dr. Willard of Philadelphia believed that posterior drainage was a valuable addition in the treatment of these cases where there had been much soiling of the intestines.

Dr. Boucher of Hartford considered that drainage was a decided disadvantage.

Dr. Winslow, in closing, believed that some cases should be drained, although where there had been but little contamination he did not think so.

**Meckel's Diverticulum as a Cause of Abdominal Crises.**—Dr. Miles F. Porter of Fort Wayne, Ind., reported having seen four cases inside of a few months, which induced him to write his paper, which included reports of 183 cases, of which 35 were not hitherto reported. He took up the causes of the condition together with the diagnosis and treatment, and expressed his belief that delay in operating was the chief cause of the great mortality.

Dr. Winslow of Baltimore mentioned two cases, one of which resulted fatally.

Dr. Jepson of Iowa expressed surprise that the condition was not found more frequently, and although he has been examining for the past two years every operative case, he has not discovered any.

**Phlebitis Following Abdominal Operations.**—Dr. A. H. Cordier of Kansas City considered this subject under eleven different headings, which included various operations in which the condition occurred, and the treatment, which he said consisted largely of an elevation of the affected leg, tonics, etc.

Dr. Tinos of Milwaukee referred to the advantage of the Trendelenburg position in the treatment of these cases.

Dr. Goldspohn of Chicago spoke of the author's reference to the predominance of the condition on the left side, and he believed it could probably be explained by the difference in the circulation of the two sides, the same as do the gynecologists.

Dr. Cordier, in closing, did not agree with Dr. Goldspohn, because he did not believe that the condition was of a thrombotic character.

**Anaerobic Cellulitis, with Report of Successful Cases.**—Dr. J. Clark Stewart of Minneapolis believed that this condition was becoming one of great interest to surgeons, first, because careful diagnosis is increasing the number of observed cases, and, second, because early diagnosis and prompt treatment has shown that life-saving results can be obtained by the proper methods.

*Third Day—Thursday, July 13.*

**Exstrophy of the Bladder Successfully Treated by Peter's Method, with Illustrations.**—Dr. Harry M. Sherman of San Francisco discussed, at considerable length, Peter's method, extraperitoneal, as contrasted with Maydl's method, intraperitoneal, particularly as regarded passivity of technique and results. He referred to the need of a ureteral catheter during the operation and the danger of it afterward. He considered the time of closure of the abdominal opening, and claimed that primary closure was preferable, although secondary closure was satisfactory. He concluded his paper by detailing at considerable length the case upon which he had operated by this method.

Dr. E. A. Wells of Hartford referred to two cases operated upon by Dr. Hartley of New York, one for exstrophy and the other for chronic tuberculous cystitis. He gave the details of the operations, both of which were successful, and advised great care in the use of the ureteral catheter and the doing of the operation when possible without opening the peritoneal cavity.

Dr. L. L. McArthur of Chicago referred to some experiments made by Dr. Peterson of Ann Arbor and Dr. Martin of Chicago with a method of implanting the ureter into the rectal wall so as to militate against the backward regurgitation. He claimed that the great advantage of their method was that the fecal masses did not tend to crowd into the ureter, thus materially lessening the danger of an ascending pyelitis.

Dr. Sherman closed the discussion by stating that he considered Dr. Hartley's method nothing more than the regular Maydl operation. He referred to some experiments made by Dr. Tait and himself on the transplantation of both ureters in dogs, all of which died from peritonitis. The only case where ascending infection had occurred following operation done by Peter's method was in one where Peter kept the catheter in too long. Dr. Sherman considered that the operation was exceedingly simple and very valuable.

**Tuberculosis of the Kidney.**—Dr. J. Garland Sherrill of Louisville believed this affection was worthy of more consideration than had generally been accorded it. He referred to the classification of Kroenlein of "solitary" and "combined" tuberculosis of the kidney, and to the modes of infection, and stated that the majority of cases showed the infection to be a descending one. The interference with the urinary outflow he claimed predisposed to both ascending and descending infection, and conditions that favored the development of the disease anywhere were particularly active here. After taking up the pathology, symptomatology, and diagnosis, and stating that if a diagnosis could be established early while only one kidney was affected much could be done for these patients, he referred to the following as the most valuable diagnostic symptoms: painful, frequent urination, polyuria, hematuria, pyuria with acid urine, and the presence on of bacilli. The methods of determining which kidney was affected, and the efficiency of the other, were given, and it was urged that these points should be determined before operation, except when other conditions demanded interference. In his opinion the operation of choice was complete nephrectomy or nephroureterectomy if the ureter was diseased.

Dr. O. C. Smith of Hartford advised persistent search for the tubercle bacillus in these cases. He urged the collection of a 24-hour specimen which should be searched several times, and if the germ were not found he advised that the specimens be centrifugalized and inoculation made into a guinea pig. Cryoscopy and skiagraphy were commended as valuable aids in diagnosis, and reference was made to an improved technique employed by Dr. Cole of New York.

Dr. M. H. Richardson of Boston stated that one of the first questions to be decided in these cases was whether or not both kidneys were affected, but still more important in his opinion was whether, in case of a proposed operation on one kidney, there was a second kidney, and if so if it was capable of carrying on the elimination. In his opinion the only way to treat this condition, provided the other kidney was sound, was by total extirpation. After removal of a tuberculous kidney, if sinuses existed that were dependent upon the tuberculous focus, he felt that the chances of a permanent cure were not worth much. In conclusion, he compared this disease with malignant trouble, and urged the same radical measures in its treatment.

Dr. Huntington of San Francisco agreed with Dr. Richardson in recommending the total removal of the kidney in these cases, and referred to three cases where this had been done with very good results. He recommended more optimism in the future in reference to the results of extirpation in the early stages.

Dr. Casper W. Sharples of Seattle referred to the importance of hemorrhage in this condition which he said might be associated with some irritation of the bladder and some painful urination, although not necessarily so. He related a case upon which he operated for tuberculous kidney which ended fatally from pulmonary hemorrhage eighteen hours after operation, although no evidence could be found of any tuberculous deposit in the chest.

Dr. Munzen of Wisconsin reported having observed Dr. Mayo inject 20 drops of carbolic acid recently into the ureter in a case of tuberculosis of the kidney to obviate the necessity of removing the ureter.

Dr. Jacob Frank of Chicago commented on the value of cystoscopic examination of the bladder in cases of tuberculous kidney, and stated that in his experience it was in the descending type and not the ascending that the ureter was generally enlarged. He spoke in favor of performing the operation of extirpation in two parts, and reported having opened the pleura accidentally while operating in one case, with the resulting death of the patient, although it was possible, in his opinion, that death was due to the failure of the kidneys to perform their function, and to the presence of stone. He also reported the case of a patient upon whom he operated sixteen years ago who had remained fairly well, although the bladder symptoms had never subsided. He urged the making of a diagnosis before the bladder had become accustomed to emptying itself so often, thus securing a better likelihood of bladder symptoms subsiding after operation on the kidney.

Dr. Sherrill closed the discussion by referring to the

question of passing the catheter through an infected bladder into a sound ureter, which he believed could be done with safety. He approved of Dr. Mayo's method of injecting carbolic acid into the ureter, provided the ureter was not very much affected. He looked upon the bladder symptoms as important and considered dysuria and polyuria as very early signs. When these were present he advised prompt search for the tubercle bacillus or for bacteria, preferably employing many specimens to looking at one specimen several times.

**Treatment of Congenital Dislocation of the Hip, With Report of Cases.**—Dr. Park Weed Willis of Seattle described in full his method of manipulative reduction by gentle repeated manipulation, stating that he resorted to open incision when, after a fair trial, manipulation had failed. He stated that he changed the casts with comparative frequency. The result in one case of double dislocation was anatomically perfect, and in another failure to maintain reduction. Upon making an open incision the capsule was found adherent across a very shallow acetabulum; reduction was performed, but the limb being found later on the dorsum reduction again became necessary; this was followed by an anatomically perfect result, although with stiffness and slight abduction. He also reported a case of double dislocation with poorly developed acetabular cavities. His result in this case was anatomically perfect, while in another similar one he secured anterior transposition. He concluded his paper with a report of two adult patients with single and double dislocation respectively, in whom he secured a good result with comparatively slight disability.

Dr. Hunkin of San Francisco urged the replacing of the hip in every case in the quickest and easiest manner possible. He stated there was no question about the best surgical proceeding being an open incision down to the capsule, division of the capsule, and putting the head of the bone in the acetabulum, provided there was one. He considered the great difficulty was to keep it there. In his opinion the most essential part of the operation was the wearing of a splint from six to ten months, and he advised that one which opened at the side be worn every night, even though it were dispensed with during the day.

Dr. De Forest Willard of Philadelphia referred to the hysterical nature of the newspaper articles on this subject a couple of years ago at the time of the visit of Dr. Lorenz, and spoke against his plan of treating these cases. He expressed himself as being in favor of Dr. Willis' procedure of gentle manipulation, provided it could be performed successfully, which he seemed inclined to doubt. He did not believe that a little improvement in the walking of children, and particularly of men, was important compared with their being better prepared to do their work. He reported the results of three operations performed on three of his patients last year by Dr. Hoffa, in none of which was a very satisfactory result obtained. Commenting on the prognosis he advised great caution, and compared the acetabulum in many cases to a tea-saucer instead of, as it should be, a tea-cup.

Dr. C. O. Theinhaus of Milwaukee reported having noticed that one more often had to deal with a hyperplasia in the acetabulum than a hypoplasia.

Dr. Harry M. Sherman of San Francisco believed that Dr. Willis had accomplished a great step in advance in the treatment of these conditions if he was able to secure and maintain the reduction by the methods he advocated. On general principles, however, he objected to the fearful manipulation of Lorenz or the bloody operation of Hoffa, and spoke in favor of the open incision.

Dr. Parker of Portland reported the case of a grandmother aged 60, and weighing 200 pounds, who had had congenital dislocation without any other discomfort than a limp; her oldest daughter had a similar condition on the same side, but her granddaughter was perfectly sound.

Dr. James E. Moore of Minneapolis protested against the use of the words "bloodless operation," saying it was a misnomer, and referred to it as the most unsurgical procedure with which he was acquainted. He believed the Lorenz method left the patients in a worse condition than they were before, and recommended open incision in the future.

Dr. S. C. Baldwin of Salt Lake City looked upon the Lorenz method as a very bloody one, and objected to the Hoffa operation. He believed that in the future the standard method of treatment would be the open incision along the lines described by Dr. Sherman.

Dr. A. J. Ochsner of Chicago reported having seen thirty cases operated upon with good results by the manipulative method, and believed it was a perfectly safe and justifiable procedure, provided the cases were properly selected and the operator thoroughly understood its performance.

Dr. Willis in closing, did not consider the open incision a justifiable surgical procedure, but claimed that it produced stiff joints and crippled patients. He believed enough germs could get into a small opening over one hip to ruin both hips, and called attention to the difficulty of maintaining the reduction after it had been successfully performed.

**Ununited Fractures in Cases of Delayed Union.**—Dr. Casper W. Sharples of Seattle, Wash., dwelt at some length on the symptoms, pathology, diagnosis, prognosis, and treatment of this condition. He also gave the details of a number of cases occurring in his practice with the results of treatment in each.

Dr. Martin of New Orleans believed that many cases of ununited fracture were due to improper reduction or the interposition of tissues, and advised making sure that crepitus could be elicited after reduction, this being, in his opinion, a sure sign of bony apposition. He was not in favor of cutting down in these cases unless absolutely necessary, nor did he believe that the use of wire was sufficient to hold the bones in place. He spoke in favor of the use of a staple made of piano wire, and advised drainage in all cases.

Dr. Huntingdon of San Francisco believed that in almost every case delayed union was due to faulty position. He felt that the use of the *x*-ray should make it possible to secure proper apposition, but he did not consider that the eliciting of bony crepitus was enough to decide that this result had been obtained. He looked upon fractures of the shaft of the femur as being particularly liable to become displaced owing to the strength of the opposing muscles.

Dr. Harry M. Sherman of San Francisco considered the tearing off of the nutrient artery the principal cause of delayed union, or non-union, in many cases. He called attention to the fact that the upper fragment healed alone and the lower fragment never did. He looked upon the existence of crepitus as a pretty satisfactory sign of the bones being in apposition, and recommended the use of the *x*-ray in addition, but spoke strongly against the *x*-ray being used for diagnostic purposes to the exclusion of the older methods.

Dr. Hunkin of San Francisco believed that the principal trouble was the failure to secure immobility at the seat of injury, and claimed that the profession was afraid to put the splint on tight enough for fear of swelling. He insisted that swelling would not take place, never mind how tight the splint, provided the pressure was evenly graduated, and recommended its tight application very strongly in all cases.

Dr. W. J. Means of Columbus looked upon delayed union as largely due to malnutrition. He did not believe ambulation did any good in the absence of apposition. He thought it wise to avoid the use of any material, absorbable or otherwise, unless compulsory, and claimed that he got better results when he did not drain than when he did drain.

Dr. Sharples, in closing, reported having gotten good results from the use of silver wire, but believed the saving of the periosteum was the most important factor in securing good union. He looked upon fibrous tissue intervening

between the ends of the bones as nothing more than an attempt to heal the parts. He agreed that the tearing off of the nutrient artery was most important, and felt sure he had seen cases of ununited fracture due entirely to that condition.

**Gallstones.**—Dr. L. L. McARTHUR of Chicago reported a very interesting case of gallstones, and showed the liver with the stones *in situ*. The important point was that for several days after he had removed all the stones he found they continued to pour out of the wound through a tube which he had inserted for that purpose.

Dr. C. O. THIENHAUS of Cincinnati considered the question of cholecystectomy and cholecystotomy, and felt that the experience of Dr. McArthur should have a direct bearing upon one's method of operating.

Dr. M. H. RICHARDSON of Boston did not feel that a surgeon should reproach himself, never mind how many stones might come away subsequent to his operation. He referred to some cases illustrating the formation of stones in the liver instead of in the gall-bladder, and mentioned a few symptoms by which one might at least suspect the existence of stones, even after an operation for their removal. In order to avoid the occurrence of this condition, he strongly recommended the employment of an incision large enough to admit the surgeon's hand.

Dr. ROBERT F. WEIR of New York suggested a method of securing a sufficiently large incision to enable one to explore the liver thoroughly.

Dr. McArthur, in closing, stated it was very evident that never mind how far into the liver substance one might go at the time of operation he could not be sure that all the stones had been gotten away.

**Fractures of the Leg, Their Diagnosis and Treatment, with Report of Cases and Demonstration of X-Ray Pictures.**—Dr. C. O. THIENHAUS of Milwaukee presented a large number of pictures illustrating several varieties of fractures of the leg, but more particularly of the foot, together with his method of treatment and the results obtained.

Dr. R. W. KNOX of Houston reported the case of a fireman whose foot was crushed by the driving wheel of his engine. Dr. Lorenz saw the case, and felt that reduction of the bones would be impossible, but upon the man consenting to operation it was performed with good results.

Dr. Thienhaus stated that if a subastragaloid dislocation could not be reduced immediately the open operation must be done, and if that was not successful the entire astragaloid must be removed.

**Officers.**—The Section elected Dr. Robert F. Weir of New York *Chairman*, and Dr. A. C. MacLaren of St. Paul, *Secretary*. Dr. A. F Jonas of Omaha was elected as the *Delegate to the House of Delegates*. The thanks of the Section to the Rector of the First Presbyterian Church for its use for the meeting, and to the retiring Chairman and Secretary for the excellent program, were carried.

*(To be continued.)*

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**Gratitude Expressed in Babu.**—Dr. Margaret H. Norris, the physician in charge of the Sarah Seward Hospital at Allahabad, in India, furnishes beautiful evidence of the gratitude of the natives among whom she and many other American women are working in a medical way. The two letters subjoined are genuine, and from the husbands of women who had been patients of Dr. Norris:

"DEAR SHE:—My wife has returned from your hospital cured. Provided males are allowed at your bungalow, I would like to do you the honor of presenting myself there this afternoon, but I will not try to repay you; vengeance belongeth unto God. Y'rs, noticeably,

"_____"

"DEAR AND FAIR MADAME:—I have much pleasure to inform you that my dearly unfortunate wife will be no longer under your kind treatment, she having left this world for the other on the night of the 27th ultimo. For your help in this matter I shall ever remain grateful. Y'rs reverently,

"_____"

These testimonials are printed in the India number of *Woman's Work* for April.

# Medical Items.

**Contagious Diseases—Weekly Statement.**— Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending July 22, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 347 | 14 |
| Diphtheria and Croup | 181 | 26 |
| Scarlet Fever | 62 | 3 |
| Smallpox | ..... | ..... |
| Chickenpox | 43 | ..... |
| Tuberculosis | 365 | 150 |
| Typhoid Fever | 128 | 26 |
| Cerebrospinal Meningitis | 39 | 20 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | ..... |
| Totals | 1 165 | 239 |

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, Public Health and Marine Hospital Service, during the week ending July 22, 1905:

SMALLPOX—UNITED STATES.

| | | | CASES. | DEATHS. |
|---|---|---|---|---|
| California, Los Angeles | July | 1–8 | 1 | .. |
| District of Columbia, Washington | July | 8–15 | 6 | .. |
| Illinois, Chicago | July | 8–15 | 6 | .. |
| Indiana, South Bend | July | 8–15 | 1 | 1 |
| Louisiana, New Orleans | July | 8–15 | 4 | (2 imp't'd) |
| Massachusetts, Lowell | July | 1–8 | 1 | .. |
| Michigan, Grand Rapids | July | 8–15 | 6 | .. |
| Nebraska, Omaha | July | 8–15 | 1 | .. |
| South Omaha | July | 1–8 | 1 | .. |
| New Jersey, Jersey City | July | 8–16 | .. | 1 |
| Ohio, Toledo | July | 8–15 | 2 | .. |
| Oregon, Portland | June | 1–30 | 6 | .. |
| Pennsylvania, Altoona | July | 8–15 | 1 | .. |
| York | July | 8–15 | .. | 1 |
| Tennessee, Memphis | July | 8–15 | 2 | .. |
| Washington, Seattle | July | 1–8 | 1 | .. |
| Wisconsin, La Crosse | July | 8–15 | 1 | .. |
| Milwaukee | July | 8–15 | 15 | .. |

SMALLPOX—FOREIGN.

| | | | | |
|---|---|---|---|---|
| Africa, Cape Town | May | 27–June 3 | 2 | .. |
| China, Hongkong | May | 6–13 | 1 | .. |
| Colombia, Cartagena | June | 17–24 | 1 | 1 |
| Ecuador, Guayaquil | June | 13–20 | .. | 1 |
| France, Paris | June | 24–July 1 | 7 | .. |
| Great Britain, Birmingham | June | 24–July 1 | 8 | .. |
| Bristol | June | 24–July 1 | 2 | .. |
| Cardiff | June | 24–July 1 | 4 | .. |
| London | June | 24–July 1 | 1 | .. |
| India, Bombay | June | 6–13 | 4 | .. |
| Calcutta | June | 3–10 | 5 | .. |
| Harachi | June | 4–11 | 8 | 2 |
| Madras | June | 3–9 | 5 | .. |
| Italy, Catania | June | 22–29 | 1 | 1 |
| Russia, Moscow | June | 10–17 | 7 | 3 |
| St. Petersburg | June | 22–29 | 9 | .. |

YELLOW FEVER.

| | | | | |
|---|---|---|---|---|
| Africa, Goree-Dakar | May | 31 | .. | 1 |
| Ecuador, Guayaquil | June | 13–20 | .. | 3 |
| Guatemala, Livingston | June | 24–July 6 | 8 | 2 |
| Honduras, Puerto Cortez | June | 8–July 7 | .. | 12 |
| Panama, Colon | July | 2 | 1 | .. |
| Venezuela, Maracaibo | June | 22 | (Present) | |

CHOLERA.

| | | | | |
|---|---|---|---|---|
| India, Bombay | June | 6–13 | .. | 1 |
| Calcutta | June | 3–10 | .. | 5 |

PLAGUE—INSULAR.

| | | | | |
|---|---|---|---|---|
| Hawaii, Hilo | July | 17 | .. | 1 |
| Philippines, Cebu | May | 27–June 3 | 2 | 2 |
| Manila | May | 27–June 3 | 1 | 1 |

PLAGUE—FOREIGN.

| | | | | |
|---|---|---|---|---|
| Australia: New South Wales— | | | | |
| New Castle | May | 13–27 | 2 | .. |
| Sydney | May | 13–27 | 3 | 1 |
| Northern Rivers District | May | 6–13 | 2 | 1 |
| Queensland— | | | | |
| Brisbane | May | 27–June 3 | 1 | 1 |
| Ipswich | May | 31 | .. | 1 |
| China, Hongkong | May | 6–13 | 17 | 12 |
| Egypt, General | June | 3–10 | 3 | 2 |
| India, Bombay | June | 6–13 | .. | 188 |
| Calcutta | June | 3–10 | .. | 52 |
| Karachi | June | 4–11 | 67 | 63 |
| Japan, Kagama Ken | May | 30–June 16 | 34 | .. |
| Tokyo | Apr. | 18–June 10 | 11 | 6 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 6.
Whole No. 1813.

NEW YORK, AUGUST 5, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### SYPHILITIC SPINAL PARALYSIS. WITH SPECIAL REFERENCE TO THE TYPE DESCRIBED BY ERB.

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ATTENDING NEUROLOGIST TO THE HOSPITAL FOR INCURABLES AND ST. JOSEPH'S HOME FOR THE AGED.

IN 1892 Erb described a clinical syndrome which he considered of sufficient importance to warrant its introduction into nosology as a definite form of spinal cord disease. To this syndrome, the distinguishing features of which are feebleness in the lower extremities, more or less spasticity and exaggeration of deep reflexes, together with vesical and possibly rectal derangement, and slight but quite constant disturbances of sensation, he gave the name of syphilitic spinal paralysis. He assumed the disease to be syphilitic, although pathological and anatomical proof was not obtainable at the time, from its occurrence almost exclusively in individuals who had suffered a luetic infection. In the absence of post-mortem evidence, Erb localized the lesion in both halves of the cord in the dorsal region, chiefly in the posterolateral tracts, together with partial involvement of the posterior columns, both gray and white. He did not commit himself as to its probable histological nature, and this is even now a question over which there is much divergence of opinion.

FIG. 1. Sixth Cervical.

It was some time before evidence accumulated tending to show the nature and distribution of the lesions underlying the process which Erb designated as syphilitic spinal paralysis. Later observations with autopsy findings were not uniform, indeed conflicting. Westphal, Eberle, Nonne, and Williamson reported cases some of which were diagnosticated as spastic spinal paralysis, but all unquestionably typical examples of syphilitic spinal paralysis. The lesion in these cases (four in all) consisted of a combined system disease most often involving the pyramidal, cerebellar, and Goll's tracts, with, in one case, implication of Burdach's tract as well. On the other hand, not a few cases have been reported embodying all the clinical phenomena of syphilitic spinal paralysis where the pathological basis was apparently a myelitis most often encountered in the mid-dorsal region. These cases, which were reported by Nonne, Dreschfield, Williamson, Long, and Wike, revealed, in addition, an ascending and descending degeneration, but how much of this

FIG. 2. Eighth Cervical.

was primary (if any) or secondary is difficult to determine. It would be well here to direct attention to the fact that previous to the appearance of Erb's monograph on syphilitic spinal paralysis, an identical symptom group had been recognized by Charcot and Marie and designated "syphilitic transverse myelitis."

Erb, in an address delivered before the Post-Graduate Hospital, West London, in 1902, in describing those cases of syphilitic spinal paralysis in which the lesion was a myelitis with ascending and descending degenerations, in part said: "I will only point out that a multiple (combined) system degeneration in the lateral and posterior tracts is common to all. The secondary or primary nature of which, however, is difficult to determine or define because there is an addition in the dorsal cord, a patchy, more or less complete transverse lesion. But I must say that I am strongly of the opinion that the main factor

FIG. 3. First Dorsal.]

is the combined system disease, by the side of which the transverse lesion appears as etiologically a quite permissible complication."

As one becomes familiar with the literature of syphilitic spinal paralysis he must be impressed with

the fact that this syndrome is not the expression of any definite pathological process. That it is in the greater majority of cases dependent upon syphilis we will admit, and admitting this we should be prepared to encounter any of the multitudinous degenerative tissue changes which this insidious and destructive infection is capable of engendering. Much light, I believe, may be thrown on this phase of the subject if we take into consideration the length of time that has elapsed between the primary infection and the onset of symptoms indicating involvement of the spinal cord. Those cases developing within a few years after the luetic infection, even though they be slow in onset, may be looked upon as an expression of secondary or tertiary syphilis, which, as we know, is chiefly characterized by an active cellular infiltration, the immediate cause of which need not be discussed here. On the other hand, if a considerable period of time has elapsed between the syphilitic infection and the beginning of symptoms referable to the spinal cord, it may be assumed with a great degree of certainty that we are dealing with changes produced by a more advanced stage in the evolution of syphilitic infection, and in a previous article I have suggested that this stage be called *terminal syphilitic*. It is in this stage that we encounter the system degenerations of the cord, for instance, tabes, occasionally combined sclerosis, and possibly also certain primary degenerations of the motor tracts, and it would seem to be cases of syphilitic spinal paralysis occurring at this period which led Erb to believe that the basis of this paralysis was a system degeneration of

Fig. 4. Third Dorsal.

the cord. Certainly the cases reported by Eberle and Nonne and cited by Erb in support of the systemic basis of this disease, must be placed in this category. In Eberle's case the disease began at the age of 46, the patient having contracted syphilis 18 years previously; he died after 10 years. The changes in the cond consisted of a combined system disease of the pyramidal, direct cerebellar, Goll's and Burdach's tracts. No other changes were observed. Nonne's patient was a man 51 years old, who had contracted syphilis at the age of 32. He died of cancer five years after the onset of the paralysis. There was found a typical combined system disease of the pyramidal and direct cerebellar tracts with also slight degeneration in Goll's columns. We have, therefore, in these two cases the analogue etiologically and histologically of that most typical manifestation of terminal syphilis—tabes.

Turning to syphilitic spinal paralysis as an expression of an earlier period in the evolution of the syphilitic poison, I am very fortunate in being able to present detailed histories and pathological findings of two cases obtained on the service of Professor Pierre Marie, to whom I take pleasure in acknowledging my indebtedness. It would seem indicated, however, before placing these cases in the category of syphilitic spinal paralysis, as described by Erb, clearly to define just what this author considers its essential features, and that no doubt may exist in the mind of the reader, I incorporate Erb's own remarks on this subject: "It would be

Fig. 5. Sixth Dorsal.

essentially pedantic to lay down hard-and-fast rules here, but still I think that the picture as I drew it at first still holds good completely. Should such a patient enter your consulting room, gentlemen, you would notice his labored gait, with tightly closed, stiff legs, his feet sticking to the ground, scraping at each step, often walking with the aid of a stick—a picture of extreme spastic gait. On examination you would find weakness, more or less well-marked paresis of the feet and legs, the muscular rigidity being often slight compared with the change in the gait, but sometimes sufficiently strongly marked. You would find, moreover, an enormous increase in the tendon reflexes, patellar clonus, ankle clonus, and usually the Babinski reflex; on the other hand, there would be usually only slightly marked subjective and objective disturbance of sensation, which might be discovered only on closer examination. There would be more or less weakness of the bladder, especially incontinence, but also retention of urine,

Fig. 6. Eleventh Dorsal.

so that the patient could not avoid the use of the catheter and the urinal, and usually there would be some weakness of the generative organs. In the arms there usually would be nothing except slight increase in the tendon reflexes. The head and the cerebral nerves, the pupils, the eye muscles, the speech, the intellect, etc., and also the vertebral column, would be unaffected. In a case presenting such a picture you might at once think of syphilitic spinal paralysis, and on questioning the patient you would also learn that he had some time ago, or recently, been the subject of specific infection, more or less severe, and that he had been treated more or less thoroughly; that his complaint began slowly and

insidiously, usually at first in the legs, with gradually increasing weakness and stiffness; that he got tired sooner; and that there was usually no pain whatever, but all kinds of paresthesia. In some cases, not infrequently, bladder trouble is the first, and for a long time the only symptom; in all cases bladder weakness occurs in greater or less degree during the course of the illness. Otherwise the patients have usually nothing of importance to tell. Sometimes they give as an additional cause some injury, cold or excess, or some physical shock. Occasionally they describe the illness as having come on more rapidly, almost acutely, followed by improvement and subsequent relapse."

Case I.—Male, aged 61 years, occupation, driver. Father died at 56 from hemiplegia. Aside from this the family history is negative. He was never seriously ill, nor was he addicted to the use of alcohol or tobacco. In 1886 he contracted hard chancre, followed by mucous patches and skin eruption. He was under antisyphilitic treatment for about two years, although during this period he did not take medication regularly. In 1892 he suffered from a sudden attack of aphasia, with considerable mental agitation, from which he began to recover after the fourth day, and in about three weeks' time was quite well. Some few months later he began to experience difficulty with walking, and some loss of dexterity in hands. This impairment of dexterity disappeared, however, in a very short time. About fifteen months later (1893) his gait had become very spastic and he complained of considerable paresthesia in the legs, and again of loss of dexterity in hands. The following year (1894) he complained of incontinence of urine and feces. Before this, for some time, he had difficulty in starting the stream. The incontinence was intermittent and in the early part of the following year it ceased, but would return whenever the patient overindulged in eating or drinking, which, however, was not often. In the latter part of this same year the incontinence of urine reappeared, and since then has been an annoying factor. He has suffered at times from both dull and shooting pains in the legs, although the pain has not been very distressing. Examination made in 1894 revealed the following: Gait typically spastic; reflexes of lower extremities

Fig. 7. First Lumbar.

exaggerated; no ankle clonus; cremasteric reflex absent; abdominal reflex slight; no loss of dexterity in hands, but a very coarse tremor when they are extended; elbow and wristjerks exaggerated; no disturbance of deep muscular sensibility; general tactile sensibility normal; analgesia in lower right extremity; and on the remainder of the right side, including arms, the prick of a pin gives a burning sensation; absence of thermic sensibility in lower right extremity and diminished in left lower extremity. Pupils normal, as are the pharyngeal reflexes and innervation. To this history in 1901 the following notes were added: Babinski phenomenon present on both sides; gait extremely spastic; complete incontinence of urine, *i. e.* his urine passes without his knowing it, although it is not constantly passing; sensibility normal in all parts of body, legs excepted, where the sense of pain and touch is diminished. Contralateral reflex present; no ankle-clonus; cremaster and abdominal reflexes present, though weak; pupils normal. He complains occasionally of dull pain in leg and some paresthesia in hands. Patient died June 29, 1903, of nephritis. At the time of death there had not been noted any change in his nervous symptoms.

In this case, which represents the meningomyelitic, or as we would call it the marginal type of syphilitic spinal paralysis, we find in a considerable vertical extent of the cord a variable marginal sclerosis. In places the sclerosis embraces the entire circumference of the cord, but on the whole it is more marked in Gower's, Flechsig's and the crossed pyramidal tracts, and is associated with thickening of the piamater, due to the presence of newly formed connective tissue bundles. The distribution of the lesion is best illustrated in the accompanying drawings (Figs. 1-7). Its upper level

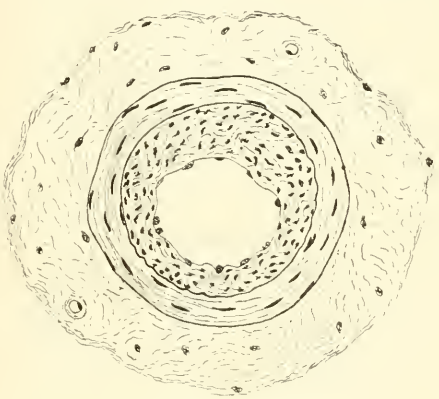

Fig. 8. One of the vessels of the posterior roots.

corresponds approximately to the sixth cervical segment; here we find the sclerotic zone completely investing the cord, though, as will be seen, it is relatively slight in the anterior and posterior regions, while in the lateral areas it is quite pronounced. This latter fact, we believe, is to be explained in great part by an ascending degeneration in the columns of Flechsig and Gowes, as at this level there is very slight vascular or meningeal involvement. Following the sclerosis down through the cord, we find its maximum development from about the eighth cervical to the second dorsal segment. Then it gradually becomes less intense, being limited to the lateral and anterolateral areas until below the twelfth dorsal segment it disappears entirely. Sections from the lumbar region show only a secondary descending degeneration of the crossed pyramidal tracts. In addition to the marginal sclerosis as we have described it, one observes a degeneration in the columns of Goll which commences quite abruptly at the third dorsal segment, sugesting at first glance the possibility of a transverse lesion. This, however, does not exist, but instead we find on examining the posterior roots scattered degenerated foci resulting from an obliterating endarteritis. Thus the degeneration in the columns of Goll is readily explained.

The involvement of the vessels of the posterior roots is quite extensive and corresponds in vertical extent to the thickened pia mater and marginal sclerosis. Fig. 8 shows one of the involved vessels of the posterior roots with its thickened intima and the voluminous adventitia.

Case II.—Male, aged 41 years, married, carpenter. His family history contains nothing of importance. He never suffered from any illness aside from measles at the age of five. At sixteen he had a soft chancre, followed by a suppurating bubo. In 1888 he was infected with syphilis, and six weeks later developed mucous patches in the throat and anus. No treatment at this time. In 1892 had gummata of hands and legs, and at this time received antisyphilitic medication for two months. During the early part of 1893 he complained of some pain about the waist. Three months later, after a "spree," he was seized with severe pain at the waist, accompanied by priapism. He at this time suffered from retention of urine. There was also marked hyperesthesia of the lower extremities. His condition became rapidly worse, weakness of the legs ensued, and at the end of one week he was conveyed to a hospital completely paraplegic. Concerning his condition at this time, all that he can say is that he did not suffer; his knees and Achilles jerks were exaggerated, and there was no clonus. Under proper medication he slowly improved, and in six months was able to leave his bed, and two months later, with the aid of crutches, he could walk about. After this he improved but little, and on December 29, 1888, was admitted to the Bicêtre. On examination the following facts were obtained: Patient well nourished; gait very spastic, keeps eyes on ground like a tabetic, feet drag along ground on toes, and at the end of each step he brings his heel forcibly to the ground; knee and Achilles jerks very exaggerated, and clonus easily obtained; no incoordination, and muscular strength of legs good, but a little less than normal. There is no muscular atrophy, and deep muscular sensation is normal. Romberg's sign exists. The arms, head, and special senses are normal, as is objective sensibility, with the exception of a small area on right side five cm. in width, extending from the median line in front just below the umbilicus, to the vertebral column, where sensation in all

Fig. 9. Showing the marginal type of lesion.

forms is diminished. At times slight pain in dorsolumbar region. The patient complains of urgency in urination, and occasionally nocturnal incontinence. His bowels at times are incontinent. Sexual desire and capacity gone. In 1901 the following notes were added to his history: Deep reflexes of lower extremities exaggerated. No ankle-clonus. Plantar reflex of the flexor type. Controlateral reflex very pronounced on both sides. Slight exaggeration of the wrist-jerks, most marked on the left side. Reflexes of jaw present, though weak. Cremasteric reflex absent. Abdominal reflex slow.

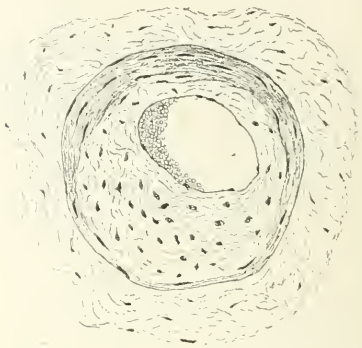

Fig. 10. A partially occluded branch of the spinal artery.

Pupils equal, respond to light, though not very actively. Romberg sign very marked, especially so for the past three years. Complains of urgent urination; sometimes he has difficulty in starting the stream, or again, there is complete retention. Occasionally his bowels move involuntarily, but as a rule they are constipated. Some sexual desire and capacity. Gait slow and very spastic. Strength of lower extremities fair and of upper normal. Patient presents all the advanced signs of arteriosclerosis. November 12, 1903, this note was added: Patient in last stage of pulmonary tuberculosis. Signs and symptoms referrable to spinal cord have not changed since last recorded observation. He died November 14.

In describing the changes found in the cord of this case, we will at the same time briefly compare them with those of Case I. This second case illustrates what we may regard as clinically a different type of syphilitic spinal paralysis, though in point of fact it is etiologocally and histologically the same as the first case, the difference being simply as regards the intensity of the process and its confinement to a limited area of the cord. It illustrates the type due to a transverse lesion—a localized transverse, subacute or chronic myelitis. Consequent upon this transverse lesion are the usual ascending and decending tracts of degeneration. Just above and below the transverse lesion we have, to a limited extent, the marginal type of lesion. This is best seen in Fig. 9, taken from below the lesion, and this section also reveals some scattered degenerated fibers in the posterior columns. The condition of the blood vessels and meninges is similar to that of the first case, the chief difference being that these structures are not so extensively affected, that is, the vascular lesions are not distributed over so large a territory, and this fact, in my opinion, explains the difference between the two types.

In the first case the vascular lesions have quite an extensive vertical distribution. There is endarteritis of the vessels of the posterior roots and pia mater, which in turn has induced a corresponding circumferential layer of sclerosis in the cord. The sclerotic zone in this particular case is dense and but slightly cellular because of the rather long duration of the process. In certain rare instances, when death ensues shortly after the inception of the process, the

lesion is quite different in structure. Dr. Van Giesen tells me that he has seen and examined one such case dying of an intercurrent disease, twelve months after the onset of such a marginal type of spinal syphilis of subacute course. In this case the zone was richly cellular and apparently still in an active stage of neuroglia proliferation.

In the second case, as in the first, the cardinal factor is the vascular involvement, but here the circumstances are somewhat different. The vascular changes are local and consequently the lesion is more or less confined. This is clearly shown at the eighth and ninth dorsal segments, where we find pronounced changes in the vessels. See Fig. 10, which presents a partially occluded branch of the anterior spinal artery.) These changes, instead of being scattered over a large vertical extent of the cord, are localized and concentrated over these segments, and are the direct cause of the more or less complete transverse lesion here encountered.

So it is the distribution and dissemination of the vascular lesions rather than any special difference in their nature which determines which of these types of spinal syphilis shall ensue. Of course, these deductions are made from a study of only two cases, and a third which Dr. Van Giesen has very kindly placed at my disposal. But still, in trying to approach the problem independently, they appear to be well defined, and must be illustrations of great numbers of similar cases which have occurred before and will occur again, and finally they seem clearly to demonstrate that the so-called Erb's syphilitic spinal paralysis is not, as Erb is inclined to believe, necessarily dependent upon a system disease of the spinal cord.

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326 LEXINGTON AVENUE.

# COPPER AND ZINC POISONING—BRASS POISONING.

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THE subject of this article is a condition which occurs widely distributed among workers in brass and bronze, whether they be melters, casters, dippers, polishers, or filers. In treating of the subject, however, it will be necessary to say a few words also upon the effects of copper and zinc, of which metals brass is chiefly composed. It has been my good fortune to see a number of workers in these metals at the Cornell University Medical College Dispensary, and to investigate the condition among many workmen in the various foundries in and about New York.

*Copper.*—Copper occurs mostly in the United States as pyrites, the sulphide of copper with iron; other forms of occurrence are—cuprite, the red oxide—melaconite, the black oxide—malachite, the green carbonate; it is also found native. Pyrites occur also with lead, arsenic, zinc, antimony, mercury, gold, or tin. Very frequently this sulphur ore is roasted first for the extraction of sulphur in the manufacture of sulphuric acid, and the resulting product, which still contains the unchanged minerals, is smelted for copper; this resulting slag somewhat resembles coal clinkers and gives rise to a great amount of dust when handled.

The filling of the furnaces is a most laborious occupation, and as the amount of dust is tremendous, men find it necessary to keep their mouths covered with cloths. The furnaces are high and are filled from the top, and the sulphur dioxide, which is sometimes almost overpowering, is intensely irritating to the respiratory tract, and causes a languor and depression that nearly incapacitates a man for work. It is difficult to get men to work long at the first smelter, and the employes are constantly changing, as they will not stand the severity of the work and the unwholesomeness of the atmosphere. In one of the largest smelting concerns in this country, I was unable to find a man who had worked in this department longer than eight years. Coughs are common among the men, and not infrequently pulmonary tuberculosis is the consequence.

After the ore is melted it is collected into a large tank from which it runs into moulds for cooling. Here, if lead and arsenic be present in any quantity, poisoning is common; lead oxide is extremely volatile, and hence readily inhaled; vomiting, colic, obstinate constipation, joint pains, blue line, and paralysis are to be found. In lead mines, and in lead smelters as well, there is a class of men known as cripples, who stand around and do a little light work, such as sweeping up, etc.; these men, of course, are suffering from lead or arsenical paralysis.

From the first smelter the copper is again melted, is subjected to the Bessemer blast furnace, remelted a number of times at from 2,500° F. to 3,000° F., until at last refined, when it consists of about 99.5 per cent. pure copper. Ill effects from working it are less and less distinct until it reaches refinement, when no ill results occur. Specifications for ingot copper issued by the United States Navy Department are as follows: "To be practically pure copper, free from all other materials, sulphur, and all other impurities, etc."

*Zinc.*—Zinc is obtained from a blend which contains a sulphite with many impurities, chief among which are lead and arsenic. The roasting of zinc blend is very detrimental, owing to the dense fumes of sulphurous acid which are given off, and to the deflagration of zinc oxide (which will later be spoken of more in detail). Lead impregnates the zinc vapor, and arsenic is almost always present. Specifications for slab zinc issued by the United States Navy Department are as follows: "To be practically pure metal, free from sulphur, arsenic, or antimony, and to contain only traces of iron, and not to contain over one-half of one per cent. of lead."

*Brass.*—Brass is an alloy consisting of copper and zinc, varying somewhat in proportion as to the quality of metal supplied. Yellow brass consists of copper, 50-60 per cent.; zinc, 35-40 per cent.; lead, ½-1 per cent. Bronze is a high grade brass, and consists approximately of the following: Copper, 86 per cent; tin, 2-4 per cent.; zinc, 8-10 per cent.; lead, 2 per cent. All these proportions are subject to variation; tin especially, being very expensive, and being very hard in composition. is usually economized in, and may run as low as a fraction of 1 per cent. Different factories have their own formulæ, according to the ultimate use of the metal they produce.

The foundry is a room which contains from twelve to twenty-four sunken furnaces, into which are placed the crucibles containing the copper ingots to be melted; scrap brass is often added, and when the whole is molten (in about one and one-half hours), zinc, commonly called spelter, is added. Upon this addition the zinc deflagrates unless the furnace be covered; after heating at 1,800° or 2,000° F. for two and one-half hours, the crucible is raised, the slag scooped off, and the metal is poured into sand-coated iron moulds. Immediately upon pouring, the deflagrating zinc fills the air as a heavy, dense cloud of white, finely divided particles. In good weather these rising fumes are carried off by the means of ventilation; but in damp, foggy, or rainy weather, when the atmosphere is heavy, the smoke does not rise, but fills the foundry, and exerts its most deleterious effect. Those who are not in the immediate neighborhood of the crucible escape to a great extent the irritation of the rising fumes, but the falling ash of zinc oxide fills the air, is inspired by all the workers and settles upon everything, including their persons. In poorly ventilated foundries there forms upon the rafters a white incrustation of zinc oxide. To one unaccustomed to the metallic vapors the feeling is one of choking, metallic taste, burning thirst, constriction of the thorax, suffocation, and giddiness; the open air is sought with much relief.

*Brass Founders Ague.*—Brass chills, spelter fever, or spelter shakes, are the names by which the inhalation effects are known to the workers in this metal; the attacks are so clearly defined as to simulate in the minds of the sufferers attacks of malarial fever, and, though of common occurrence, are not well known to the average practitioner of medicine.

The so-called chills are most apt to occur among the new workers who are unaccustomed to the smell and effects of the vapors. Upon leaving the shop and being in the open air (occasionally, however, in the foundry), the attack begins suddenly with a feeling of languor, headache, shivering, and with extreme pallor; the prostration becomes intense; the headache severe, and the shivering sometimes amounts to a distinct chill, with nausea and profuse sweating, and is sometimes followed by a feeling of heat; aching pains occur in the muscles, with weakness of the limbs; vomiting frequently ensues. Such an attack lasts six or eight hours, and the patient awakes the following morning with a feeling of lassitude in proportion to his immunity. The attacks seem to vary in different individuals, some being more suspectible than others. As said before, the new workers are the ones most affected, but even of these there are some who escape with but few and comparatively slight attacks. The old workers are, to a certain extent, immune from these acute seizures; their attacks are at infrequent intervals, less severe, and less typical than the one described. The men continue their work with comparative ease and comfort until the return of a cold, foggy, damp day, when some one is sure to suffer. Absence from the foundry for a fortnight or even for a shorter period, predisposes to an attack, and return will probably be met with another seizure. I have been told by old workmen who have been in the foundry for many years, that upon return to work on Monday morning they inhale the fumes with a feeling of pleasure and exhilaration; some of these men have occasional attacks, consisting, however, only of languor, perspiration, and headache. There are others among the old workers who have not had an attack for many years, have grown fat at the work, and who say that the metal working is conducive to good health.

The ague seizure is so well recognized that the help of a physician is seldom, if ever, required; it is transitory in its course and the patients have learned to treat it themselves. Free sweating is the thing most desired, and for this, hot milk, hot lemonade, and whiskey are the means usually taken; milk forms an insoluble albumenate and is thus the most efficacious; however, as milk is often looked upon with contempt, we find that whiskey is the drug mostly resorted to by this class of men who are addicted to its use. Milk and lemon juice have their advocates, and these say that alcohol dose them more harm than good. Whatever the means taken, the patient awakens, after a night's rest and free sweating, recovered from his chills, with a feeling of lassitude in proportion to his immunity, this languor being little or none in the case of old workers.

The men who continue working under these conditions show the changes due to other kinds of dust inhalation, and suffer to some extent from cough, constipation, and occasionally colic. One reads that this class of workers are lean, spare, sallow, men; it is true that many, if not all, show a distinct gray pallor, but almost all are large, powerful, muscular men, some even given to obesity, and there are many who have worked at the business for twenty-five or thirty years, with scarcely a day off. Thackrah found in Leeds only two brass founders over forty years of age; this, however, is a very low limit, for I personally have seen many above that age, and some between sixty and seventy years. One does not see many workers above fifty, however, but it can be partly ascribed to the severity and laboriousness of the occupation; to the same cause can be ascribed the size and strength of the men, for unless possessed of considerable muscular power, they find the work too arduous.

From my personal knowledge and contact with many copper and brass workers, and from conditions as I have seen them, I cannot think that brass working (as done here) is as unhealthful an occupation as the older writers, and especially the British investigators would lead one to believe. Beyond the respiratory effect such as would be caused by any dust, I cannot see that the inhalation of the metal does much harm; true, we see chronic bronchitis and emphysema among them, but these are prevalent conditions in all walks of life; fibroid lung so much described by the older writers is not so much seen at the present time, probably owing to the more perfect and scientific methods of diagnosing pulmonary tuberculosis, which I think most of the former cases of fibrosis have proven to be. The results I consider very largely a matter of ventilation, and where this is good, disastrous effects are not so apt to occur.

In old and small foundries, which are hard to heat in cold weather, windows and traps may be kept tight shut, the amount of falling zinc oxide is great, and men frequently have chills while at work. Most of the foundries from which I have collected my material have been fairly well ventilated rooms, but the conditions I have heard described by foreign born employes as existing in the old country, where the furnaces were in the cellar, the ceilings low, and ventilation poor, make a vast difference in the ultimate effect of the metallic poisoning.

As to the causative factor, I think without doubt the chills are due to the deflagrating zinc, and this is so considered by the men themselves. Doctor Hogben of Birmingham considers them, however, due to copper rather than to zinc, and bases his conclusions upon the following facts: "Zinc given in any quantity produces no such symptoms; in the process of galvanizing, these symptoms do not occur; unlike copper, lead, and mercury, zinc is not

cumulative." Arlidge says, "Similar symptoms occur among brass workers where no zinc vapor is thrown off."

One can get chills, however (and men frequently do get them), without working near enough to the crucible to inhale the rising fumes, but through being subjected to the heavy shower of zinc ash. Examination of this deposit has shown it to consist of zinc oxide, but to contain no arsenic. The chills never follow bronze making where the copper is as high as eighty-six per cent., and the zinc is only ten per cent., the fumes here being comparatively slight. Sometimes bronze is exclusively poured for two weeks, after which time brass is again made; upon resuming brass pouring, every one in the vicinity will come down with an ague seizure. Copper workers who deal with the refined molten metal (that is the finished product such as is used in brass making) do not have such attacks. In the roasting of zinc ore that contains no copper, the workmen complain of the same symptoms—intense languor, depression, rigors, vomiting, pains. Oxide of copper is non-volatile, while oxide of zinc is very volatile.

Thackrah in 1830 was the first to recognize the peculiar form of poisoning called brass founders' ague, and which he ascribed to the zinc constituent. He described the seizure incompletely and erroneously as an intermittent affection occurring once a month or once a year. The disease was further described in 1862 by Dr. Headlam Greenhow, who referred chiefly to the bronchial effects. He speaks only cursorily of the nervous symptoms, and thinks the trouble due to zinc. Simon says brass is recognized as an unhealthful occupation by both workers and employers, and that workers never attain old age. The Birmingham dispensary shows enormous numbers of brass workers complaining of pulmonary and gastric disorders; but among 30,000 patients he has never personally seen a single case of ague.

In sand casting a clay mould is made, into which the remelted brass ingots are poured; this mould is covered with a coating of plumbago, charcoal, flour, or powder of loam, and when the metal is poured into it the fumes of zinc again arise in addition to the dust of the coating. The men in this department have occasional ague seizures, but the dust is not sufficient to cause much permanent respiratory embarrassment.

At the dipping vat, the greatest and most serious results arise; this vat contains a strong solution of nitric or sulphuric acid, in which, metal which has become oxidized is dipped for cleaning. This is notoriously bad work, the men developing cough, increasing pallor, and emaciation; sometimes death ensues. Where much dipping is done, men cannot work for more than three to four years, the increasing emaciation incapacitating them for work. The men themselves realize the danger of this occupation and say that the victims die of erosion of the lungs, or of consumption. As a matter of fact, pulmonary tuberculosis is a natural sequence. It is difficult to devise any means to offset the inhalation effect of the acid baths; some foundries have hoods arranged to carry off the fumes, but unless forced suction is used they are useless, and in any event the fumes corrode the metal.

Sand blasting is an operation which has come into vogue during very recent years, and is a means of cleansing metal by a stream of sand under high air pressure. The workman wears over his mouth a mask containing a damp sponge, and over his head puts a windowed helmet which comes well down over the shoulders. Even with these precautions he inhales much dust, which causes considerable respiratory irritation and gives rise to cough.

Brass filers sometimes show the mark of their occupation. In elderly men with gray hair and moustache, we frequently see a decided green discoloration of the hair; this is due to stroking, or passing through the hair, hands that are covered with brass filings and dust. Likewise, in hot weather, when perspiring freely, the sweat looks green and discolors the underclothes; this, also, is due to the dust on the body surface and in the clothing. The teeth are usually in poor condition, and greenish discoloration of the tartar along the bases, especially of the incisors, is sometimes present. The men are apt to suffer more from gastrointestinal difficulties than from bronchial effects.

Polishing was formerly a deleterious trade, the metal being cleaned on an emery disc; a fine brass dust is caused, which, unless carried away by forced draught, encircles the worker, settles on him and is inspired by him. Formerly, polishers wore masks of wet cloth or sponge over the mouth for protection, but during recent years hoods have been arranged which catch the dust, and by suction convey it to tubes which carry it away. Where these hoods are not used, or are imperfect, dust fills the air, and chronic diseases of the upper respiratory passages and of the lungs always result. A disagreeable complication is eczema of the groins, scrotum, and perineum, which results chiefly in hot weather, when the perspiration of the parts and the metal dust together cause considerable irritation.

Gastroenteritis is not uncommon among filers and polishers; nausea, vomiting, metallic taste, epigastric pain, constipation, are due to the brass dust which is upon the surface, and which is transported from the hands to the mouth, and so reaches the stomach.

The green discoloration before spoken of is best seen among copper workers, especially those who handle blue vitriol; from the hands they transfer it to other parts of the body. Next to the vitriol handlers it is most apparent among men who turn the copper ingots into water to be cooled, and are enveloped in the rising steam. White horses working around copper smelters are sometimes turned green. The discoloration of the hair of workmen is sometimes so great as to be a source of annoyance.

According to Layette, chills occur among workers in metals other than brass, and he attributes them to overheating and exhaustion. He says, however, that in copper poisoning, green hair, green sweat, green teeth occur, and according to observations made at Durfort, France, the bones are discolored green. As a result of swallowing and breathing copper dust there is burning in the throat, loss of appetite, nausea, vomiting, constriction of the chest, colicky pains, soreness of the abdomen, and mucus discharge from the bowels; anemia, dyscrasia, conjunctivitis, bronchitis, emphysema, and fibroid phthisis.

In Guy and Ferrier's Forensic Medicine there is recorded an outbreak of copper poisoning from the use of copper vessels in cooking, in which the symptoms were almost identical with those mentioned.

Simon agrees that brass workers suffer from dyspepsia, loss of appetite, gastrointestinal catarrh, vomiting, metallic taste, thirst, constipation, nervousness, oppression, and cold. Among French writers, Bouchut has seen the same symptoms among workers in oxide of zinc. Blaudet also accepts zinc as the causative factor.

I have been unable to find the nervous effects of brass poisoning reported by some English authorities, and which are attributed to copper, and I must accentuate the fact that in poor quality metal, lead is present in considerable quantity, and probably arsenic as well. With this latter view Chevallier

coincides. Suckling has seen nervous disorders induced by brass working; he cites two cases and reports two more of ataxia in brass workers, and thinks that unless a peripheral neuritis, due to this cause be borne in mind, locomotor ataxia will be diagnosed. The symptoms quoted by him are—ataxia, loss of reflexes, pain, tenderness, numbness, paralysis, green hair, sweat, and teeth. Hogben has seen cases of nervous disorders in copper and brass workers but does not feel sure they are due to this work. Arlidge thinks much more clinical observation is necessary to connect the symptoms of multiple neuritis with the occupation.

On the other hand, Schlockow, in describing the zinc workers of Silesia, says they suffer from pallor, bronchial catarrh, gastric derangement, pains in the legs, feelings of constriction, tremor, paralysis. of the upper extremities, and ataxia (pseudo tabes); after death they show sclerosis of the anterior and lateral columns of the spinal cord.

Among workers in zinc oxide from ore which contains but a small percentage of lead and arsenic I have not been able to find cases of paralysis.

A source of ill health which cannot be ignored is to be found in the great and sudden changes in temperature. From working over hot furnaces, the men go into the open air to cool off; even in winter they come from the furnace rooms into the open air perspiring profusely, clad only in shirt and trousers, the former open at the neck. In summer the temperature of some of the furnace rooms reaches 120° F., and heat prostrations are not uncommon; this is more so in copper and zinc works than it is in brass foundries, for the furnaces are much larger and the heat is greater.

I have obtained the following blood specimens from smelters of refined copper, and of good quality brass:

| | COPPER | | | BRASS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | i | ii | iii | i | ii | iii | iv | v | vi | vii | viii | |
| Polymorph. neutrophiles | 59. | 55. | 60. | 70. | 68. | 68. | 56. | 59. | 52. | 58. | 56. | |
| Lymphocytes... | 12. | 17. | 20. | 11. | 7.5 | 6. | 13. | 12. | 10. | 21. | 11. | |
| Large mononuclear leucocytes | 21. | 22. | 19. | 17. | 23. | 21. | 24. | 25. | 30. | 19. | 20. | |
| Eosinophiles ... | 1.8 | 3.5 | .6 | 2. | 1. | 3. | 3. | 2. | 2. | 1. | 2. | |
| Transitional forms | 6. | 2. | 4. | ... | 1. | 2. | 3. | 2. | 6. | 1. | 11. | |

No basophilic granulation of the cells was present to any extent.

The specimens all show an increase in the large mononuclear leucocytes; the specimens were taken at random among the workmen.

*Summary.*—Copper smelting is a dangerous occupation, because of the tremendous amount of dust which rises from the fire when feeding the furnace, and men cannot work long in this position; they contract both the lighter and more severe pulmonary diseases; where the ore runs a high percentage of lead and arsenic, cases of severe poisoning occur and paralyses are not uncommon.

As zinc occurs with sulphur, lead, and arsenic as impurities, the effects of zinc roasting is about similar to that of copper, with the addition of the so-called ague seizure and its accompanying symptoms.

The chills occurring in brass workers are due to zinc for the following reasons: Oxide of copper is not volatile, while zinc oxide is very readily volatile; chills do not occur among melters of pure copper; in the roasting of zinc ore the men suffer from similar symptoms; chills do not occur while making bronze, which contains much copper and but little zinc; workers in zinc oxide suffer from a like complaint.

The respiratory influence of brass-making in the course of time is bad, but depends largely upon the means of ventilation; the respiratory effect of polishing is not bad, providing the workers are protected by the proper suction apparatus; under poor conditions both occupations can lead to serious results. Working over the sulphuric acid bath is the most dangerous part of the trade. Sand blasting is detrimental to health, corresponding to the dangers of stone cutting.

The gastrointestinal effects are seen more particularly in filers and polishers, who transfer dust and filings to their mouths. Copper here plays a great factor as do lead and arsenic in metal of poor quality.

Nervous results, due to copper and zinc, I have not been able to prove satisfactorily; those reported by the English authorities as due to copper are open to question. Schlockow reports cases among zinc workers with sclerosis of the anterior and lateral columns of the cord. These I have been unable to verify among workers in zinc ore that contains but a small amount of lead and arsenic.

Muscular and joint pains complained of by metal founders can be ascribed to the changes of temperature to which they are subjected.

Heat prostrations occur in hot weather.

Alcohol must be borne in mind when we are looking for bad effects of metallic working.

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## RHEUMATISM OF THE FEET.

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Among the patients seeking relief at an orthopedic clinic probably the most frequent complaint is "rheumatism of the feet." Many know they have rheumatism because they have pain, many know it because they have been told so. Many have been treated for their troubles with salves, liniments, and "anti-rheumatic" remedies. Some dust powders in their shoes, some drop in at the obliging shoemaker's and get "plates," some carry a potato in their pocket, or wear a cord about their waists.

The human foot in health and in disease is a most interesting object. Much can be learned from a careful study of it in action and at rest—of its arches, its depressions, its prominences, its shape, its attitude, its feeling, its range of motion. Is it flabby or firm, moist or dry, warm or cold, large or small? Let us begin our task, then, in every instance by asking the patient to remove his shoes and stockings. It is possible that no one has ever asked him to do this before. While he is taking off his stockings we will look at his shoes and see what we can learn from them.

Now, this "rheumatism of the feet" is rather a broad subject, and experience with it teaches that it admits of an extensive classification. The first form of rheumatism we shall consider is not rheumatism at all, but flat foot, weak foot, weak ankles, broken-down foot, pes valgus, pes planus—call it what you will. The usual history that goes with it is that for some reason the foot as a machine has been subjected to a strain which it has not been able to bear. A person who lives in idleness, and who sits most of the time, can deform his feet with shoes to suit his taste, and can in other ways abuse them with impunity, but if he begins to go about a great deal, and uses his feet as walking machines, he is apt to suffer from corns, and to be compelled to adopt some fairly rational form of foot-gear. On the other hand, the patient who suffers from flat foot is usually one whose occupation compels standing; hence the great number of nurses, bar-keepers, waiters, salesmen, policemen, motormen, who seek relief. I say suffer from flat foot, for, as Whitman has pointed out, there is no constant relation between the amount of abduction and flattening, and the symptoms of pain and discomfort. Many have flat feet and do not even know it, but when they adopt an occupation that compels standing, or put on much flesh, or undergo a trauma, such as a sprain or even a contusion, then the machine breaks down, and its owner consults his physician.

The chief symptoms of simple flat foot are pain and weakness, under the malleoli, in the instep, or under the soles. The motions may not be limited. Often the circulation is poor. Often when the patient stands, his feet will be abducted and his arches flattened. This is flat foot. Often there is no deformity. This is "flat foot" with no flattening, or, better, weak foot. Another form of flat foot differs from the last in that the foot is fixed in the abducted posture. Abduction cannot be done except with the use of more or less force, and causes great pain. The foot is held rigidly in its abnormal position by the spasm of the foot muscles, and the arches are flattened. The patient hobbles along with knees bent and toes turned out, and is practically crippled. The least roughness in the pavement is carefully avoided. The rigidity, stiffness, and spasm are so great that the uninitiated talk of bone disease and of ankylosis. Dave Warfield, in his old impersonations at Weber & Fields', used to give an excellent picture of this complaint, and numerous examples of it can be found among the waiters in fashionable restaurants.

Another form of "rheumatism" is anterior metatarsalgia or Morton's toe. This is a neuralgia or neuritis affecting one of the metatarsal nerves, usually that between the third and fourth toes. The pain is distinctly located, often runs up the foot and leg, and can easily be brought out by pressure over the affected nerve, or by lateral compression of the metatarsus. It comes usually in paroxysms, and often compels the patient to sit down in the street and remove her shoe. It usually occurs in women, especially in the well-to-do, often in neurotics, sometimes in the gouty. Sometimes the transverse arch under the ball of the foot will be broken down, and the heads of the metatarsals will be covered with callosities.

Gonorrheal arthritis or periarthritis of the ankle has often been observed. It causes great pain, swelling, local temperature and restriction of motion. Often it cannot be distinguished from tuberculosis at the first examination, but the history and the condition of the urethra will help us. The exudation is more apt to be of the plastic type in gonorrhea, the muscular spasm is less, and other joints are more liable to invasion.

To a form of gonorrheal infection which I have never seen discribed, and which I am not able myself to describe accurately, I have given the name of "gonorrheal foot." It is characterized by extreme sensiteiveness, usually in the soles. The pain and sensitiveness seem out of all proportion to any objective symptoms. Often the circulation is poor. A history of a comparatively recent infection by the coccus of Neisser can be obtained, and the urethra will be found affected. These feet have something about them that immediately makes one suspicious, but further than the extreme sensitiveness and the fact that the patients walk as if they were treading on eggs, I cannot tell exactly what it is. Even the pathology is a matter of doubt, for the condition is not one to justify an operation, and the diagnosis is a mere matter of empiricism.

Two cases of "rheumatism" I have seen which were distinctly hysterical. The first defied all local treatment and yielded finally to suggestion. The second simulated flat foot with great rigidity and spasm. The deformity disappeared promptly on the administration of an anesthetic. The patient drifted away after a while, and a year or so later I stumbled on her in another clinic, where her complaint was diagnosed as a tuberculosis of several joints. An hysterical foot is a great rarity. These two cases are curiosities. Never should the diagnosis be made unless we are driven into it.

Probably no form of "rheumatism of the feet" has been the cause of more humiliating and disastrous mistakes than tuberculosis of the ankle and tarsus. Usually occurring in a child, the first symptoms are limp and localized pain. Then come the pain at night, the swelling gradually growing larger, the muscular spasm and limitation of motion, and the deformity. All this time salves and anti-rheumatic remedies are being used, until at last the abscess forms, and our mistake stares us in the face. Any circumscribed, persistent, painful swelling in the foot, especially of a child, is to be viewed with extreme suspicion, especially if it be accompanied by limitation of motion. Tuberculosis of the os calcis often affects no joint, and the diagnosis must be made from the sensitive swelling over the bone, which usually fluctuates. If we avoid even the mention of the word rheumatism, we shall probably arrive at the true nature of the process. We may be in doubt as to the exact location of that process, but this is unimportant. The treatment is the same for tuberculosis of any of the tarsal bones or joints. From a tenosynovitis we differentiate it by its failure to follow the course of a tendon, and often by the fact that it may be seen to lie beneath the tendons.

An occasional cause of "rheumatism" is fracture, either a Potts' fracture or a fracture of the tarsal bones. A man who has had a Potts' fracture is confined to his bed with his joint in a bad position. The machine is distinctly out of gear, and when its owner gets up and begins to go about, he suffers from "rheumatism." Inspection reveals the site of the old fracture, the widened mortise of the ankle, the equinus, the valgus. Proper dorsal flexion, inversion and adduction are impossible. The man limps and is incapacitated for work. The foot feels worse, of course, in damp weather, so again we think we must have a rheumatism, but again it is a rheumatism that will never yield to rheumatic remedies.

The frequency of fracture of the tarsal bones is just beginning to be recognized, especially fracture of the calcaneum and astragalus. The history of this injury is characteristic, almost diagnostic. A man falls from a height and lands on his feet. He is *carried* home and is laid up in bed with great swell-

ing and pain in his heels and ankles for several weeks. He then gets up, and suffers from "rheumatism" at the seat of fracture. Inspection shows a peculiar abduction of the heels, entirely different from the abduction at the mediotarsal joint found in flat foot. The external tuberosity of the os calcis will be nearer the malleolus than in a sound foot, the normal concavity under the external malleolus will be absent, and the internal malleolus will be prominent. In fracture of the os calcis we shall get thickening and sensitiveness at the seat of fracture, while in fracture of the astragalus there will often be a limitation of motion at the ankle joint.

A form of rheumatism without definite pathology consists of pain in the feet and legs, vague, indefinite, elusive. It occurs in neurotic, constipated males, and yields to the application of the cautery.

Somewhat similar are the pains of late syphilis. Here the diagnosis must be made on the general condition, rarely on the history on account of the well-known mendacity of patients at this stage of their disease.

Rather an annoying experience is to treat a man's feet for rheumatism, or perhaps for flattening and weakness, and then later to have one's attention called to the absent knee-jerk, the Romberg symptom, and the Argyll-Robertson pupil. A few falls like this will teach us that the foot, while it is itself a machine, is only a part of a larger machine.

We might be inclined for a while to regard an anterior poliomyelitis in a young child as rheumatism, if we admitted the possibility of rheumatism of a joint at that age, until the paralysis set us straight.

True gout, gouty arthritis in the great toe, is too well known to need description by me. Here, at last, if rheumatism is gout and gout rheumatism, we are within the scope of our subject.

Acute articular rheumatism occurs in the feet and ankles. Its constitutional symptoms, its pyrexia, its fleeting nature will mark it clearly. *Acute articular rheumatism never leaves behind it a damaged joint.* This fact should be held firmly in mind.

If we have made our diagnosis, if we have put our foot firmly into that path of "rheumatism" in which it belongs, a great part of our task is done. A good textbook will often help us for the rest, but not always. No mechanic can mend a machine with knowledge acquired in textbooks. He must use his intelligence, his common sense. Usually the tools we need will be few—some zinc oxide plaster, some plaster-of-Paris, and a few drugs. Often we shall need a brace-maker and a shoemaker who will do just as we tell them. In using adhesive plaster we must avoid strapping all feet according to some one method, but must make up our mind what we wish to accomplish, and strap the foot accordingly. Hence the fallacy of asking: "How do you strap an ankle?" A word as to plaster bandages. They are best made with dental plaster, and Vigilant brand of crinoline. They should be rolled loosely, and before using should be set on end in plain warm water until they are wet through. Good plaster bandages cannot be bought in the shops, and unless we have good ones we will be apt to condemn the use of plaster as a dressing or splint. Good casting plaster can be bought for $2 per barrel. A word also as to the difference between a plaster bandage or dressing, and a plaster cast. If we encase a limb in plaster, we say that we put it up in plaster, or that we put on a plaster bandage. If we make a counterfeit presentment of a limb we call that a cast. We never "put a cast" on a leg.

Simple Weak Foot.—My routine treatment for this is as follows: With the foot in adduction and dorsal flexion, a strip of adhesive plaster 2 or 2½ inches wide is started from the external malleolus, and is carried under the foot and up the inside of the leg almost to the knee. This is reinforced by a similar strip about ½ inch anterior to the first. The ankle is then strapped with a 1 inch figure-of-eight, each turn overlapping the preceding by about ½ inch. The strapping goes down the outer side of the foot, under the sole, up the inner side, around the leg and down again. The whole is then covered with a snugly fitting gauze bandage. In dispensary practice the patient is instructed to buy himself a good stout pair of broad-soled laced boots, and is given a card to our shoemaker instructing him to build them up ¼ inch on the inside, that is, on the inner side of the exterior of the shoe. In private practice the patient goes to a shoemaker who has been instructed exactly how to build his lasts, and who submits them to us for inspection before building the boots. No shoemaker knows how to make shoes, unless he has been shown. He must be told just what to do, and must be compelled to do it. We cannot shift the responsibility on his shoulders. If anything goes wrong, it is our fault. The patient is taught to practise voluntary adduction and dorsal flexion, to turn his feet directly forward in standing and in walking, and to go through the exercise of raising himself on his toes and then, throwing out his ankles, to come down on the outer border of his feet to his heels again. Running, walking, bicycling, and dancing are good, skating is bad. Often these simple methods will suffice. If not, we must make casts of the feet, and from these have some form of brace made, preferably of the Whitman type.

For the form of weak foot often found in very stout people, characterized by pain in the sole, and due to stretching of the plantar fascia, I start the broad strapping well up on the outside of the leg, carry it tightly under the instep, and then pull it taut up the inside. In other words the plantar fascia is "slung" from the calf. The shoe has a very stiff, highly-arched shank; the sole plate is made on the same principle.

In those cases of flat foot characterized by fixed deformity and spasm, the normal range of adduction and dorsal flexion must be regained as a condition precedent to other treatment. The surgeon, sitting in front of the patient, grasps the heel with one hand, *e.g.* the left heel with the left hand, and with the other hand forcibly adducts the front part of the foot. The patient, with his foot in this position of adduction, then flexes and extends it at the ankle. Now let him bend his knee, cross his leg over the other, and take his own left foot by its metatarsus with his right hand. Holding his foot now in strong adduction, his leg steadied by his left hand, he alternately flexes and extends it, at first passively, later, as he becomes accustomed to the exercise, actively. This exercise he practises in all his spare moments until he has made his foot mobile, when the further treatment is as above. In the inveterate cases this treatment will be too severe, or perhaps impossible. Then we anesthetize, twist the foot over, pad it very thickly with cotton batting, and put it up in extreme adduction and dorsal flexion in plaster-of-Paris for about a month. During this time the patient is encouraged to walk in the plaster, provided with large overshoes. When the plaster is removed, we cultivate passive and active motion as before, strap, and apply the Whitman brace.

In sprains of the ankle we use the criss-cross Cotterell strapping; in sprains of other parts of the foot we apply our strapping in such a way as to take the strain off the damaged ligaments.

There is hardly any other form of "rheumatism of the foot" that yields such brilliant results to treat-

ment as anterior metatarsalgia. Sometimes a properly made shoe, arched transversely up in the sole under the heads of the metatarsals, with a flat or "dropped" toe will itself effect a cure. Sometimes a strip of one-inch adhesive plaster, wound around and around the distal heads of the metatarsals, perhaps provided with a beveled button of sole leather just back of the head of the second or third, will help. The most satisfactory treatment is by a steel sole plate, a "metatarsal plate," 18 gauge, made from a trimmed cast, reaching from just behind the heads of the metatarsals to about one-half inch anterior to the back of the heel, and hammered up by the bracemaker just behind the heads of the second and third metatarsals. If the toes are stiff and flexed dorsally they must be limbered up, and active and passive plantar flexion must be cultivated. Rarely, very rarely, will a cutting operation be necessary.

In gonorrheal arthritis and periarthritis the treatment is the same as in other gonorrheal joints. In the so-called gonorrheal foot we support any weak portion with strapping or with braces, and turn our attention to the urethra, for not until this be set in order will the symptoms abate.

In tuberculosis occurring in children the best treatment is by plaster-of-Paris, and by some form of brace, usually the Thomas knee brace, to put the foot at rest and to relieve it of the weight of the body. Any radical cutting operation is to be avoided. In adults conservative treatment is out of place. The sooner the diseased joint is excised the better.

In "rheumatism" following fracture with malposition of the fragments, we must first secure an approximately normal position of the foot if we would relieve the symptoms. Sometimes we can do this by strapping, wrenching, and plaster-of-Paris, sometimes by passive motion and massage. Sometimes we cut the tendo Achillis, refracture, chisel away bone or take out the astragalus. We must work out each case by itself, and by skiagrams and by other means we must try to make out exactly what condition confronts us. No routine methods will do here.

For the pains of late syphilis we use mercury and the iodides. In the earlier stages of anterior poliomyelitis we guard against contractures by passive motion and massage. When the final amount of paralysis has been determined we apply a brace to prevent deformity.

In conclusion it might be said with slight exaggeration that an article on rheumatism of the feet should read like the old book on snakes in Ireland: "There is no rheumatism of the feet." The word rheumatism has suffered much abuse. Almost invariably its use in this connection is a mistake.

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## THE GASES OF THE BODY.

By L. H. WATSON, M.D.,

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But slight attention has been paid in medical literature to the gases of the body. Some of these gases are complicated in their composition, and others are simple and uncombined. All animal tissues contain gases. Of these gases some, like oxygen, nitrogen, and carbon dioxide, are essential to our existence; others are waste products, depending upon fermentation and decomposition for their presence in the body. These latter are often a source of much pain and annoyance, while at the same time they complicate the diagnosis of stomach, intestinal, and heart troubles, to the extent of causing a grave prognosis, or at least a hesitating one, when their presence is not understood. Appendicitis, intestinal obstruction and inflammation, ovarian disease, and heart troubles are some of the simulated diseases caused by the presence of gases in the intestinal tract.

Some of these gases are produced within the body, and others are introduced in various ways, until we seem to be, as an old gentleman pithily expressed it, "nothing but a gas factory." Nitrogen, oxygen, carbon dioxide, sulphureted and carbureted hytrogen, and marsh gas are the principal gases we have to deal with. The oxygen gas of the body is furnished by the saliva, the swallowing of atmospheric air, and the air taken into the lungs. In the alveoli of the lungs, where the presence of the oxygen is considerable, the hemoglobin is completely or very nearly, saturated with oxygen. In the tissues where the oxygen diffuses itself, or enters into combination with reducing substances, so that the pressure is diminished, a portion of the combined oxygen is set free by heat, and the pressure rises again. In this way the red blood corpuscles are always surrounded by oxygen under a definite pressure. Thus the balance is maintained, and the store of oxygen is never exhausted.

Direct experiment, physiological chemists tell us, has shown that the partial pressure of oxygen in the surrounding atmosphere may increase threefold, or diminish to one-half, without any disturbance being manifested in the breathing of a mammal. When the pressure is reduced further the frequency of respiration increases. According to Paul Bert, the experience obtained in mountain and balloon ascents is in complete harmony with the results of experiments upon dogs. Dyspnea does not begin until a height of five thousand meters is reached. Human beings live as well in Leadville, or on the elevated plateaus of the Andes, as at the seashore.

The poisonous effect of carbon dioxide depends upon the displacement of the oxygen. It is said that animals devoid of hemoglobin are not influenced in the slightest degree by the presence of carbon dioxide in the air. It was not until Magnus had analyzed the gases of the blood, that it was proved that oxygen passes on to the capillaries and then partially disappears on account of meeting on its way with reducing substances. The quantity of oxygen in lymph and the different body serums is not great.

Another one of the gases we have to consider is carbon dioxide, which enters the body as carbon and leaves it as an end or waste product of metabolism. It is through the vegetable products which are introduced into the body for the purpose of nutrition that the carbon finds its entrance into the tissues. It enters as carbon, or in combination with the lime, soda, and magnesia of plant life, to be decomposed and excreted as carbon dioxide. This is mostly accomplished through the lungs, but partially through the urine and feces as urea.

Carbon dioxide is the largest in volume of all the gases of the body, and the most widely diffused. It is found in the brain, in the lungs, in serous effusions of the body, and in the tissues. Carbonic acid gas has always been regarded with suspicion by both physicians and laymen. It is designated as a poisonous gas, and its presence is deprecated as an unnecessary and hurtful compound, which the body tries to rid itself of by excretion. Modern physiological chemistry, however, takes quite a different view of it. The only way in which carbon dioxide can be considered injurious is as an obstructor of respiration, when the attempt is made to breathe in an atmosphere saturated with carbonic acid gas. Its presence in the body, while caused by metabolic changes, is not that of a poison. The neutralization of the acid chyme by the alkaline carbonates pro-

duces a large amount of carbon dioxide, but this is not its only source. Schierbeck has shown that a part of the carbon dioxide is formed by the mucous membrane of the stomach. The tension of the carbon dioxide in the stomach corresponds to 30 to 40 mm. of mercury in a fasting condition. It increases after the taking of food, independent of the kind of food, and may rise to from 130 to 140 mm. of mercury during digestion. It is also influenced by certain nervous conditions. I have seen the stomach and intestinal tract distended enormously in a few moments during states of excitement, and the distention as quickly disappear, when the excitement was allayed. The curve of carbon dioxide tension in the stomach is the same as the curve of acidity in the different phases of digestion; and Schierbeck has found that this curve is increased by pilocarpine and decreased by nicotine. The large amount of carbon dioxide which is found in the body would seem to be a source of danger from the disturbance which this enormous quantity of gas might be expected to create, from mechanical reasons alone, and much more so were it poisonous in character. But no matter what the amount generated or introduced into the body, it soon diffuses into the tissues and blood, or is returned to the air by excretion from the lungs, bowels, and kidneys, and thus a proper equilibrium is always maintained. It is estimated that from six to eight liters of $CO_2$ are liberated in the intestines alone by neutralization of the acid secretions. We are not at all inconvenienced by this large volume, for its coefficient of absorption is very high.

It has been estimated that the pressure of $CO_2$ is 10 per cent. of an atmosphere. As soon as the bowels contain more than 10 per cent. it diffuses into the tissues and blood. A reciprocal action takes place between the oxygen inspired and the carbon dioxide generated in the body. This change has been called "internal respiration." Its extraordinary diffusibility (only exceeded by that of sulphureted hydrogen) causes a constant ebb and flow in its movements. The increased pressure is indicated by quickened breathing, a more rapid heart beat, and considerable excitement, until the equilibrium is established. In spraying the stomach with $C\ O_2$ I have noticed within ten seconds the breathing is accelerated, the eyes become suffused, and a general condition of exhilaration is observed. The feet and hands, which had been previously cold, become warm, the change from venous to arterial blood is more rapid, and a sense of comfort pervades the body. This is equally the case when taking an effervescing bath at Franzensbad, in Bohemia, where the water is highly charged with $CO_2$. It is quite impossible to remain more than from 8 to 10 minutes in a bath of the water from the Stahlquelle. Even after leaving the bath, one has a sensation of lightness and ease for an hour or more.

Among neurotic patients with stomach troubles the abdomen is often enormously distended with $CO_2$ in a few moments, and is a source of much discomfort and mortification from audible movements in the bowels. The diffusion here is from the blood into the stomach and bowels under the influence of a disturbed nervous condition.

Consumption of oxygen and elimination of carbon dioxide depend upon work. Metabolism is kept at a low point by inactivity of the body, increasing fat formation, through lack of oxygen consumption. It has been stated by some physiological chemists that the greater the weight of the body, the greater the consumption of material. But other things being equal, a small animal of the same species, metabolizes more, relatively. A fat person decomposes less substance per kilo than a lean one. To what extent sex influences metabolism is an unsettled question. Tiegerstedt and Sowdin found that in the young the carbon dioxide elimination per kilo of body weight, as well as per meter of body surface, was considerably greater in males than in females of the same age and weight of body. The difference disappears gradually, and in old age the results are the same. The general amount of $CO_2$ in the blood and serum depends upon bodily activity and metabolism. The maintenance of an even standard is not possible always, but within certain limits is sustained. The pressure rises and falls as the loosely combined $CO_2$ is decomposed or absorbed.

I have referred to "intestinal respiration," this gaseous exchange consists chiefly in that the oxygen passes from the blood in the capillaries to the tissues, while the $CO_2$ passes from the tissues to the blood and serum. This exchange is constant and reciprocal. So long as we have access to an oxygen atmosphere, the volume of $CO_2$ in the body is not only not hurtful but helpful, and it is a question today if life could be maintained were carbonic acid gas not a great factor in the function of combustion constantly going on. The muscle at rest or in action constantly gives off $CO_2$ and we breathe more or less rapidly as the volume increases or diminishes.

The abnormal accumulation of gases in the bowels is quite as painful and more confusing than a stomach distended with gas. Twice in the past year I have known of cases very near to operation through mistaken diagnosis. In one, old adhesions of the bowels were stretched and pulled, until pain and tenderness suggested appendical trouble. In the other, a plain case of flatus, the diagnosis was the same, but the surgeon called upon to operate, being afflicted with a conscience, waited a bit, and the scare was over, with some ludicrous happenings, to the great discomfiture of a well-known clinician.

The long intestinal tract with the various chemical changes occurring, and the existence of decomposition through the agency of microorganisms, offers many natural reasons why most rigid scrutiny should be made in this fertile field for gases before an excathedra utterance is ventured upon.

The large amount of cellulose, which, in the ordinary way of nutrition, passes through the bowels, forms a fruitful cause for flatus. Peas, beans, lentils, cabbage, rye-bread, and oatmeal cake induce large amounts of gas formation. The gases commonly found are carbureted and sulphureted hydrogen and marsh gas. Of oxygen gas and carbon dioxide I have already spoken. The formation of hydrogen and marsh gas is due to the fermentation induced by the different bacilli found in the intestines. In all healthy bodies these gases are found, but when abnormally existing they are due to perversions of function, which favor favorable culture mediums, and facilitate the multiplication of the various bacteria and hyphomycetes.

We have lactic, acetic, and butyric acid fermentations, and the decomposition of fats, proteid matter, and cellulose, to contend with in our study of the gases found in the bowel. There are many intestinal antiseptics in our pharmacopeia, but actual intestinal antisepsis is an impossibility, and will never be realized. The soil for breeding bacteria is too favorable, and the constant introduction of decomposing and fermentable material, as well as the unfavorable conditions arising from stomach and intestinal diseases, render abortive our best efforts to maintain a condition of perfect antisepsis. We can, however, with care in feeding and proper attention to catarrhal and obstructive conditions, modify the

abnormal formation of gases. Meteorism often occurs after abdominal operations, or in peritonitis, due to toxic paralysis of the bowel. Kader has made many experiments in local meteorism. When coils of intestine are strangulated in a moderate degree, that is, if ligatures are placed around the loops of intestines and their mesentery, and if these ligatures are tied sufficiently tight to permit the entrance of arterial blood into arteries and arterioles, the strangulated coil of intestine and mesentery assumes a dark reddish-blue hue. This experiment produces the same conditions in the intestines and mesentery that are met with in pathological states.

Venous statis occurs, and first water and later gases are found in the looped off stricture. Kader found that the development of gas in the coil of intestine between the two occlusions was chiefly due to the disturbance of venous circulation. These conditions exist in volvulus and other occlusions of the bowel.

Phantom tumors are also of this order. I remember distinctly a case of much interest occurring a number of years ago. A lady of fifty or fifty-five years of age had been ill for more than a year with a bowel trouble. Different diagnoses had been made by physicians and surgeons. When called to see the case, I found there had been no movement of the bowels for a week, although powerful cathartics had been used. The patient told me that knots would come up in the bowels, causing excruciating pain. The description was so vague that I paid little attention to it at the time. Mentally I considered the case to be one of occlusion, and an operation indicated. While leaving, I was recalled and witnessed the phenomenon. In different parts of the abdominal wall two or three hard lumps, the size of a child's fist, appeared. They were very firm and incompressible; great distress was evident. This condition lasted for four or five minutes, and then the lumps gradually diffused or disappeared. I was told this occurred a number of times daily. I prescribed strontium bromide in full doses every two hours until four or five doses were taken, and a grain of calomel in divided doses in the evening. Upon my return the next day I learned that five or six copious and extremely offensive stools had been voided. The lumps had only partially returned. The bromide mixture was continued in smaller doses for a week. The bowels became quite regular, the knots did not return, and recovery was rapid. In two weeks the patient ate normal food, gained in weight and strength, made visits, attended entertainments, and seemed practically well. A difficulty occurring about visits to my office, I did not see the case again. I understood the bromide mixture was discontinued. Some months later the trouble recurred, and an operation was advised. The patient died while under the influence of chloroform before the abdomen was opened, and, no autopsy being allowed, absolute knowledge of the cause of the trouble was not obtained. An enterospasm of a neurotic character certainly existed, to what extent this was accompanied by occlusion I have no means of learning, but recent observations by Heidenhain and Schloffer indicate that enterospasm may cause the complete picture of occlusion, when laparotomy shows no obstruction whatever.

Most of the gases of the intestines are formed by putrefaction and fermentation. Carbon dioxide partially so, but suphureted and carbureted hydrogen, as well as methyl mercaptan, almost entirely so. Marsh gas is formed through the fermentation of cellulose, as found by Tapeiner. The proteid decomposition is accomplished through the agency of microorganisms, and almost entirely in the large intestines. The fetid odor of the excrement is largely due to the formation of indol and skatol. These are two products of the aromatic series, and are found in the urine with indican. When the intestinal tract is free from bacteria, as in the meconium of newly-born infants, odor is wanting. Sulphureted hydrogen gives very little trouble in the bowels, carbureted hydrogen and marsh gas much more on account of their low coefficient of absorption. While sulphureted hydrogen does not cause much trouble in the bowels, it does cause many unpleasant symptoms through absorption. Headache, vertigo, and nausea are often present as the result of sulphureted hydrogen generated in large amounts in the bowels. Our efforts should be directed toward lessening the amount of these gases by suggesting a proper diet. The butyric acid fermentation of cellulose, and the carbohydrates is a potent factor in the formation of these gases. Constipation increases the amount of proteid decomposition, while diarrheas, or the frequent use of mineral waters, hasten the passage of food through the intestinal tract so rapidly that the body is not properly nourished; and while relief from gases is accomplished, it is at the expense of nutrition.

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## THE IMPORTANCE OF THE EARLY RECOGNITION OF VALVULAR DISEASE IN CHILDREN.*

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Routine physical examination of children is absolutely essential to the appreciation of their ailments. It takes time thoroughly to examine a child, as an examination to be of positive value must be made down to the skin. Many conditions may be overlooked by a superficial examination through clothing, especially cardiac lesions. It is surprising what unlooked-for things a physician will find if he systematically makes a physical examination on his little patients, and by this I do not mean that every patient must be stripped, as is done in hospital work, but the clothing, if not removed, should be so arranged that access to the skin may be had. Nowhere in the four epochs of life, childhood, youth, middle-age and senility, does this routine physical examination apply so strongly as in childhood. The pathology of childhood presents difficulties which cannot be surmounted except by the keenest observation. Very young children cannot tell us anything, and the older ones won't, or if they do their statements are more liable to be misleading than of benefit. Among children there is not the objection to removing the clothing that we frequently have to combat among adults, and it is the physician who gets right down to the bare skin who gets to know children as they should be known. Many times a child with its clothes on may present a picture of fairly good nourishment, but strip it, and a grade of malnutrition may be found that will be surprising.

I have digressed from the title subject more forcibly to emphasize the remarks to follow. Endocarditis may occur as a complication in any of the acute febrile diseases; but it is on the rheumatic form that I shall largely dwell in this paper. Endocarditis in children, more especially the rheumatic form, unfortunately for the little ones, is only rarely recognized in its primary manifestations. Years later

* Read before the Bronx Medical Society, April 12, 1905.

when the damage is irreparable it is discovered either accidentally or when the child is brought for treatment with dyspnea and the train of other symptoms due to broken compensation. Acute inflammatory rheumatism as we see it in adults occurs rarely in children. In adults the disease manifests itself in an arthritis with high fever, swelling and redness of the joints, with extreme tenderness. There is no mistaking the diagnosis, and as we know that the complication to be most dreaded is endocarditis, we are on our guard and watch the heart for signs of its occurrence. The manifestations of rheumatism in children, however, present a very different picture. This statement is meant to apply more especially to children under eight or nine years of age. Instead of the acutely inflamed joints we get a history from the mother, very often only by careful questioning, of wandering pains in the arms or legs, to which little attention was paid. Many times the common term, growing pains, has been the only warning of the endocarditis discovered years later. Some children will complain of pain on handling in the process of dressing or undressing them, but seldom do we find marked joint disturbances. The swelling and redness, if any, is only slight. In some cases there may be a little swelling, but rarely any reddening. One feature that I have noted in particular in older children is that joints with considerable swelling and in which severe pain is complained of may be palpated, using considerable pressure without causing any or but little pain. The same amount of pressure on an adult's joint would cause him to make threats of murder. The joints on moving may or may not be painful.

In order to emphasize more forcibly the many forms that the rheumatic pains and joint manifestations may assume, I have arranged them into four groups. And let me say here that any pain in the extremities of a child, no matter how slight, may mean an accompanying endocarditis. And you will notice that I do not say joint pains, but use the term extremities instead, as the pains are frequently located by a child in the muscles of the calf and down the leg and in the forearm rather than in the joints.

Group I.—Wandering or growing pains. This group I think the most important of all, because, as a rule, little attention is paid to them by the parents, and if a physician is consulted, according to my own experience and from the statements of most of the textbook writers, their significance in the large majority of the cases is not recognized. The history of the pains is confined to as short a period as a week or two. Again they may cover a period of many weeks or months. The pains are not frequent, often only a sticking pain, as children will describe them, once or twice a day. They may occur every day over a definite period or at irregular intervals.

Group II.—In which not much pain is complained of, chiefly stiffness. These children, who have previously been very active, are inclined to lie around, but the parents will tell you that they do not seem to be sick.

Group III.—In which the child will complain of definite joint pains, commonly confined to the knees or ankles, though the shoulders and wrists may be complained of as well. There is no swelling or redness, no pain on pressure over the joint. There may or may not be some slight pain on active or passive motion.

Group IV.—In which there is moderate swelling and redness, with pain often quite severe while at rest or on moving the joints. This group presents the picture of the sub-acute articular rheumatism seen in the adult. This group also, in my experience, is confined usually to children over eight or nine years of age.

Before leaving the subject of rheumatic pains, I want to repeat and to emphasize that every muscular pain, no matter how slight or where located, may mean an associated endocarditis. In spite of the fact that the textbooks warn us that rheumatism occurs in very obscure forms in young children I do not think that the average practitioner appreciates how very obscure its manifestations may be. Dr. Winters, of the Cornell Medical School, to whom I have the honor of being an assistant, puts particular emphasis on the many obscure manifestations of rheumatism in children. He taught me that many times the disease will show itself only by a child's complaining of a little sore throat or pain on swallowing. On examining the throat a little redness may be seen, but many times nothing. There is only pain on swallowing. We have then rheumatism of the muscles of deglutition. Again the most trivial stiffness, with or without pain in the muscles of the neck or along the tendon sheaths, may be the only warning we have. And to repeat what I said in the early part of my paper many children will not complain of any pain or stiffness or anything at all except some slight soreness on handling the muscles while dressing or undressing them. And finally, I want to say that I have had many cases of endocarditis in children at the Cornell Clinic in which by the most careful and exhaustive questioning absolutely no history of rheumatism in any of its manifestations could be obtained. From what I have seen of rheumatic endocarditis I believe that it is possible for the endocarditis to be the only manifestation of the disease, though the cases are certainly rare.

*Joints Involved.*—The joints involved are usually those of the ankle and knee, less often those of the shoulder, wrist, and elbow in the order named.

*The Temperature and Pulse as a Means of Diagnosis.*—Early in a case of rheumatic endocarditis the temperature and pulse often furnish with the indefinite joint pains a key to the condition before the murmur develops. The pulse rate will be found in the neighborhood of 120, or even higher, while the temperature will be comparatively low, 100° to 101° or 102°. A much higher temperature may be had, but I am speaking now of the majority of the cases. If seen after the first week the temperature is found very close to normal, but with the pulse still very rapid. In other words a great disproportion will be found between the height of the fever and the pulse rate. A rapid pulse from nervousness must not be mistaken for one due to disease of the heart. It is wellnigh impossible to say sometimes whether the rapid heart action is due to excitement or disease. A child's pulse that is perfectly normal, on the slightest provocation will become often very rapid. On the other hand it will as quickly slow down when the child's mind becomes at rest. By sitting quietly beside the patient and distracting his attention by talking to some one else in the room, as a rule, the variations of a pulse due to nervousness can be readily detected. In some cases in children of a marked nervous temperament, however, it will be found almost impossible at the time to interpret positively the cause of the rapid heart action.

The examination of the heart by palpation and percussion is usually negative. This statement is meant to be applied only to cases within the first week, during which period cardiac enlargement of any appreciable degree is rarely present. The apex is usually found within normal limits, and a thrill may or may not be felt.

I wish to say here a few words as to the relation of the heart to the chest wall in children without a

knowledge of which many cases of cardiac enlargement will be made out that do not exist. In young children the heart is placed somewhat higher and occupies a position a little nearer the horizontal than in the adult. The apex is therefore higher and farther to the left. Up to the ninth year the apex is found in or near the mammary line. After the thirteenth year it is found, under normal conditions, well within that line. In infants the apex beat is difficult of detection, but in a child it is more readily located than in an adult. Up to the seventh year it is found with about equal frequency in the fourth and fifth intercostal spaces. After the seventh year it is, as a rule, found in the fifth space, occasionally in the fourth. After the thirteenth year it is always, when normal, found in the fifth space. In deformities of the chest the apex beat may be displaced and found in an abnormal position. Both the area of relative and absolute cardiac dullness in young children is proportionately larger than in adults. Unless this is borne in mind a heart may be considered enlarged when it is of really normal size. The full appreciation and understanding of the relation of the heart to the chest wall in children is absolutely essential to the correct interpretation of the findings of an examination of the heart.

*The Murmur.*—On the third or fourth day, sometimes later, the murmur develops at the apex. It is usually systolic in time, and soft and blowing in character. At first it is localized at or near the apex, but sooner or later it is carried to the left into the axilla and heard behind at the angle of the scapula if the valvular lesion is to be one of mitral regurgitation, which the large majority of these cases turn out to be. In these cases of mitral regurgitation an accentuation of the pulmonic second sound is always heard. If the valvular lesion is to be one of mitral stenosis, the murmur which is presystolic in time remains localized between the apex and the ensiform cartilage. With the stenotic murmur a purring thrill may or may not be felt. Primary valvular lesions at the aortic valves are so uncommon that I will not go into them. The murmur of acute endocarditis must not be confounded with functional or anemic murmurs, that are so frequently heard in the acute febrile diseases. Both commonly occur at the base rather than the apex, and their area of transmission is limited. They also vary much in intensity, and may be well marked at one time and very faint or barely audible at another. Pericarditis is to be distinguished by a double murmur, which is also heard, as a rule, at the base of the heart. The sound is rubbing in character rather than blowing.

A leucocytosis is always found in acute endocarditis and is of considerable aid sometimes in helping towards making a diagnosis in an obscure case. We see cases where it is difficult to decide whether the rapid heart action is due to functional disturbance or inflammation of the heart, where there is a little fever of possibly only one-half or one degree, and with a murmur that does not present the typical characteristics of acute valvular disease. If an examination of the blood shows a well-marked increase in the leucocytes and we can exclude other causes of the leucocytosis it favors very much a possible endocarditis.

*Diagnosis.*—It is on the diagnosis of endocarditis in children that this paper has been written, and this is the one predominating feature that I wish to stand out, to the exclusion of all others. The statements I have previously made have been but the means towards an end. All matter except such as seemed to me to bear on that very important factor diagnosis I have endeavored to exclude. In order to make this diagnosis the heart must be followed in rheumatism, bearing in mind the obscure form that the disease assumes in young children. In chorea, in which it is so frequently a complication, and in all the acute febrile diseases, particularly those of obscure origin, careful observation of the heart is also necessary.

*Résumé.*—When I was asked to write a paper for this society the subject of endocarditis in children was the first to come to mind, because these cases have always had a peculiar sadness for me. I have a great love for children, and the realization of how many of these cases do not receive the benefit of treatment, owing to the fact that they are not recognized, led me to begin to formulate a paper some time ago. A diagnosis in these cases certainly does not mean that we can save the heart from permanent damage. Very mild cases occasionally do leave what, as far as we can make out by the means of examination at our disposal, is an apparently normal heart. But in the vast majority of cases, however, some evidence of damage to the valves remains in spite of all treatment. Nevertheless, I claim that if the case is recognized and receives rest with other treatment a great amount of damage may be avoided. And by damage I do not mean so much the saving of the valves as the heart muscle. Certainly with an overacting inflamed heart absolute rest in bed does much towards saving the heart muscle and valve segments by avoiding unnecessary strain on them. The same heart in a child running about, by the sudden strain put on it by overexertion stands a most excellent chance of becoming considerably enlarged, or rarely, in the primary cases, acutely dilated. Following the acute stage the great danger is failure of compensation. This only rarely occurs in the primary attack. The three common factors causing failure of compensation are anemia, impaired nutrition, and overexertion. In all the acute febrile diseases there is the same danger. Here again diagnosis comes in. The anemia and impaired nutrition call for treatment, and if the child's parents have been acquainted with the fact that the child has a diseased heart, the future of which depends to a great degree on the general health being kept as near par as possible, the tendency will be to have the case looked after. Otherwise the anemia and bad nutrition are allowed to run along until, when finally brought for treatment, a greatly dilated heart may be found. All those of us who have followed many of these cases know how rapidly the anemia develops and the nutrition suffers, and we know how much can be done to combat it by tonics, such as cod liver oil and iron, by guarding against constipation and indigestion, by regulating the diet, and in many other ways helping towards keeping the child in general good health. These cases in which marked enlargement or acute dilatation have occurred are the sad cases, for they hold out a bad prognosis at the best. It is really the condition of the heart muscle that counts most in prognosis in valvular disease. And if we expect the heart muscle by hypertrophy to compensate for some valve defect then we must do all in our power to give it strength by nourishing it and giving it rest when it shows that it is getting tired. We must try not to let it get to the point of broken compensation, because broken compensation means each time it occurs a weak heart muscle with less and less recuperative power.

A heart with a valvular lesion, but which is within normal limits, while not favorable to longevity, may carry a patient through a fairly long and active life. On the other hand a heart muscle which has been weakened by dilatation certainly does in most cases mean a short life. The plea that I make for these cases is not of cure, but that we take heed of the many indefinite manifestations of endocarditis in

children and make a diagnosis early. By so doing give the little ones all the chance they can have by putting the heart under as favorable conditions as possible.

In conclusion I am going to give my definition of rheumatic endocarditis in children, which, if kept in mind, will do much towards the recognition of these cases.

Rheumatic endocarditis is an inflammation of the lining membrane of the heart commonly confined to the valves, manifested by stiffness or pain in the joints or tendon sheaths, or in any of the muscles of the body, from the most trivial or obscure form to a well-marked arthritis; by rapid heart action without regard to intermittency or irregularity; by a low grade of fever, oftentimes but a half degree; by a soft blowing, usually systolic, murmur at the apex of the heart, and by the presence of a well-marked leucocytosis.

412 West One Hundred and Forty-fifth Street.

## A CASE OF FIBROMA OF THE ILEUM, PRODUCING OBSTRUCTION BY INVAGINATION; ENTEROTOMY; RECOVERY.

### WITH A BRIEF CONSIDERATION OF BENIGN GROWTHS OF THE INTESTINES, AND METHODS OF OPERATING.*

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Benign tumors of the intestines are by no means uncommon, and yet they are discovered rarely enough to justify reports of instances in which they cause serious symptoms. They seldom give rise to intestinal obstruction except from invagination due to their weight. The classification of Leichtenstern, as given by Senn, divides them into fibromata, myomata, submucous lipomata, and mucous polypi. The same authority states that the rectum (including the sigmoid flexure) is the most frequent seat, and the ileum next, while the duodenum and ileocecal regon are singularly free from benign growths. According to Richard Douglas of Nashville, Tenn., these tumors may be solid or cystic. The former are adenomata, fibromata, lipomata, and nevoids; he considers the adenomata to be the most common of all. The structure of benign growths of the bowel differs in no wise from that of the same kind of tumors in other parts of the body. It is likely, however, that, in the absence of careful microscopic examinations, some of them will be designated as benign, when they are really undergoing malignant degeneration, and it must be kept in mind that carcinoma is the most frequent form of intestinal tumor.

The following is the only case of benign growth of the intestines which I have encountered:

On January 8, 1905, Mr. R. R. S., aged 42, was referred to me by Dr. R. W. Palmer of Gulf, N. C. A brief history elicited at the time of his admission to Rex Hospital gave the following information: He has usually been healthy, and is free from any hereditary disease. In his youth he had intermittent malaria, and, sixteen years ago, typhoid fever. His present illness dates back as far as six months, when he began to have occasional attacks of indigestion and sometimes vomited his food. It was in the early part of September, 1904, about four months ago, that marked symptoms developed. He first had intense pain in the left iliac region, lasting one to two hours. These paroxysms recurred every week or so, becoming more severe and finally almost continuous. For the past month he has not been free from suffering for any considerable period. His bowels have been habitually constipated, and the evacuations are always small in size. Mucus has often been passed, but never any blood. He has lost weight, but does not know how much. For four days his bowels have not moved, and for three days he has been vomiting stercoraceous material at frequent intervals.

The temperature was 97.6 degrees, pulse 100. The abdomen was slightly distended. There was dullness over the descending colon and the sigmoid flexure, while to the inner side of this appeared a mass as large as the fist, which was somewhat movable. The pain seemed to be chiefly in the epigastric region. Fecal vomiting still continued. The blood showed 4,700,000 red and 13,600 white cells; the hemoglobin was 70 per cent. For the purpose of relieving the fecal impaction, which was obviously present, whatever else might be the primary cause of the intestinal obstruction, orders were given, following my usual custom, to administer hyoscine hydrobromate hypodermically in 1/100 grain doses every four hours, and a high enema consisting of one ounce of alum to a quart of water immediately after the second dose of hyoscine. The drug was not well borne and had to be discontinued, but the enemas were very effectual and, after three had been given, followed by an ounce of castor oil, the patient seemed comfortable. The next day, January 9, all traces of the impaction had disappeared and the mass before mentioned was more easily made out. It was much smaller and more movable. A diagnosis of tumor of the small intestine, possibly malignant, was made and consent given to operate.

On January 10, 1905, under ether anesthesia, an incision was made in the left semilunar line, its center being at the umbilicus. The mass was felt below and readily brought up. It was a portion of small intestine (ileum), invaginated and twisted, so that it appeared to be tied in a knot. Unfolding this without difficulty, a tumor was discovered in the lumen of the bowel. Through a one-inch longitudinal incision on the free border of the intestine the tumor was delivered. It was spherical, smooth, of the size of a large walnut and pedunculated, arising from the submucous coat near the mesenteric attachment. An elliptical incision was made around the base of the pedicle, the growth cut away and the mucosa united with a continuous suture of fine silk. The bowel incision was closed by three rows of continuous sutures of fine silk, one in each coat, and an extra interrupted Lembert stitch on the peritoneal coat. The abdomen was closed without drainage and the patient made an uneventful recovery. Histological examination of the tumor proved it to be a pure fibroma.

The questions at issue in the management of such a case are, first, the diagnosis; second, the necessity for resection and anastomosis; third, the direction of the incision in the enterotomy, and, fourth, the method of excising the tumor and closing the intestinal wound.

In this particular instance there could hardly be a doubt but that the bowel was obstructed by a neoplasm. The history pointed strongly to the evidence of a progressive growth; the symptoms showed intermittent periods of partial obstruction and a mass was present, even after evacuation of the bowels by the preparatory treatment. These signs do not ob-

*Read before the Florida Medical Association, April 20, 1905.

tain in acute obstruction from other causes. An important matter would be the recognition of the character of the growth before operation, a difficult thing to do. There was some reason for suspecting malignant disease in this patient, and such tumors are much more frequent than innocent fibroids. And yet, if this suspicion had controlled the situation, the man might still be a sufferer or would not now be alive and well. Too often patients are denied the privilege of an exploratory incision because of the assumption that a certain growth is cancer. "Seeing is believing."

Many cases of benign tumor of the intestine demand the removal of a more or less extensive section of the gut with anastomosis of the severed ends. This depends largely upon the condition of the bowel adjacent to the growth. Watson, of Boston, reported last year a fibroadenoma of the ileum, which required resection of fourteen inches of the intestine. He found the intestinal wall inflamed and thickened for twelve inches above the seat of the tumor and the mesentery hypertrophied, with its glands enlarged and indurated. In my case the bowel was perfectly normal except for thickening at the pedicle, and the usual dark discoloration of the invaginated portion, which quickly returned to its natural appearance after being released. Such matters are to be determined upon the same principles which guide us in operating for ileus from whatever cause. If the growth is thought to be malignant the proper procedure is either a resection or enterostomy; if it is benign, enterotomy is the course to pursue. It stands to reason that opening the bowel by a small incision and closing it securely is much more easily and quickly done than an anastomosis, and in the hands of the average surgeon is a safer operation.

My only reason for referring to the direction of the incision in enterotomy is to quote a suggestion of Senn, to which my attention has been called, viz.: that "the visceral incision should always be made transversely, and never in the long axis of the bowel, as is usually recommended, because transverse wounds can be more readily sutured than longitudinal wounds, and the operation is less liable to be followed by stenosis of the bowel." In future cases it will be my purpose to apply this method. The only possible disadvantage may be that it would not furnish as much room for working. Fenger in 1894 removed a myoma from the ileum through a longitudinal incision aided by an additional transverse one.

The plan practiced here of making an elliptical incision around the pedicle through the bowel mucosa, lifting the tumor out of its bed and smoothly stitching the mucous membrane over the depression is offered as the best possible procedure. Nowhere has it been seen in any textbooks consulted, nor did it occur to the writer until just at the moment it was put into effect. Surely such a method is far superior to the usual way of transfixing the pedicle, tying both halves separately and excising the tumor at a safe distance from the ligatures. (Senn.)

Closure of the bowel wound after the manner above described lends itself peculiarly to this class of cases. By suturing each layer separately and then adding an extra Lembert stitch outside, there is obtained a secure fastening of the slit with the least possible chance that contraction will supervene. In the ordinary closing of intestinal openings the edges are rolled in more or less at the expense of the lumen, as the peritoneal surfaces are brought broadly in contact, and every opportunity is offered for stenosis.

**Congenital Tuberculosis.**—Martha Wollstein reports the case of a woman who died of advanced tuberculosis six days after the birth of a male child in the eighth month of pregnancy. Microscopical examination, according to the writer, showed the uterine lining to have the structure of the decidua at term. At many points cheesy degeneration had occurred throughout its entire thickness, extending into the muscular coat to an irregularly varying depth. Small tubercles with cheesy centers were scattered throughout the middle and inner muscular coats, and were found even at some distance from the cheesy endometrium. Tubercle bacilli were demonstrated in the cheesy areas and also in dicidual sinuses, which were not adjacent to a cheesy mass. Macroscopically the placenta showed a triangular area of 5 x 7 cm., with its base at the placental margin, and its apex near the insertion of the cord; this section was yellow in color, soft in consistence, suggesting cheesy material. The agglutination thrombi had destroyed the syncytium in certain places, while in no section were the epithelial cells affected over a villus whose adjacent spaces were empty or filled with normal blood cells or with fibrinous masses. The case here described illustrates the intervillous chorionic localization of tubercle bacilli with secondary involvement of the villus stroma. Where fibrinous masses came in contact with the villus, the covering epithelial cells were wanting, although immediately beyond the point of contact they were present. This is an interesting point in relation to the question as to whether or not a normal syncytium is an efficient bacterial filter affording a protection to the fetus. The umbilical cord showed no tuberculosis, either microscopically or macroscopically. Neither were tubercle bacilli found in the vessels of the cord in the sections. Tubercle bacilli were found to be abundant in smears from the endometrium. The writer, in summing up the pathology of this case, believes that we may assume that the basal decidua was first affected, the tubercle bacilli traveling from the decidual sinuses to the covering of the villi, localizing there and causing thrombi in the adjacent intervillous spaces with destruction of the syncytium, entering the villous stroma, and finally reaching the chorion. It may be argued that the fetus was infected comparatively late—just before birth—this belief being founded upon the early stage of the tubercles in the child which lived for nineteen days. Tubercle bacilli were found in the liver and spleen of the child. Tubercles were also found in the lung and in the kidneys.—*Archives of Pediatrics.*

**Prostatectomy in an Old Man 77 Years of Age.**—Gayet cites the history of this case in order to show the excellent results that may be obtained by prostatectomy in individuals of advanced age, for it is well known that old age has been placed in the front rank of contraindications to this operation. This patient had enjoyed good health up to 1903, but at that time certain symptoms developed which pointed to trouble with the prostate. Crises of retention occurred, and the patient was obliged to submit to regular catheterization. Still later there was absolute retention and great difficulty was experienced in introducing the catheter; from that time the patient was a constant sufferer; the urine was murky, and sometimes bloody; the patient was obese but pale. Local examination determined phimosis, which made catheterization very troublesome. The purulent urine, after filtration, showed albumin and casts, and there was edema of the legs. Circumcision was practised and a catheter was inserted, through which regular lavage was given, but the patient's condition grew worse. The operation of prostatectomy was then performed. The prostate was the size of a turkey-egg, and was hard and fibrous. The patient was dismissed five weeks after his operation with a small perineal fistula. His general condition was entirely changed; albumin had entirely disappeared. It is now seven months since the operation. Micturition is accomplished voluntarily; there is still slight daily incontinence, but it is steadily decreasing. The writer thinks that the old men should not be deprived of the benefits of this operation.—*La Médecine Moderne.*

# MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

THOMAS L. STEDMAN, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, August 5, 1905.


## THE NEW ORLEANS EXPERIMENT.

PUTTING aside for the moment the human misery and economic waste of the epidemic now afflicting New Orleans, the situation is one of intense interest to students of medical science. The mosquito theory of yellow fever transmission is on trial, and upon the result of the efforts now being made by the sanitary officials in the city to stem the epidemic by attacking the mosquito depends the present acceptance or rejection of this theory as a practical working basis in the warfare against yellow fever. The New Orleans authorities have adopted the theory frankly and are working along the lines it indicates in their endeavors to arrest the spread of the disease. Mayor Behrman on Saturday last issued a statement in which he said: "The mosquito theory is accepted by our physicians and laymen alike, and there is nothing remaining to be done but to fight the mosquitos, which is being done by oiling the gutters and screening and oiling the cisterns. . . . We have the situation so thoroughly in hand that we believe we will shortly convince the outside world that by working on the mosquito theory, yellow fever will be entirely robbed of all its perils. . . . This is a fight wholly against the stegomyia fasciata mosquito."

This was a bold statement to be made at a time when the number of cases was increasing and new foci of infection were being discovered daily, but we believe it will be justified by the result. The truth of the theory, it is generally believed by the medical world, was demonstrated experimentally and practically in Havana; and, in the face of the mighty sanitary revolution there effected, objections based upon the unexplained facts of old-time epidemics in Philadelphia and other northern cities, where the stegomyia mosquito does not habitually flourish, have but little force. It is more reasonable to explain these epidemics on the supposition of an importation of the fever-bearing insect than it is to explain the facts of Havana's riddance on any but the mosquito theory.

If New Orleans should succeed in arresting the progress of the epidemic before the advent of cool weather, by oiling her drains, screening her cisterns, and barring mosquitos from the sick, the lesson would be a grand one, and its teaching would be well worth, in view of future good, the loss of life and property which it cost. There would, of course, still be skeptics, the fear-shaken Governor of Mississippi might even then continue his embargo on hardware from infected districts, but men of intelligence a little above this grade, with minds sufficiently broad to recognize facts, would be forced to admit the finality of the demonstration. Thereafter the health officers of any southern city in which yellow fever should gain more than a temporary foothold would be judged incompetent or neglectful of their plain duty.

The task calling for accomplishment by the New Orleans authorities is a tremendous one, but so much the greater will be their triumph if they succeed in it and thereby prove to the world that it is possible to remove once for all from all civilized communicates the menace of the yellow peril.

## THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THIS venerable institution celebrated during the third week in July the quadricentennial of its incorporation, which took place actually on July 1, 1505. Its charter or "Seill of Cause" was granted by the town council of Edinburgh on petition of the "surregeanis and barbouris" that they be incorporated as one of the burgh crafts. This is, therefore, the oldest medical association in the United Kingdom, the Royal College of Physicians of London having been established thirteen years later. The College early gave itself to the teaching of anatomy, and this was followed by courses in surgery and other branches of the healing art. This was two hundred years before the Medical School of Edinburgh University was established as a direct offspring of the Royal College. The charter of the College provided for the examination of all practitioners and raised a barrier against quackery by establishing that "no maner of persoun occupie nor use any poyntis of oure saidis craftis of Surregerie or barbour craft within this burgh bott give be first frieman and burges of the samyn and that he be worthy and expert in all the poyntis belang and the saidis craftis deligentlie and avysitlie examinit and admittit be the maisteris of the said craft for the honorabill seruyng of oure Soveraine Lord his liegis and nychtbouris of this burgh. And als that everie man that is to be maid frieman and maister amagis was be examit and previt in their poyntis following. That is to say that he knaw anotomea nature and complexioun of every member in manis bodie. And in lykeways he knaw all the vaynis of the samyn that he may mak flewbothomea in dew tyme. And als that he knaw in quhilk member the signe hes domination for the tyme for every man aught to knaw the nature and substance of every thing that he wirkis or ellis he is negligent." The necessity of dissection as a means to the acquirement of a practical knowledge of anatomy was recognized in the grant of "ane condamnit man efter he be deid to mak anatomea of."

The surgeons and barbers gradually became separated in their practice, but they continued together in one guild until 1722, when the court granted the barbers leave to establish an independent corporation. In 1778 the College, until then a municipal corporation or guild, became, by charter from George III, "The Royal College of Surgeons of the City of Edinburgh." The College was still, however, under control of the city authorities and several acts of interference with the internal affairs of the institution by the town council are on record, one being an annulment of an election because the newly chosen president professed political beliefs obnoxious to a majority of the city fathers. In the early

part of the last century, this control of the civil authority over the College was severed, and the last indication of the municipal origin of the body was removed by a new royal charter granted in 1851.

The educational character of the College was prominent from its foundation, the teaching of anatomy being, as we have seen, one of the provisions of its charter. The petition for the grant of the dead body of a criminal for dissection was based upon the ground "quhairthrow we may haif experience, ilk ane to instruct uthers," and if the body were granted, the petitioners promised that "we sall do suffrage for the soule." In 1694 the town council granted further privileges for the study of anatomy on condition that the College should build an anatomical theater where they should once a year (a subject being obtainable) have a public dissection. In 1705 the College appointed one of its members teacher of anatomy, and the town council ratified the choice by conferring upon this teacher the title of professor of anatomy in the university. Some years later, Alexander Monroe, who was the anatomical teacher of the College, associated with himself four members of the College of Physicians, and those five were afterward made professors at the University, there establishing in 1725 the medical faculty of Edinburgh University. The diploma-granting power remained with the College, and as late as 1859 the single diploma of the College of Surgeons licensed the holder to practise not only surgery, but midwifery and internal medicine as well. At that time the single diploma was replaced by the two diplomas of the College of Physicians and of Surgeons. Finally, in 1884, another diploma was added and the license to practice in all branches was conferred by the combined diplomas of the College of Surgeons, the College of Physicians, and the Faculty of Physicians and Surgeons of Glasgow, this being known as the "triple qualification."

Many men, in America as well as elsewhere, owe much to this ancient institution, the oldest medical association in the English-speaking world, and the parent of the Edinburgh Medical School. The licentiates of the college have just cause to feel a pride in their connection with it, for honorable as has been its career in the past, it shows no signs of age, and is even now as active in furthering the good of the profession as at any time in its long career. All who have the cause of medical education and the advancement of the profession at heart will join the friends of the College in felicitations and in wishing it a long period of undiminished prosperity.

## ABUSE OF MEDICAL CHARITY.

This question is continually cropping up, and, in fact, has been so freely discussed that its reiteration has become, perhaps, somewhat wearisome. However, it is a matter of such consequence to the medical profession that its frequent and persistent agitation is justified and well advised. The abuse of medical charity is confined to no one country, but is more or less prevalent throughout the civilized world. In the cities of America the habit is especially conspicuous and is an evil which shows little sign of decrease.

Dr. George W. Gay, Senior Surgeon, Boston City Hospital, published in the *Boston Medical and Surgical Journal* for March 16, 1905, a paper entitled "Abuse of Medical Charity." In this paper the question of the abuse of medical charity is thoroughly reviewed, and the writer concludes that three sources of relief must be looked to, namely, the public, the trustees and managers of our medical charities, and the profession at large. Dr. Gay holds that the public must be educated to the facts of the situation, and taught that public hospitals are designed and supported for the poor and destitute and not for those who can afford to pay.

The trustees of medical charities should enforce the following two general rules: 1. All patients occupying private rooms in hospitals shall be required to pay the attending physician a fee for professional services, unless excused from so doing for good and sufficient reasons by the superintendent or other representative of the administration. 2. Out-patients shall be inspected and required to show in some way that they are worthy objects of charity. 3. Those patients who are able to pay something, even a small fee, shall be refused free treatment, under ordinary circumstances, but shall be directed and advised as to the best course to take to get relief.

Finally, Dr. Gay points out the obvious fact that the medical profession itself is to a great extent responsible for the present state of affairs. The fundamental rule for all physicians to observe is to encourage no patient who can pay a fee to apply at a free clinic. The writer holds, indeed, that judicious and persistent efforts on the part of the profession are absolutely essential to the success of the endeavor to do away with the abuse of medical charity.

## Pulmonary Tuberculosis in Penal Institutions.

At the approaching International Prison Congress to be held at Budapest, Hungary, September 3, 1905, one of the questions to be discussed is "What Are the Best Means of Combating and Treating Tuberculosis, and of Avoiding Its Propagation in Penal Establishments of Every Kind?" While it is the duty of those in authority to take measures for the limitations of this disease in institutions, it remains for the medical profession to indicate what these measures shall be. An investigation of the prisons of New York State and elsewhere shows that tuberculosis prevails to an alarming extent. Penal establishments call for especial care in this respect because a large number of those that compose their population bring with them either the germ of the disease itself or hereditary or acquired defects, which predispose them to this malady. The risk of infection is there combined with great receptivitiy. On their discharge, prisoners who have developed the disease during their detention, become agents for the spread of the contagion in the community. These dangers, which are sufficiently grave in penal establishments of all kinds, are a special cause of solicitude in colonies for juvenile offenders. It becomes the duty of society to secure the physical as well as the moral development of these unfortunate youths, and to omit no means of protecting them against contamination. It is desirable to indicate and to classify the measures of every kind already taken or projected to combat the propagation of tuberculosis in penal institutions. It would also be expedient to study how the requirements of science, of public health, and of humanity, may be reconciled with the necessity of penal administration. Among the measures to be discussed at the approaching Congress are the means of discovering sufficiently early and of classifying those who are sick or suspected

of being sick with the disease, general hygienic measures concerning persons and places, special measures as to preservation, isolation, or prophylaxis, and means of treating the sick individually. Dr. S. A. Knopf and the Rev. Samuel J. Barrows have been appointed by the Secretary of State delegates to the Congress for the United States Government.

### Ability of the Larvae and Pupae of the Stegomyia Fasciata to Withstand Desiccation.

Public Health Reports for June 16, 1905, contains a very interesting communication from Passed Assistant Surgeon T. D. Berry, of the Public Health and Marine Hospital Service, at the Port of New York, with regard to this matter. It is generally believed that mosquito larvæ and pupæ are unable to exist for more than a short time out of water. In Laredo, Texas, in the summer of 1904, observations to clear up this point were made. Dr. L. O. Howard mentions in his work on mosquitos that he has noted a small pool containing numerous larvæ which became entirely dry; yet the next day, after a rain, many larvæ were found swimming about in it. Other incidents of a like nature have been recorded. Dr. Howard's explanation of this incident was that the larvæ burrowed or sank in the soft mud, and thus lived from one shower to another.

Dr. Berry's observations did not bear out this theory. "The larvæ showed no disposition to burrow, but merely settled down on the surface of the mud as the water evaporated. And while it was shown that larvæ can stand drying for hours they could not have stood it for days and weeks; besides in Laredo the baked mud was ground into powder by the wheels of vehicles."

As *Stegomyia fasciata* was never found in puddles in Laredo, artificial experiments were necessary to determine its ability to withstand desiccation. Such experiments proved that the pupæ of this mosquito can be successfully hatched out of water, and that larvæ will live for a considerable time under these conditions.

Dr. Berry, therefore, is of the opinion that pupæ emptied on the ground on cloudy days or late in the afternoon, will probably hatch, and says that the mere emptying of a vessel containing stegomyia pupæ does not necessarily kill the pupæ.

### The Aërial Convection of Smallpox.

That the germs of smallpox may be borne by the air for some considerable distance is believed by many. In Great Britain, especially, this theory has gained ground during the past few years, and is upheld by the English Local Government Board. The belief has been more or less substantiated by the experience of London, Manchester, Glasgow, Liverpool, and Gateshead during recent outbreaks of smallpox. Dr. Claude B. Ker, Medical Superintendent of Edinburgh City Hospital, in a paper contributed to the *Edinburgh Medical Journal* for June, holds that belief in the theory of aërial convection of smallpox has been carried too far, and does not think that any absolutely conclusive evidence in its favor has been produced. He instances the situation of the Edinburgh smallpox hospital as showing that contiguity to such an institution does not necessarily mean a spread of the disease. The hospital in question is placed between the grounds of the permanent fever hospital and those of the poorhouse. Yet during the epidemic of smallpox which prevailed in Edinburgh in 1904, although within a quarter of a mile of the smallpox hospital, there is an average population of over 1,500, and within a mile one of probably 6,000 persons, no cases of the disease occurred which could in any way be attributed to hospital influence. Dr. Ker is inclined to agree with those who hold that defective administration on the part of the hospital authorities is responsible when there is an undue prevalence of smallpox in the immediate neighborhood of any such institution.

### The Work of the Netley School.

The military medical school connected with the Royal Victoria Hospital, Netley, Isle of Wight, has been closed, after a career of forty-two years, with a graduate roll of three thousand names. All the medical officers of the British Army since 1863 have studied at Netley, and for nine years the surgeons of the Navy were also educated there, until their own school at Haslar, was established in 1880. In a notice of the school in the *Journal of Tropical Medicine* it is said that the Netley School will be best remembered by the fact that it gave to the world a new science, Preventive Medicine. Until Parkes, the Professor of Preventive Medicine in the Netley School, published his great work, our knowledge of hygiene was merely empiric, but Parkes established a basis on which to found hygiene and preventive medicine as a science. Netley also originated another branch of medicine which has come markedly into prominence lately. Tropical medicine has formed a distinct part of the education of medical men joining the military services ever since the Netley School was founded, and this was the only school at which the subject was taught in Great Britain until a few years ago, when the London and Liverpool schools come into existence.

## News of the Week.

**The Fourth Centenary of the Royal College of Surgeons, Edinburgh,** was celebrated in that city on July 20 and 21. The opening exercise was a service in St. Giles' Cathedral in which, in Catholic times, was an altar to St. Mungo, the patron saint of the college. After the services, at which the Rev. Prof. W. P. Paterson preached a sermon on the philosophy of suffering, there was a luncheon in the city chambers given by the municipal corporation. The commemorative ceremony was held in McEwan Hall in the afternoon. The president of the college, Sir Patrick Heron-Watson, delivered an address, after which thirty-six honorary fellowships were conferred. The conferring of the honorary fellowship degree was a ceremony vested with the greatest interest. The honorary Fellows-elect were presented in turn by Sir Halliday Croom, the vice-president of the college, who submitted a short and eulogistic account of their medical careers, and they afterwards received the right hand of fellowship and their diploma from the president. Having been duly robed, they signed the roll of the college and took their seats on the platform to the accompaniment of a few bars of the national music of their respective countries. The following received honorary Fellowship: v. Elsberg and Fuchs of Vienna, Saxtorph of Copenhagen, Guyon, Championnière, Segond, and Terrier of Paris, Poncet of Lyons, v. Bergmann of Berlin, Bier of Bonn, Czerny of Heidelberg, König of Jena, Duranti of Rome, Saneyoshi of Tokio, Subbotin of St. Petersburg, Lennander of Upsala, Kroenlein of Zurich, Halstead and Howard Kelly of Baltimore, Keen of Philadelphia, McBurney of New York, Warren of Boston, Wm. J. Mayo of Rochester, Minn., Cameron of Toronto, Shepherd of Montreal, Fitzgerald of

Melbourne, McCormick of Sydney, Bomford of the Indian Medical Service, Herbert Mackay Ellis of the British Navy, A. H. Keogh of the British Army, Baron Lister, Arthur Chance, President of the Royal College of Surgeons of Ireland, John Tweedie, President of the Royal College of Surgeons, of England, Playfair, President of the Royal College of Physicians of Edinburgh, and H. E. Clark, President of the Faculty of Physicians and Surgeons of Glasgow. The name of v. Mikulicz-Radecki of Breslau was among those selected for the honor, and the diploma of honorary Fellowship, together with an expression of sympathy from the college was forwarded to his relatives. In acknowledging the honor bestowed, Dr. Howard Kelly thanked the oldest college for honoring the youngest of universities, and, perhaps more than all, he said, he had to thank them that they had welcomed back gynecology, an errant daughter, into the bosom of surgery. Dr. Keen said he was sure that were they to collect the suffrages of his colleagues that day they would all dispute the accuracy of the Virgilian maxim, for they would welcome, and not fear, the gift bearings of the Scots. He thought this was the oldest independent medical corporation in the world not connected with a university, and they might, therefore, well prize the honor conferred upon them that day. Though, through his father, he was a countryman of Professor Lennander (of Sweden), through his mother he was English, and through his grandmother, Welsh; he was now somewhat of a Scotsman, and if he went to Ireland, and obtained a little of the brogue he would be "totus teres atque rotundus." In the evening the president and fellows of the college held a reception in the Royal Scottish Museum.

**Yellow Fever in New Orleans.**—There are signs that the health officials in New Orleans are getting the yellow fever well in hand and the prospect of an early subsidence of the epidemic there is encouraging. It is now generally accepted that the fever got into New Orleans sometime between June 1 and June 15 through fruit vessels from Central America. The disease was not discovered until July 13, so that it had a month or six week' start of the health officers, and has been in the city nearly two months. This naturally has greatly increased the difficulty of arresting the progress of the disease since, when its presence was discovered, there were already many separate foci of infection. Only one of the seven municipal districts—the Italian quarter—is infected, and outside of it there have been but eight cases. These patients have all been screened from mosquitos and there is no danger of spread of infection from them. The outside quarantine situation has improved a little, Texas and Tennessee having modified somewhat the severity of their restrictions. The only panic-stricken region is Mississippi, whose Governor, Vardaman, is apparently the scaredest man in the two Americas: his terror has been increased by the occurrence of a case of yellow fever at Lumberton, in his own State. The Mississippi towns are even quarantining against each other in their fear. All passengers from New Orleans are transferred to new cars at the Mississippi line, which cars have been fumigated and disinfected. All of the windows have to be closed and nailed down while the train is passing through the State, and in many of the towns the trains are required to run through at a rate of not less than thirty miles an hour.

**The District Attorney and the Health Commissioner.**—District Attorney Jerome of this county has been enlivening the dulness of municipal midsummer politics by a criticism of the mayor and the "boss." He recently gave out an interview regarding the mediocre appointments of Mayor McClellan,and is reported to have paid his respects to the Health Commissioner in the following words: "Dr. Darlington is an agreeable gentleman, and may be a good physician. I like him personally, and he has made a fair Health Commissioner, but wouldn't his best friends laugh at any pretension that he was the equal of Lederle? Dr. Lederle was never a partisan. He was bred in the city service, and when the time came for a change he was made Commissioner. And there wasn't a physician in New York who wouldn't have told Mayor McClellan that he could not get a better man for the place. Yet Lederle was turned out. Why? He would have stayed only to serve the public. The man who turned Lederle out knew he was head and shoulders above Dr. Darlington in capacity, and yet he was put out. I am not specially attacking Dr. Darlington, but when we elect men to office we are entitled to the best service attainable." Mr. Jerome was not so happy in this case as when speaking of the Park Commissioner, Tenement-house Commissioner, and others. Dr. Darlington's appointment may have been unfit at the time it was made, but he has shown himself capable of learning, and has been a much better health officer than many of his predecessors.

**President Roosevelt's Visit to the Children's Hospital.**—On July 28, President and Mrs. Roosevelt, together with a party of guests, visited the Sea Breeze Hospital established at Coney Island by the New York Association for the Improvement of the Condition of the Poor. The hospital has accommodations for forty-five children with tuberculous bone diseases and the associated Sea Breeze Home can receive two hundred and eighty children and ninety mothers, who are each kept for a week's vacation. Among the members of the President's party were Dr. Herman M. Biggs, Dr. Charlton Wallace, Dr. Linsly Williams, Dr. William H. Allen, Dr. Walter B. James, and Health Commissioner Darlington. A report of the work of the hospital and the results obtained by this plan of treating tuberculous children at the seashore may be found in an article by Dr. Charlton Wallace, Attending Orthopedic Surgeon, appearing in the MEDICAL RECORD of July 22, 1905. The hospital, which is in need of funds, has recently received $25,000 from one donor and $5,000 from another.

**For a State School of Sanitation.**—The New Jersey State Board of Health has appointed a commission to consider the proposition of establishing a State School of Sanitation for the purpose of instructing local health officers in their duties, particularly during epidemics of infectious diseases. The method proposed is to hold conferences in the various cities of the State at which the instruction will be given, to be followed by practical demonstrations. The school in each city is to be made available to all applicants in that section, so that the whole State may be covered. The members of the commission are as follows: Dr. B. Van D. Hedges of Plainfield; Professor E. H. Loomis of Princeton University; Francis H. McGee, of Attorney-General McCarter's office; R. B. Fitz-Randolph, State Director of the Laboratory of Hygiene, and Dr. John L. Leal of Paterson.

**A Filtration Plant Needed for New York City.**—Health Commissioner Darlington in a report just sent to the mayor, urges the installation of a filtration plant for the purification of the city's water supply. The report contains a large amount of statistical matter showing the decrease in typhoid fever and intestinal diseases which has followed the introduction of filtration systems into the water sup-

plies of other cities. The efficiency of sand filter beds is discussed and their adoption is strongly recommended, as it is claimed that by this means it is possible to remove 99.5 per cent. of the bacteria in a water supply. Even the most extensive purchase by the city of the land surrounding the watershed would not furnish adequate protection against occasional contamination, and in times of drought the danger would always be much increased. It is estimated that a suitably covered slow sand filtration plant can be built for the entire Croton supply of about five hundred million gallons daily for about $17,000,000, with a total annual cost of operation, including interest, sinking fund, depreciation, etc., of about $900,000. The work could be completed within two years.

**New Hospital in St. Louis.**—Plans are being prepared for a new hospital to be added to the various Bethesda institutions in St. Louis. The institutions now operating under the Bethesda auspices are the Hospital and Home for Incurables, the Old Ladies' Home, the Home for Foundlings, and the Maternity Home. The new building will be devoted to the Maternity Home, the quarters now occupied by this branch being inadequate, and not up to the requirements for modern treatment.

**The American Association of Obstetricians and Gynecologists** will hold its eighteenth annual meeting at the Hotel Astor, New York, Tuesday, Wednesday, and Thursday, September 19, 20, and 21, 1905, under the presidency of Dr. Howard Williams Longyear of Detroit. Dr. Robert T. Morris, 616 Madison avenue, chairman, Dr. Samuel W. Bandler, 229 West 97th street, and Dr. James N. West, 71 West 49th street, constitute the local committee of arrangements, one or all of whom will furnish information to members and guests upon application. Dr. William Warren Potter of Buffalo is secretary of the association.

**Typhoid Fever in Chicago.**—The seasonal increase of typhoid fever in Chicago has set in more sharply than usual. There is a marked increase in the laboratory findings by the Widal test, and the hospital population shows a 35 per cent. increase of typhoid cases since the first of July. An analysis of the death-certificates, however, shows that in an increasing proportion of the fatal cases the disease was contracted outside of the city. For many years this proportion averaged 20 per cent. Since 1900 this proportion has steadily increased, until it is now shown that in fully 25 per cent. of all fatal cases of typhoid fever occurring in Chicago, the disease was contracted elsewhere.

**New Building for the St. Louis Medical Society.**—The St. Louis Medical Society recently voted to lease a plot of ground and erect a building in which to hold its meetings. The ground is the property of the St. Louis Medical Library Association, and the two buildings will join, being in reality one. Other medical societies of the city will be invited to hold their meetings in the new hall.

**State Prison for Inebriates.**—A petition has been presented to the Grand Jury in New Brunswick, N. J., praying that habitual drunkards be sent to State prison (instead of to the county jail) for a definite term. It is contended that they would then have a chance to reform and to learn a trade; but it is also admitted that at present their care is a considerable expense to the county.

**A Texas Fumigation.**—It is related in a New Orleans despatch to the *New York Times* that Dr. Tabor, Health Officer of Texas, has reported to the Marine Hospital service that a case of yellow fever had been found at Morgan City and that the people had burned the patient and the house and its contents. It is believed, or at least hoped, that the patient was dead when burned. These are strenuous quarantine methods even for Texas.

**Burning of an Ambulance.**—While an employee of the Health Department was disinfecting an ambulance used to take contagious patients to the hospitals on North Brother Island, at the department pier at 132d street and the East River, the gas from the mixture of alcohol and formaldehyde, which he was using, caught fire from the flame of his lantern, and exploded, setting fire to the ambulance and destroying it.

**The Reid Memorial Hospital,** Richmond, Indiana, a public institution, made possible by the gift of $75,000 by Daniel G. Reid of New York, was dedicated July 27. Wm. B. Leeds gave $10,000, and there were $35,000 in other gifts.

**Lamoille County (Vt.) Medical Society.**—At the third annual meeting of this society, held at Morrisville on July 12, the following officers were elected: *President,* Dr. C. C. Rublee of Morrisville; *Vice-President,* Dr. E. R. Brush of Cambridge; *Censors,* Dr. R. G. Prentiss of Johnson, Dr. G. B. Maurice of Waterville, Dr. F. S. Dillingham of Johnson; *Delegates* to the Vermont State Medical Society, Dr. George L. Bates of Morrisville, and Dr. S. G. Start of Cambridge.

**Doctors Fined for Contempt of Court.**—Two Washington, D. C., physicians have been fined $25 and costs each for tardiness in appearing at court in response to subpœnas. Both physicians were able to show that their delay was caused by professional work that could not be deferred, but the excuse was not accepted by the presiding justice.

**Southern Aroostook Medical Society.**—At a recent meeting of this society the following officers were elected: *President,* Dr. W. W. White of Bridgewater; *Vice-President,* Dr. H. L. Putnam of Houlton; *Secretary,* Dr. F. W. Mann of Houlton.

**Ambulance in Collision.**—A St. Vincent's Hospital ambulance last week collided with an ice wagon at Houston and Thompson streets. Both the surgeon, Dr. Burk, and the driver were thrown from their seats and bruised, while the ambulance was badly smashed.

**Resignation of Professor Simpson of Edinburgh.**—Professor Alexander Russell Simpson, who for thirty-five years has filled the chair of midwifery in the University of Edinburgh, has handed in his resignation to take effect from August 31. Professor Simpson succeeded his uncle, Sir James Y. Simpson in the occupancy of the chair.

**The United States Pharmacopeia.**—The eighth revision of the U. S. Pharmacopœia has just been issued, and its provisions will officially go into effect September 1, 1905. Among the changes made those of especial importance are in the strength of the tinctures of aconite, veratrum, and strophanthus. The strength of tincture of aconite has been reduced from 35 per cent. to 10 per cent., and that of tincture of veratrum from 40 per cent. to 10 per cent. The strength of tincture of strophanthus has been increased from 5 per cent. to 10 per cent. These changes have been made in order to conform to the standards adopted by the International Conference on Potent Remedies held at Brussels in September, 1902, the object being to make uniform the strength of potent remedies in all parts of the world.

**The International Congress on Tuberculosis** will be held in Paris, October 2-7, 1905. The work of the Congress will be divided among four sections as follows: Medical Pathology, chairman, Prof.

Bouchard; Surgical Pathology, chairman, Prof. Lannelongue; Prophylaxis and Treatment in Infants, chairman, Prof. Grancher; Prophylaxis and Treatment in Adults, and Social Hygiene, chairmen, Prof. L. Landouzy and M. Paul Strauss. The official languages of the Congress will be French, German, and English. The fee for an active member of the Congress is 25 francs, that for an associate member (wife or member of the family of an active member) is 10 francs. The treasurer, to whom the amount of the fee is to be sent, is M. Pierre Masson, 120 Boulevard Saint-Germain, Paris.

**The Late Dr. Schiff.**—At a meeting of the Medical Board of the St. Mark's Hospital of the City of New York, held July 27, the following resolutions were adopted: *Whereas,* Our friend and beloved colleague, Dr. Herman J. Schiff, who was so highly esteemed by all who knew him, as to his professional ability, reputation, and honesty, has been suddenly called away to his eternal rest; and *Whereas,* the hospital lost a member and sincere friend, who always fulfilled his duties, and whose family loses a loving father and husband; *Resolved,* That we all regret the sudden loss of our late colleague, that we all mourn our loss, and that we extend to the family our heartfelt sympathy and sincere regret in this sad hour of affliction; and it is further *Resolved,* That a copy of these resolutions be spread on the minutes of our Board, and a copy be sent to the bereaved family of our deceased colleague, and that they be published in the medical press. Signed: Dr. Carl Beck, President of the Hospital; Dr. Reynold W. Wilcox, President of the Medical Board; Dr. Ignatz Morvay-Rottenberg, Secretary of the Medical Board.

**Obituary Notes.**—Medical Director Samuel Jackson, retired, U. S. N., died at his home in Washington, D. C., on July 22. Dr. Jackson was born April 1, 1817, in Pennsylvania, and was appointed assistant surgeon for North Carolina in 1838. He was promoted to medical director in March, 1871.

Dr. O. B. Hicklin died at his home in New London, Mo., on June 28. He was born near Madisonville, Mo., September 24, 1833, and was educated in the common schools of his native State. He was graduated in medicine from the College of Physicians and Surgeons of Keokuk, Iowa, in 1876, and practiced in Missouri during his entire professional life. During the Civil War he served in the Confederate army under General Price.

Dr. Jacob Ebersole of Cincinnati died at his home July 27, at the age of eighty-six. He was born in 1820, at Eaton, Ohio, graduated at the University of New York, and then practised for twenty years at Aurora, Ind. He served as a surgeon in the Civil War.

Dr. J. H. Stringfellow of St. Joseph, Mo., died in that city on July 24, aged 86. Until a few years ago, when he retired from practice, he was one of the leading physicians of Western Missouri. He was graduated in 1845 from the Medical Department of the University of Pennsylvania. It is said he was the founder of the town of Atchison, Kansas, in 1854. He was a prominent figure in the troublesome times incident to the settlement of Northeastern Kansas and Northwestern Missouri.

Dr. D. C. Dunn of O'Fallon, Ill., has died suddenly of apoplexy. He was in his sixty-second year and was a prominent physician in O'Fallon. He was a member of the board of education and a justice of the peace. He was a graduate in medicine of the Louisville Medical College in 1872.

Dr. John F. Graves of Montgomery City, Mo., committed suicide on July 4 by shooting himself through the heart. He had been suffering from an attack of grip for some time, and despondency is supposed to have been the cause for the act. Dr. Graves was local surgeon of the Wabash Railway at Montgomery City, and had been a prominent citizen for a quarter of a century. He was a member of the Montgomery County Medical Society, and of the Missouri State Medical Association. He was fifty-eight years of age. He was graduated in medicine from the Medical Department of Washington University in 1878.

Dr. William K. Carroll of Queenstown, Md., died in Arrow, Colo., on July 18, at the age of fifty-six years. He was a graduate of the University of Maryland School of Medicine in the class of 1873.

Dr. Uriah Long of Schuyler, Neb., died July 16, at the age of seventy-three years. He was a graduate of the Bellevue Hospital Medical College in 1865.

Dr. James Hedenberg of Medford, Mass., died July 26. He was born in Troy, N. Y., in 1831, and was graduated from the Castleton, Vt., Medical School in the class of 1852. He had resided in Medford since 1854. He was for some years a practitioner of the homeopathic school, a professor of the diseases of children in the Boston University Medical School, and for one year president of the Massachusetts Homeopathic Medical Society. Later he returned to regular practice and became a member of the Massachusetts Medical Society.

Dr. Thomas G. Horn of Colorado Springs, died July 14. He was a graduate of the St. Louis Medical College in 1868.

## Correspondence.

### OUR LONDON LETTER.

(From Our Special Correspondent.)

COMING VACATION—PRIZES—MALIGNANT EMBRYOMATA—ECTOPIC GESTATION SAC—ADHESIONS AFTER ABDOMINAL SECTIONS—R. C. S.—SHEFFIELD UNIVERSITY—ITEMS—OBITUARY.

London, July 14, 1905.

Signs of the coming vacation are upon us. Distributions of prizes at the medical schools and anticipations of the closing of the session inspire the talk of both teachers and students. Then the program of the British medical interests those who mean to attend the annual meeting, whether for the picnic or the more serious side. Leicester, the meeting place this year, can scarcely compare with Oxford, which attracted so many last year, but is full of other kinds of interest, and from all one can gather at present the prospects of a successful meeting are very good. It is quite certain that the hospitalities shown will be on a scale to be remembered, and the provision for the amusements of members seems to grow from year to year. In fact, not a few grumble that the picnic side of the meeting should so overshadow the scientific. Those who have papers in hand join in deprecating the attractions which draw so many away from the Sections, but the majority really attend for a week's enjoyment as the commencement of their annual holiday.

Turning to the schools—Lord Ludlow distributed the prizes at Barts' on Wednesday, and gave some interesting facts as to the progress of school and hospital. Two additional operating theaters, he said, had been completed, and it was hoped to start the pathological block very soon. In that connection, old Bart's men had subscribed no less than £1,547 toward the block, and £8,047 to the general fund. The late Mr. Luther Holden bequeathed £3,000, to endow a surgical scholarship in the school where he taught for so many years. Towards the new out-patients' department £108,000 has been promised. The contract price was £125,000, and, Lord Ludlow declared, though he was averse to taking risks, he felt he could guarantee the remainder would be subscribed before the work was finished. He was a County Councillor, and hoped the Council would never have charge of our hospitals. He concluded by asserting theirs was "the best school in London, and had the best doctors and surgeons" attached to it.

A similar claim, though in rather less boastful terms, was put forth on the same afternoon for Guy's, when, besides the distribution of prizes, the opening of the Gordon Anatomical and Pathological Museum, and a garden party,

drew more than one thousand ladies and gentlemen to the celebration. The Dean stated that the school had always paid its way, without any subsidy from the hospital, but on this, as on many previous occasions, it was compelled to appeal to the liberality of the wealthy, while claiming that it now possessed the most ample and efficient laboratory and teaching accommodation in London.

Dr. Pye Smith distributed the prizes, and presented to Mr. Robert Gordon, on behalf of the governors and medical staff a miniature copy in silver of the statue of Thomas Guy, which stands in front of the hospital, and with it a book of signatures, including that of the Prince of Wales, president of the hospital.

Mr. Gordon is a governor of the hospital, and has presented the museum to the hospital. It will accommodate the 12,000 specimens of the old museum in a manner allowing them to be properly displayed.

At the Obstetrical Society, on the 5th inst., Mr. J. H. Targett and Mr. H. T. Hicks related two cases of malignant embryoma of the ovary, and remarked that such cases were commonly grouped among teratomata. They preferred the name given, and concluded that these embryomata are rare; that they usually occur in young adults, but have been met with in childhood; that secondary growths are usually restricted to infection of the peritoneum, and may present the same structure as the primary tumor, or be composed entirely of sarcomatous elements; that pain and ascites are constant symptoms; that the ascites may precede prenitoneal infection, and in some cases a diagnosis of twisted ovarian cyst has been made; ovarian tumors, having an irregular disposition of embryonic elements are very liable to be malignant.

Dr. Boxall showed an extrauterine gestation sac, which had ruptured in the fifth month, on which Dr. Herman remarked that after mid-term rupture became rarer as the months went on. In the first half of ectopic pregnancy rupture was frequent and the risk of operation slight; in the second half rupture was rare and the risk great.

Dr. H. J. Paterson showed a loop of small intestine adherent to the stump of an ovarian tumor, and thought it emphasized the importance of leaving the pedicle free from knots, and also of obtaining early intestinal movements.

Dr. Herman asked if any one had ever opened the abdomen within a few weeks of its section and found no adhesions. He had never seen such a case, nor even heard of one. Adhesions were the certain result of abdominal section, and were absorbed in the course of time.

Dr. Macnaughton Jones thought it was a mistake to be too anxious about the bowels. He preferred a saline to calomel, when something was required.

Yesterday afternoon, Mr. John Tweedy was reelected President of the Royal College of surgeons. Mr. H. T. Butlin and Mr. Edmund Owen were elected Vice-Presidents.

On Wednesday, the King opened the buildings of the new Sheffield University, amid great rejoicings of the citizens and expressions of loyalty.

King's College announces vacation courses of bacteriology and pathology, specially suited to the requirements of medical men, to begin on July 26, and close on August 5.

The Metropolitan Hospital has attained its sixty-ninth year, and at the dinner on Tuesday it was stated that the annual expenditure averages £13,000, but the subscriptions only amount to £1,096. The chairman, Lord Howard de Walden pleaded for "several absolutely ablebodied philanthropists" to come to the rescue. The list of donations announced amounted to £3,825.

At the twelfth annual meeting of the National Society for Employment of Epileptics the general health of the patients was reported to be very good. A new home for the special benefit of Hampshire cases has been opened, as well as an administrative house and various other buildings. The accommodations, however, is still entirely insufficient.

A meeting of the Hospital Sunday Fund was held yesterday. The church collections so far show an increase over those of last year, when the total sum received was £63,000. The collections this year will exceed £75,000, including the bequest of £12,500 already referred to, and it will be the largest collection ever made since the foundation of the fund, in 1872. Mr. George Herring's contribution to the fund last year amounted to £11,926.

The other half of the £25,000 previously reported as bequeathed by Mr. Cook has been assigned to King Edward's Fund, which is also to benefit by the residue of the estate of the late Mrs. F. M. Hames, which is likely to exceed £50,000, left on trust to the fund, subject to her husband's life interest.

Dr. Alfred B. Barton died on the 5th inst., in his eightieth year. After an adventurous life, he retained excellent health up to within a few days of his death. He saw the yellow fever epidemic in the West Indies in 1848. He was in the Crimea in 1855, in China in the war of 1860. The next year he explored the Yangtse-Kiang with two friends, and all three received the gold medal of the Geographical Society.

Other recent deaths were: Fleet-Surgeon R. W. Anderson, who died on the 5th inst., aged forty-nine, and Edmund Metcalfe, F.R.C.S., on the 3d, aged eighty-six.

## OUR VIENNA LETTER.

(From Our Special Correspondent.)

THE ACTION OF CHOLIN ON LYMPHATIC TISSUE—THE BIOLOGICAL EFFECTS OF RADIATIONS—GASTRIC AND INTESTINAL ULCERATIONS FOLLOWING LAPAROTOMIES—A PECULIAR TYPE OF LEUCOCYTOSIS.

VIENNA, July 10, 1905.

DRS. EXNER AND SYWEK have described the results of animal experiments made with cholin. Several months ago observations were carried out showing that on the injection of cholin into the skin and testicle changes were produced similar to those resulting in these situations after subjection to the action of the Röntgen ray or radium. In the present series of experiments cholin was injected into the peritoneal cavity, or between the layers of the mesentery, in cats and rabbits. It was found that characteristic lesions were produced in the lymph nodes and in the spleen. On comparing a normal mesenteric gland with that of a rabbit that a month previously has received an intraperitoneal injection of cholin it is found that there has been a great diminution in the amount of lymphatic tissue, and the same thing is observed in the spleen. To summarize the results of these experiments, it may be said that intraabdominal cholin injections produce a macroscopical decrease in size of the lymph nodes and of the spleen, which is dependent on a destruction of the microscopic structural elements of these tissues. These appearances are very similar to those following the application of the Röntgen rays, and suggest the possibility of treating diseased lymph glands in this way.

At a meeting of the Society of Internal Medicine, Dr. Schlachta presented a paper on the theory of the biological effect of radiations. Werner has shown that on injecting into animals lecithin that has been subjected to the radium rays, necrosis similar to that produced by radium results. He concluded that the lecithin was broken up in the skin into toxic substances, and that this property of the lecithin was increased by the action of the radium. Cholin, a decomposition product of lecithin, gives rise to the same ulcerations, and Schlachta was able by ozonizing lecithin to produce loss of hair and ulceration on injecting it into the skin. He concludes that the lecithin of the tissues under the action of the Röntgen rays or radium rays becomes oxidized and more unstable, the necessary oxygen being found in the tissues, the decomposition products then giving rise to ulceration and loss of hair. The action of the rays, therefore, seems to depend on the presence of oxygen. The experiments with cholin showed that the intracutaneous injection of mineral doses of alkalis, and also of acids, can give rise to loss of hair and ulceration, so that the action of the radiations may also depend on a caustic effect. It might therefore be advisable to use small quantities of caustics in conjunction with the Röntgen or radium treatment. Dr. Freund said that he had obtained ulcerations of this sort by the injection of lecithin that had been subjected to the action of blue light.

Professor v. Franqué of Prague addressed the Society of Obstetricians and Gynecologists on the fatal affections of the gastric and intestinal mucosa following laparotomies. He first discussed the formation of discrete ulcerations of the gastric mucosa, especially about the lesser curvature, illustrating his remarks by reference to two cases of his own that ended fatally, and by numerous citations from literature. He ascribed these lesions to a retrograde embolism of the mesenteric vessels, and said that the melena of the newborn could be explained in the same way. After ligation of the cord, thrombi frequently form in the umbilical vein, and these are carried back into the portal vein. Friedrich artificially produced such ulcerations in guinea pigs, though they did not occur about the lesser curvature. Gussenbaur observed them after operations on incarcerated hernias, and as he believed they were caused by distention of the gut, called them distention ulcers. Others accuse the anesthesia, which is said to give rise to circumscribed brain lesions, and still others suppose that the Trendelenburg position may induce them by the compression of the portal vein. V. Breuscher observed gastric hemorrhage as a sequel to a traumatism of the brain. Franqué said he had lost one case through perforation of the intestinal ulcers after a gynecological operation, and the autopsy pointed to poisoning with bichloride of mercury. He therefore cautions against the double use of this antiseptic in both the vagina and on

the skin, as dangerous absorption can take place through the epidermis, which is often injured by the other steps of the sterilization. In the discussion following this communication, Haberer expressed himself as believing that the elevated pelvic position, which is used by surgeons oftener than by gynecologists, might give rise to gastric bleeding. Subcutaneous infusions of salt solution, given up to five to six liters a day, form an important part of the postoperative treatment, and ice should be applied externally over the stomach. Schauta, in this connection, described several cases of hemorrhage and gastrointestinal ulcers after gynecological operations. One of these was a complete hysterectomy for fibroids followed by fatal sepsis.

At the autopsy the mucosa of the stomach was found studded with small erosions, and there were intestinal hemorrhages. One month after another hysterectomy there was repeated vomiting leading to marasmus and death, and the autopsy revealed a good-sized duodenal ulcer and blood in the intestine. After a salpingectomy for ectopic gestation, followed by vomiting and intestinal obstruction, a second laparotomy was done, and the transverse colon was found occluded. At the autopsy there was found general anemia, peritonitis, and perforation of small gastric ulcers. In another case a complete hysterectomy for carcinoma was followed by hematemesis, progressive asthenia, and death; numerous crosions were present throughout the stomach. He said that several theories deserved consideration in these cases, but that the action of bichloride of mercury could hardly be involved, as otherwise the condition would be seen so much oftener.

Dr. Türk reported to the Society for Internal Medicine three cases of leucocytosis in which peculiar polymorphonuclear neutrophilic cells were found. About a year ago Arneth published a work in which he announced a revolution in hematology, but his efforts received but little notice. He called attention, however, among other things, to a certain type of cells which are said to be characteristic of severe general septic infections, and which coincide with the observations of Türk. The first case mentioned by Türk was a typical cholecystitis with chills, cyanosis, collapse, and pain. The leucocytes numbered only 10,200, with 80 per cent. of neutrophiles. Among these was a considerable proportion remarkable for unusual size, paleness, and plumpness of the nuclei. The nuclei were simple, not broken up into several parts, but lobed. The case was operated on, but died in two days. The second case was an appendicitis with typical sacculated exudate, distention of the abdomen and rapid pulse, and looked like a desperate case. The blood examination showed 28,000 white blood cells, but there were only 2.7 per cent. of cells with lobed nuclei, as against 23 per cent. in the other case. The patient was operated on and recovered. The third case was one of appendicitis with severe pains, distention of the stomach, and tachycardia. Examination of the blood showed 42 per cent. of typical polymorphonuclears and 44.1 per cent. of cells with lobed nuclei. On operation a perforation of the appendix was found, and a diffuse purulent peritonitis. The patient died. Examination of the blood of a moribund patient one hour before death revealed a low leucocyte count with 40 per cent. of lobed cells and 40 per cent. of ordinary leucocytes. These observations make it seem likely that severe septic conditions are associated with a large number of these abnormal, large, poorly granulated, plump, chromatin-poor cells.

## OUR BERLIN LETTER.

(From Our Special Correspondent.)

BERLIN, June 29, 1905.

EPIDEMIC CEREBROSPINAL MENINGITIS—MUCOUS COLITIS.

BERLIN medical circles have recently been much interested in the subject of epidemic meningitis. Three authorities, Kirchner, Westenhoeffer (both of whom were sent by the government to Silesia), and Grawitz, have spoken before the Medical Society on this subject, in which they have all had considerable experience. I have already discussed Kirchner's paper, which was read also before the Prussian Parliament. Westenhoeffer discussed this disease in relation to its pathological anatomy and its manner of infection. He has performed twenty-nine autopsies, and in every case has found an edematous swelling of the tonsils, which also involved the posterior wall of the pharynx. The Eustachian tubes were also red and swollen. The nose was affected in only three cases, but there was middle ear inflammation in 70 per cent. of the cases. This authority believes that the disease always starts in the lymphatic tissue of the pharynx, from which it extends to the meninges, involving a region behind the chiasm over the sella turcica. The infection travels through the sphenoidal bone, or perhaps along the carotid. As to the involvment of the internal organs, the speaker noted swelling of the spleen, nephritis, swelling of the glands of the neck, enteritis, and swelling of the thymus gland. Bacteriological researches showed several cocci. On account of the predisposition of the tonsillar tissue to be affected by this disease is explained the fact that scrofulous children are especially susceptible to this disease. Thorough disinfection of the nose is the best prophylactic remedy.

Grawitz, in his paper, said that he had not noticed any alterations in the pharynx in his cases. In the cerebrospinal liquid he found chiefly the diplococcus of Fraenkel-Weichselbaum. The differential diagnosis between epidemic and tuberculous meningitis is very difficult. However, in general, the mononuclear lymphocytes are the most frequent cells found in the cerebrospinal liquid in the cases of tubercular meningitis. In epidemic meningitis, more polymorphonuclear leucocytes are found. In the line of treatment he recommended lumbar puncture and frequent rectal injections of salt solution. In the discussion following these papers, Heubner disagreed with the theory that the lymphatic constitution predisposed the child to this disease. According to him, a frequent symptom of epidemic meningitis is marked anorexia. Senator recommended hot baths, and if these were impossible, he advocated the use of hot air. Michaelis has always found in cases of tuberculous meningitis Koch's bacilli in the cerebrospinal liquid. V. Hausemann has not always had the same experience. In one of his cases the pharynx had undergone no changes whatever.

A question which up to the present time has always been in dispute is that concerning the nature of mucous colitis. Elsner spoke in the "Verein für innere Medicin" on May 29 on this subject. These cases have been studied at autopsy. There are two types; the catarrhal form may occur in every case of obstipation. The speaker found that chronic obstipation caused this trouble in thirty-eight cases out of sixty which he had studied. The second type is the nervous form. This may be either acute or chronic, but the disease is not common The speaker had seen eight cases which displayed almost invariably other signs of neurasthenia. As mixed types are very common, the differential diagnosis cannot be made in all cases.

## Progress of Medical Science.

*New York Medical Journal, July 29, 1905.*

**Cyst and Hydrocele of the Canal of Nuck.**—A case of this rare condition is reported by B. S. Talmey, whose patient was an unmarried woman of 32 years. Nine years before coming under observation, a growth the size of an egg appeared in the right inguinal region. A truss was applied, worn one year, and then discarded, as the mass disappeared in the course of a year. Two and a half years ago a smaller mass appeared a little lower than the one previously found. Under various applications this mass, considered a bubo, also disappeared. It reappeared, however, three weeks before the case was first seen by the author, who made the diagnosis stated in the title. This was confirmed by operation, as the opening of the inguinal canal revealed a cyst the size of a hazel nut within the substance of the round ligament, surrounded by perficystical fluid. The pericystical lumen was in connection with a narrow canal leading into the pelvis. This lumen contained about two tablespoonfuls of a serous fluid. The capsule of the cyst was transparent. Upon the removal of the cyst and the introduction of a finger into the vagina to lift the uterus, several drops of fluid could be seen to empty from the opening of the canal. This plainly showed that the intrapelvic part of the round ligament also contained some fluid. The round ligament was then extirpated as far as the external inguinal ring, and the ligament sewed on as in the typical Alexander's operation. The recovery was uneventful.

**The Simulation of Appendicitis by Cholelithiasis.**—A case of this nature is reported by G. C. Lempe, his patient being a man of 47 years. The author notes that a point of differential diagnosis in doubtful cases is the absence of indican in uncomplicated cholelithiasis. Albumin is frequently found during and after biliary colic, but its presence is not a constant diagnostic symptom. A leucocytosis may confirm the diagnosis of appendicitis, yet, on the other hand, a high leucocyte count may result from incipient gangrenous processes found at the fundus of the gall-bladder in advanced cases of biliary calculi. Icterus may or may not be present, according to the location of the stone. The two diseases may occur together, when the infecting germ responsible for cholecystitis is derived from the appendix. Becker has collected thirty-four such cases. The author closes with quoting the classical statement of Nothnagel to the effect that an abnormally situated appendix, an elongated gall-bladder, an inflammatory or edematous thickening of the gall-bladder, and inflamed peritoneal cov-

ering of the liver and colon, serofibrinous masses enclosed by inflamed peritoneum or fecal matter in the hepatic flexure might so change the outline and area of pain that it might be difficult to differentiate disease of the appendix, gall-bladder, or colon.

**Pruritus Ani, with Special Reference to Its Local Treatment.**—In addition to the removal of any obviously exciting cause, L. H. Adler, Jr., advises the daily injection into the rectum of from 4 to 10 c.c. of the following mixture: fluid extract of hamamelis, 1 dram; fluid extracts of ergot and hydrastic and compound tincture of benzoin, of each, 2 drams. If the perianal skin is rough and dry, it should be generously painted with a silver nitrate solution, 960 grains to the ounce. This should not be repeated oftener than every fourth day. On the day succeeding this application the skin should be coated with citrine ointment. A T-bandage should cover the entire region. Intense pruritus may be relieved by bathing the anal region with water as hot as can be borne, but no rubbing should be permitted. This last precaution is especially important, as contact with the hot water momentarily increases the itching. Following the water, either the lotio ingra or calomel ointment should be applied. For the first two or three weeks the patient should be seen daily, then on alternate days for a like period, and finally, once or twice a week. Six months are usually required for a complete cure, but no definite promise can be given as to the time required.

*Medical News, July 29, 1905.*

**The Bacterial Content of the Railway Coach.**—J. J. Kinyoun contributes an interesting article on car sanitation. His examinations included dust from carpets, interior furnishings, car air, and contents of drinking cups. He also describes and illustrates methods of car cleaning, and adds observations on the health of employees. The experiments revealed the presence of (among other organisms) the pneumococcus, staphylococcus pyogenes aurcus, streptococcus pyogenes, tubercle bacillus (only once positive and once doubtful), diphtheria, septicemia, and malignant edema. Of 196 animals inoculated with dust suspensions from the carpets, surfaces of the car, and car air, 73 per cent. proved negative. This, however, as the author states, applies only to animals; with human beings the results might have been different. The experiments were made on cars of trunk lines centering in Washington, D. C. He finds that the air-blast is the preferable method of cleaning a car. He did not find any facts leading to the belief that car employees, including carpet cleaners, were engaged in an especially hazardous occupation. He finds that among parlor-car porters there is a growing fear of contracting tuberculosis, and that they are particularly careful in keeping their cars clean, especially if tuberculous patients are among the passengers.

**The Cure of Leprosy.**—Isadore Dyer gives a brief description of the clinical features of leprosy, and appends the histories of ten personal cases. He makes the following points on the basis of his own experience: (1) Full diet, restricting only indigestible foods is indicated. The disease seems in nowise to be affected by fish or any other particular article of diet. (2) Baths are essential in the treatment. Hot baths twice a day, with or without soda, are effective. (3) The patient needs tonics, febrifuges, and should be watched for intercurrent or complicating diseases, such as malarial infection, pleurisy, pneumonia, grippe, and the like. (4) Strychnine is a *sine qua non* in the treatment of leprosy. (5) When chaulmoogra oil is given it is better endured before meals that after. It is best taken in capsules, in hot milk, or in milk of magnesia. The dosage should be begun small, say 3 drops, and increased every second or third day until as much as 120 to 150 drops of the oil are taken at the dose. At times it is advisable to give the oil in pill form. This can be done either combining it with extract nux vomica and ordinary excipients or a very effective way is with tragacanth and common soap. (6) Above all things, individualize the patient. Watch for improvement, and if it does not show in three months, wait six months—if it does not show in six months, wait a year, or longer. But keep on driving at the treatment until the patient dies or gets well. (7) When all evidences of the disease are gone, insist on a continuance of treatment. It may not be necessary, but it makes sure.

**A Comparison of Methods of Lavage with the Siphon Tube and Politzer Bulb.**—P. J. Sawyer prefers the use of the Politzer bulb. He uses the simplest form of the latter, with a glass connection for the tube. The patient takes the reclining position, with clothes loosened. The food residue in the stomach having been asperated as completely as possible with an empty bulb, a bulbful of solution, medicated as desired, is slowly introduced into the stomach, and free, active manipulation of the overlying abdominal wall is made, sometimes also shaking of the posterior surface of the stomach in cases of atony and dilatation without ptosis. A considerable movement of the fluid within the viscus is thus produced, thereby cleansing it and bringing the medicated solution in thorough contact with the surface. Then the operator allows the contents to be withdrawn in the aspirator which, till this time, has been controlled by pressure with the hand, and theauthor finds that in this way he can cleanse the organ more thoroughly and with less fatigue to the patient than he can by using the siphon tube.

**Pathological Changes and the Spirochæta Pallida in Congenital Syphilis.**—Babes and Panea describe the results of very careful and complete pathological examinations made in the bodies of three syphilitic infants dying very shortly after birth. Nearly all the organs were found affected by the disease, and the blood exhibited changes of a peculiar leukemic type. Spirochetæ were found in the organs of all three cases, particularly in the third, which was more thoroughly studied than the others. In this the organism was demonstrated in the following situations: The conjunctival secretion, pemphigus vesicles, the pharyngeal secretion, the meninges, pulmonary juice, heart blood, bone marrow, spleen, liver, kidney, thymus, lymph glands, and adrenals, the largest numbers occuring in the liver, adrenals, and lymph nodes. The spirochetæ were found unmixed with other microorganisms in the interior of these organs, whereas the surface of the body was free from them, and no other germs could be identified anywhere throughout the cadovers. No spinochetæ were found in the organs of infants not affected with syphilis. The authors conclude by saying that they believe that they have furnished additional evidence suggesting the relationship between the spirochæta pallida and syphilis.

**Observations on Malignant Tumors of Mice.**—Erlich and Apolant publish some of the results obtained in the course of their work on the malignant tumors of mice carried on during the past two and a half years. The material comprises 164 primary tumors, which are either pure adenomata or adenocarcinomata of alveolar or papillary type. It appears that the mamma invariably forms the starting point of these growths, which were always obtained from old females. During the period of observation, seventy-one of the tumors were inoculated into other individuals, but only ten continued to grow after transplantation. Age and sex of the inoculated mice seem to make little difference. In several cases the transplantations were continued for forty or more generations, in one case sixty having been secured. In order to show the proliferative energy of these growths, the authors say that it is easy to secure from each tumor by inoculations ten others which in a week reach the weight of 1 gram. If the process were carried out for sixty generations, which would take a little over a year, the resulting total tumor mass would form a sphere whose diameter would exceed that of the sum 890 millions of times. An interesting observation was made in one case in which up to the ninth generation the tumor continued as a carcinoma, but then began to develop as a mixed tumor, and by the fourteenth generation had lost all trace of its carcinomatous origin, and had become a pure sarcoma.

*American Medicine, July 29, 1905.*

**Epigastric Linea-alba Hernia as a Little Recognized Source of Abdominal Pain and of Gastric Symptoms.**—D. D. Stewart says the occurrence of hernia in the linea alba above the umbilicus, hernia most frequently of small size and often only apparent on minute examination, and its importance as a source of gastric symptoms, has received far too little attention by both clinician and surgeon. These hernias are small, sometimes barely perceptible to the eye, and in other instances fairly evident on inspection. Symptoms are usually referred to the stomach, whence a diagnosis of some form of gastric disorder, gastritis, gastralgia, and even gastric carcinoma or gallstone may be made by the unwary. The apparent triviality of the protrusion, even if it does not escape recognition, often does not suggest itself to the physician as a likely source of the malady.

**Phthiriasis.**—John Knott (Dublin, Ireland) has made the occurrence of some striking cases of phthiriasis in his practice the nucleus of an extremely interesting and exhaustive account of the various aspects of this condition. The lousy disease (morbus pediculosus vel pedicularis) has figured more largely than probably most readers had been aware, not only in clinical history, dermatology and pathology, but in general phrase and fable, in political history, in imperial and ecclesiastical biography, in orthodox theology, and in the endless mazes of heathen mythology. Dr. Knott's paper contains the principal available items from all these sources of information and imagination, and offers most interesing as well as instructive reading. Some of the pedicular lore is certainly very fantastic, and throws a strange light on some of the byways of human thought. In his concluding sentence he offers "the opinion that the scientists who succeeds in plucking out the heart

of the mystery of the triplex 'natural selection' topographically displayed in the life history of human pediculi will have done more toward establishing a true theory of parasitic and infectious disease than has hitherto been reached by bacteriological pathology." This statement of opinion implies that the writer is not satisfied with the "germ theory" as understood at present.

**Meningitis.**—S. MacCuen Smith gives a thorough review of the symptomatology, diagnosis, and treatment of this disease. He says meningitis manifests itself in a protean manner. Occasionally the symptoms are so typical that it is impossible to mistake the affection, and at other times they develop in such a latent form that only with the greatest difficulty and by the most careful attention to the etiology can a tentative diagnosis be made. At to the treatment, apart from employing general methods, such as the use of rest and the application of cold, very little can be accomplished. Surgical interference is naturally indicated in most cases of meningitis complicating aural disease. This procedure, however, is satisfactory only in a very small percentage of cases, chiefly from the fact that the serious nature of the ear disease is not recognized until the meningeal inflammation has become well established. Lumbar puncture is employed largely for the purpose of relieving pressure, and in some cases of noninfective meningitis, uremia, etc., actually startling results have been reported. However, Dr. Smith's experience has led him to believe that lumbar puncture is of value chiefly as a means of diagnosis. The cerebrospinal fluid has a normal specific gravity of about 1.010, and contains little or no albumin. In meningitis the albumin is greatly increased, while in cerebral abscess it is only slightly increased. It is claimed that the presence of more than 1 per cent. is pathognomonic of meningitis. Dr. Smith reports a case of meningitis complicating aural disease.

**Regional Analgesia in the Surgical Treatment of Anorectal Diseases.**—J. Rawson Pennington says that after some dissections and experimental work he found that it is possible to surround the nerves supplying the anorectal region quite successfully with an analgesic solution injected sypodermically, and he shows by illustrations how the various nerves to this region may be thus blocked off. To secure perfect analgesia of the anus and lower rectum would necessitate the complete blocking of all of these nerves. However, blocking of the inferior hemorrhoidal, the perineal branches of the fourth, and the muscular branches from the plexiform loop of the third and fourth sacral seems to give very good control of the field; and, by supplementing this occasionally with slight infiltration analgesia, dilation of the sphincter and operations in this region can be quite satisfactorily accomplished.

*Journal of the American Medical Association, July 29, 1905.*

**Carcinoma of the Breast.**—Willy Meyer reports ten years' experience with his method of radical operation for this condition. He gives in detail the technique of the operation, and describes at some length the after-treatment of these patients. Meyer claims for this method of operating that the functional result is better than after other operations, as perfect mobility of the arm invariably follows. He reviews the results obtained in seventy cases.

**Tetanus.**—J. M. Anders and A. C. Morgan give a preliminary report of their statistical study of 1,201 cases of tetanus, collected from the literature and by direct correspondence, with special reference to the incidence of the disease in the United States. They find convincing proof that tetanus is invariably the result of the introduction of the germ, and that the so-called rheumatic or idiopathic tetanus does not exist. They also find that it is endemic in all large centers of population, that in some localities where it was formerly common, notably in Long Island, it has become rare, and that occasional small epidemics, traceable to a definite source, occur in limited localities, as for instance, in hospitals, etc. It appears also that tetanus is more prevalent in the hotter part of the year, that males are more subject to it than females, and that it is less frequent in advanced age. The robust are more susceptible than the weak, and the nervous, than the lymphatic. There is much evidence that the disease is transmissible, and may give rise to epidemics. The germ, Nicolaier's bacillus, is rarely introduced by the alimentary tract, but usually through open wounds, all parts of the body being very susceptible. A number of interesting clinical features observed in the cases collected are related, and it was noticed that the characteristic symptoms, especially trismus, were generally present. The diagnostic importance of the tonic contractions as opposed to the intermittent ones in certain other conditions that simulate tetanus, such as strychnia poisoning, is emphasized. The authors found that their studies supported the earlier ones as regards the mortality, which decreases gradually after the tenth day, and rapidly after the fifteenth. The study showed clearly the value of immediate radical local treatment, and that the most important thing is to open the wound freely in all directions under general anesthesia. Many patients were more or less benefited by the local carbolic acid treatment, and some observers report good results from the local use of ice or freezing mixtures, or treatment in a cold room. For palliative treatment, chloral and the bromids appear to have been most extensively used. Calabar bean has been much employed, and also morphine, which should be used with caution on account of its inhibitory action on the respiratory centers. There is no question as to the value of antitoxin as a prophylactic, the testimony is uniformly in its favor. It should be used in any case in which there is suspicion of tetanus infection. In a well-developed case of the disease it has no appreciable beneficial effect, neither reducing the mortality nor hastening recovery.

**Splanchnoptosis from a Surgical Standpoint.**—James E. Moore states that gynecologists have learned that replacing misplaced pelvic organs and supporting them by mechanical means gives only temporary relief. He discusses at some length the nervous disturbances caused by ptosis of the abdominal and pelvic viscera, and refers to the confusion and misapplication of terms used to designate this condition. He refers briefly to the various etiologic causes assigned to this disorder in the literature, and states that a patient suffering from vague, indefinite symptoms of varying severity should never be pronounced hysterical, dyspeptic, or neurasthenic until visceral ptosis has been eliminated. He discusses the differential diagnosis and reviews the literature on this subject.

*The Lancet, July 22, 1905.*

**Some of the Neuroses of Early Life.**—Henry Ashby, in speaking of the characteristics of a neurosis or psychosis in a child, notes the following: Want of coördination in muscular movements, both reflex and voluntary. Hyperesthesia of motor and sensory centers; a slight stimulus provokes a strong reaction out of all proportion to its strength. Failure of inhibitory control over actions or reflex movements. Exaggerated conscientiousness and contrariness. Certain morbid habits not seen in normal children. Tendency to petit mal and hysterical attacks. The writer declares that these characteristics overlap each other. He refers to various habits, such as nocturnal bed-wetting, and declares that it suggests a developmental failure of the controlling nerve centers which coördinate micturition. Head shaking and nodding are also coördination neuroses associated with purposive or instinctive movements, which become confirmed into a habit. Another group of neuroses of the lower neurons includes spasmodic asthma, recurring fever, recurring vomiting, and, perhaps, diabetes. The writer then turns his attention to some of the minor mental abnormalities of early life which are associated chiefly with the higher level centers. Some children are hypersensitive, shedding bitter tears at trifling causes. One class of children show a want of control, not so much over tempers as over desires. These children want every toy they see, regardless of the rights of others. Yet another class show an excessive inhibition over action and desire. Such children are too good, and very sensitive to reproof. They are morbidly afraid of doing something wrong. The personality of the mother or nurse counts for much during the early months of a child's life. Much depends upon heredity, and much on parents. The writer closes his paper with a plea for hard work and hearty play, a simple and a healthy life, as a cure for the neuroses of the twentieth-century child.

**Three Cases of Separation of the Descending Process of the Upper Tibial Epiphysis in Adolescents.**—G. H. Makins states that although this is not an uncommon condition, it has been generally recognized only since the use of the *x*-ray has become habitual in cases of bone injury or disease. The writer then relates the history of three cases. In two of these a kick was adduced as the original cause of the trouble by the patients themselves, and in two of the cases it was noted that the commencement coincided with the football season. This fact shows the influence of violent contraction of the quadriceps extensor in the causation of the injury. The mischief is primarily confined to the part of the tibial tubercle developed from the epiphysis. The pseudo-inflammatory signs which accompany the injury are noteworthy. There are local swelling, heat, and tenderness in the soft parts overlying and surrounding the tubercle. The underlying bone of the diaphysis also shows signs of rarefaction in an increased transparency. The most characteristic clinical symptom is the "giving way" of the forcibly extended knee. This generally precedes the attacks of pain. Rest and local support are the only necessary means of treatment when the cases are seen early and recognized.

**The Digestive and Other Actions of Apples, Pears, Cherries, Strawberries, etc.**—J. Gordon Sharp calls attention to the important digestive action of these fruits. He declares that the acids of the fruit "fix" the iron contained

in proteid foods, forming organic iron salts, which are broken up lower down in the alimentary tract, and which can be employed by the blood tissue. Thus a suitable régimé, consisting of proteid and a reasonable supply of fruit, may "cure" the condition of anemia. The second property possessed by many of the succulent fruits depends upon the ferment or ferments. The writer refers to ferments analogous to those found in the pancreas. He states that many common fruits contain ferments, which play the part of papaine and bromeline (the ferment of pineapple), and that they can digest both egg and serum albumin to some limited extent. The writer then appends an account of various experiments that he has performed in relation to the digestive action of the soft fruits. He states also that to obtain most benefit from these fruits they should be eaten at the end of the chief meal. There are a few exceptions to this general rule. All tinned fruits are inert as digestives, since the high temperature has destroyed their ferments. However, baking or stewing fruits does not entirely destroy the ferment unless the heat be very prolonged.

**Oral Sepsis as a Cause of Iritis.**—E. Kenneth Campbell believes that the ascription of any particular disease to syphilis is often a mere refuge for one's ignorance. "Rheumatism" is an indefinite word, having no precise scientific meaning. The writer states that he has never known a case of rheumatic fever to be complicated by iritis. He also says that there is a lack of scientific evidence of any real etiological connection between iritis and gonorrheal synovitis. The writer has recently seen three cases of iritis in which there was an absolutely negative history of syphilis or rheumatism in any shape or form. In all the three there was marked evidence of oral sepsis; the gums bled easily, pyorrhea alveolaris was present, and the breath had a sour smell. The mouth in these cases was rendered as pure as possible. This treatment combined with mudriatrics and tonics cured all the three cases rapidly. The writer emphasizes the importance of oral sepsis in these cases.

**Twenty-nine Years of Catheter Life.**—R. Hingston Fox reports this case. The patient was a large man. He had been used all his life to outdoor pursuits. When about sixty years of age, he began to have difficulty in passing his urine. Examination showed that the prostate gland was enlarged, but a catheter was passed without difficulty. The patient soon learned to use the catheter for himself, and from this time to the end of his life (twenty-nine years) he never passed more than a few drops of urine without its aid. He took little or no precautions against sepsis.

*Münchener medizinische Wochenschrift, July* 11, 1905.

**The Morphology of the Cytorrhyctes Luis.**—Siegel describes the methods to be employed for the demonstration of the flagellates, which he considers as the cause of syphilis. Only the highest powers of the best apochromatic lenses will do, and bright artificial light is necessary. Before studying syphilitic blood it is better to observe some preparations of normal blood, in order to be able to recognize the various artefacts produced by the disintegration of the erythrocytes, leucocytes, and blood plates. In syphilitic blood the organisms appear as minute highly refractile bodies in very rapid and erratic motion. They vary in diameter from one-half to two and a half microns, and it can be seen that the larger ones are pear-shaped. As the preparation dries nuclei appear, and seem to contain from two to sixteen more refractile dots. The organisms are to be found also in the blood of inoculated monkeys, and appear in the greatest number in the second and third weeks, after which they gradually diminish again. The process of staining, which is very difficult and complicated, is also described, as well as the preparation of sections. These must be extremely thin, those from which the author's drawings are made measuring only two $\mu$ in thickness. He says that so much practice is required for the demonstration of the parasites that he does not expect immediate confirmation of his results, but he claims that if sought for at the proper time it can be found not only in the primary lesions, but in every drop of syphilitic blood, as well as in that of infected animals.

**Critical Observations on the Spirochæta Pallida in Syphilis.**—Thesing brings up numerous objections against the assumption that the spirochæta pallida is concerned in the etiology of syphilis. He first endeavors to show that the spirochæta is not a protozoon but a typical bacterium, since it has neither nucleus, flagella nor undulating membrane. The differential points given by Schaudinn and Hoffman are inadequate, since refractoriness to stains and the sharpness of the spirals are insufficient basis on which to erect a new species, and he reproduces their own photographs in order to show the variety of forms adduced by them as belonging to the same class. Numerous harmless spirochetæ are to be found in smegma, about the anus, and in the mouth, and it is hardly possible by morphology alone to distinguish these from the spirochæta pallida. In the preparations presented by Schaudinn and Hoffman numerous other bacteria and molds, even the cytorrhyctes luis of Siegel, are to be seen, yet if these are accidental contaminations there is no evidence that the spirochæta is not also one. He also points out that it is possible that there may be bacterial contaminations in the stain used, which forms a good culture medium. As it is perfectly possible that it may be only a harmless saprophyte, he believes that much more evidence is needed before the spirochæta pallida can be accepted as the cause of syphilis. He draws attention to the fact not generaly known, *viz.*, that Schaudinn and Hoffman were commissioned by the Government to study the question of the cytorrhyctes luis of Siegel, yet no mention whatever of this organism is made in their report, notwithstanding the fact that it appears in their own photographs side by side with the spirochæta pallida.

**The Avoidance of Renal Irritation in the Administration of Large Doses of the Salicylates.**—Frey discusses the deleterious action of the salicylates, especially on the kidneys, when given in large doses, and describes experiments undertaken on dogs, rabbits, and on himself, in order to determine the best method of counteracting this untoward action. Acting on the assumption that the local irritation of the kidneys as evidenced by the presence of albumin and casts in the urine was due to the acid reaction of the urine whereby salicylic acid was enabled to act directly on the kidneys. He tried the experiment of rendering the urine alkaline by giving alkalides, together with salicylates. It was found that in this way the kidneys could be protected perfectly, while the theapeutic effect of the drug is unchanged, and he therefore recommends that this plan be followed whenever energetic treatment with salicylates is necessary. Alkaline waters are particularly suitable for the purpose, as they also promote diuresis, and the author thinks that gastric irritation will be checked, as well as that of the kidneys.

*Deutsche medizinische Wochenschrift, July* 13, 1905.

**Death During Morphine-Hyoscine Narcosis.**—Landau, in discussing this method of anesthesia, which has been highly vaunted by some of its advocates, says that Bakes is justified in characterizing it as uncertain and dangerous. The earlier reports were very favorable to the method, but numerous fatalities have since been described, and the author quotes a considerable number of these. It appears that the published statistics indicate the extreme mortality of one per cent. for the method, and it is likely that many fatal cases never have been made public. His own fatal case was the eighteenth in which morphine-hyoscine had been used by him, and the patient was a man of sixty-six, who, except for slight arteriosclerosis, gave no evidence of bodily infirmity. The operation was for hemorrhoids, and was performed without complications, 3 cg. of cocaine being used locally. Two and a half hours after the operation there was cardiac collapse, promptly followed by death, in spite of all efforts at resuscitation. In this case only 2 cg. of morphine and 9 mg. of hyoscine were given. The manner in which the toxic effect of these two supposedly antagonistic drugs becomes active is uncertain, and must be settled by animal experiment, though it is doubtful whether the method can ever be rendered a practical one.

**The Surface Tension of Body Fluids Under Physiological and Pathological Conditions.**—Bickel considers that the determination of surface tension of the various body fluids is capable of yielding useful information in regard to diagnosis and pathology. The surface tension of a fluid is the result of the power of cohesion, which draws inward the particles forming the surface, and this is different for different fluids. The surface pressure is represented by the difference between the superficial tensions of two fluids that are in contact or separated by a membrane. The author's experiments were made on the fluids of animals in the normal state, and after they had been modified by artificially induced disease. The results showed that the surface tension of normal blood is fairly constant, but that in factitious uremia it decreases. The surface tension of the tissue juices obtained by expression from the muscles of previously exsanguinated animals is less than that of the blood, but fluctuates between definite limits. In artificially induced gastritis the surface tension of the gastric juice drops below the normal, but as recovery follows it returns to the normal.

**The Preservation of the Sphincter in the Extirpation of Rectal Carcinoma, and its Subsequent Function.**—Kraske takes issue with those operators, especially Witzel, who contend that it is useless to attempt to preserve the sphincter in operations for the removal of malignant growths of the rectum. The principal claims made for this latter method of procedure are that total amputation of the gut is easier, less complicated, and less apt to be followed by infection or hemorrhage than resection, leav-

ing the sphincter intact. It is also stated that the sphincter, even if preserved, is likely to be unsatisfactory; that it is extremely difficult to obtain primary union of the intestinal wound, and that troublesome fistula are likely to persist. Kraske refutes all these arguments, and says that the advantage of preserving the sphincter is of such incalculable benefit to the patient that no technical difficulties should be allowed to stand in the way of securing it. He says that he would rather save the lives of eighty per cent. of his patients with a sphincter than eighty-five or ninety per cent. without it. In regard to the efficiency of anal continence after the operation, he gives in brief the histories of fourteen cases, all operated more than three years ago, and who have enjoyed perfect control of the sphincter ever since. In performing resection a somewhat greater degree of care is necessary to secure perfect asepsis and primary union of the intestinal stumps, but a perfect result can be obtained, and means so much to the patient that all drawbacks are compensated for a hundredfold.

*The American Journal of the Medical Sciences, June,* 1905.

**Croupous Pneumonia.**—Thomas G. Ashton and H. R. M. Landis present a report of 991 cases of croupous pneumonia; of these 757 were males and 234 females. The mortality for the whole series of cases was 53 per cent, the total number of deaths being 533. This extraordinarily high death rate is accounted for by the class of patients from which these statistics are derived, for these patients were the riff-raff of society. Considerably more than half of the cases occurred during the cold and changeable months of the year. Of 900 of these cases, the right lung alone was involved in 487; the left alone was involved in 293; both lungs were involved in 120. Of the 991 cases, 104 were alcoholics. In a certain proportion of the cases, not large, injury especially to the chest bears a causal relation to the development of pneumonia. This relation was indirect, showing itself in decreased tissue resistance and in the increased virulence of pneumococci already present. In a large proportion of cases a chill marks the onset of pneumonia. In 679 of the cases the peculiar stabbing pneumonic pain was present; cough was noted in 737 cases. The crisis occurred on the odd days in 152 of these cases, and on even days in 112. The usual leucocytosis ranged from 10,000 to 40,000. The course of these cases, as the writers state seems to have been practically uninfluenced by any particular plan of treatment, for no matter what treatment was adopted, the mortality seemed to remain about the same.

**Peripheral Obliterating Arteritis as a Cause of Triplegia Following Hemiplegia, and of Paraplegia.**—Charles W. Burr and C. D. Camp describe a patient, who was the subject of a not very infrequent but much neglected form of palsy, caused by obliterating arteritis in the extremities affected. The patient was a man, seventy-eight years old. The writers sum up the case as follows: There was moderate dilatation of the lateral ventricles, some degeneration of the posterior columns of the cord, great general arterial sclerosis, so marked in the right posterior tibial artery as almost to occlude it, while the left was completely closed by an organized thrombus, muscular atrophy, and degeneration of the peripheral nerves. The changes in the spinal cord were not sufficient nor of a nature to have caused paralysis of the legs. The changes in the muscles and nerves surely resulted from the vascular disease. The case, then, was one of senile paraplegia, caused by obliterating arteritis. This condition may come on slowly with dull pains in the legs, paresthesias, and gradual loss of muscular power. If thrombi form, the onset may be sudden, and gangrene may supervene. Intermittent lameness occurs in the earlier stages in many cases.

**Some Phases of the Neurotic Heart.**—Beverley Robinson specially emphasizes the following facts in relation to this affection: An apparent or evident slight cardiac enlargement, with or without dilatation, and it may be slight hypertrophy, occasioned by or proceeding directly from a cardiac neurosis. A condition of secondary anemia, as shown by careful microscopic blood examination, with count and differentiation of white corpuscles, which remain stationary for a long while, despite the use of chalybeates, and most rational tratment from every standpoint. The absolute or relative uselessness of digitalis, notably, unless the heart muscle is involved, and even in these instances, for acute manifestations of weakness or failure, strophanthus is far more useful. Impaired nutrition, at a given period, of the muscular walls of the heart under the immediate dependence, probably, of diminished nervous energy, give rise to slight cardiac dilatation at times which subsequently, under judicious treatment, remains stationary as to amount, and becomes functionally compensated.

**Acute Flexion (Jones' Position) in the Treatment of Supracondylar Fractures of the Humerus.**—Astley Paston Cooper Ashhurst cites a case of supracondylar fracture of the left humerus. The patient, a girl nine years old, received this injury by falling from a chair to the floor. A skiagram confirmed the diagnosis of supracondylar fracture. In accordance with the indications, the lower fragment being still posterior, and tilted upward by the action of the triceps, the forearm was actually flexed on the arm into Jones' position, and maintained by the usual bandages, the wrist being slung close to the patient's neck. The swelling was very great, and some pain was caused by forced flexion. The writer was careful to see that the radial pulse was not obliterated, and the pain ceased in a short time and did not recur. There are many advantages claimed for the position of acute flexion in such cases; it both effects reduction and maintains it. The coronoid process of the ulna rises up and locks against the lower end of the upper fragment and acts as a splint, for it prevents the displacement of the intervening fragment; and the position is an easy one for the patient. No splint is required, and the arm is not bound to the side. Ankylosis is far less apt to occur. The writer adds that if in adults the deformity can be overcome and reduction maintained with the elbow at right angles, he prefers to treat these patients in that position; however, this is often impossible.

**Hypernephroma: Report of Three Cases.**—Isabella C. Herb declares that until embryologists decide where to classify a certain new growth found in the kidney, the term hypernephroma is a happy one. It is a debatable question whether these tumors are to be placed with the sarcomas, carcinomas, or adenomas, and it will depend upon whether one makes morphology or hystogenesis the basis of classification. There is no question as to the malignancy of these neoplasms. Metastasis takes place through the blood current. The writer reports several of these cases. She describes the gross appearance of two of the tumors as follows: They are very nodular, with large, engorged vessels passing in all directions over the surface. The capsule, to which considerable fat is attached, is firmly adherent; the cut surface is strikingly uniform. Bands of tissue, salmon-pink in color, support islands of tissue of various hues. No cysts were present, and no kidney structure could be demonstrated. Microscopically, sections taken from all parts of the tumor show the typical structure of the adrenal cortex, both in their architecture and the relation of the cells to the blood vessels.

**The Problem of the Treatment of Laryngeal Tuberculosis.**—W. B. G. Harland believes that over one-fourth of all cases of clearly defined pulmonary tuberculosis present laryngeal lesions. It is supposed that the greater number of laryngeal cases are due to infection from the lungs carried in the sputum, or through the lymph or blood vessels. The structures most often attacked are the vocal cords, interarytenoid fold, and arytenoids. However, any and every part of the larynx may be attacked by the tuberculous process. The manifestations of laryngeal tuberculosis other than miliary are seen in four forms: Superficial ulcer, infiltration of mucosa, tuberculoma, and deep ulceration. A satisfactory diagnosis of the local disease is not possible without a laryngoscopic examination. The patient must be studied as a whole in order to estimate the progress of the disease. The writer describes this infection as an insidious, intractable, subepithelial infection, the germs of which lie hidden in and beyond the limits of apparent disease. Treatment is directed toward liquefying and removing secretions from the upper air tract, relieving congestion and lessening irritation, and toward destroying tubercle bacilli and the diseased area produced by them. General treatment is most important in all cases.

**Tuberculosis of the Prostate.**—Thomas R. Crowder says that prostatic tuberculosis is not a rare disease. Various authorities differ in their opinions as to the starting point of the disease in the genitourinary organs; although primary prostatic tuberculosis is exceptional and relatively rare, its existence is well established both from a clinical and pathological point of view. Tuberculosis of the prostate begins most often in early adult life, attaining its maximum frequency between the ages of twenty and forty years. Heredity plays an important part. The one etiological necessity is that the tubercle bacillus shall find its way into the gland. This takes place generally by the direct implantation of the tubercle bacilli from the blood or lymph stream. If a tuberculous focus exists deep within the substance of the prostate it may remain long without symptoms. Subjective symptoms generally develop sooner or later, often quite suddenly as the result of abuse, exposure or venereal infection. The diagnosis of tuberculosis of the prostate cannot usually be made from symptoms alone. The condition of the urine varies greatly, according as to whether or not, and to what extent, the bladder is involved. Tuberculosis of the prostate is always a grave disease. The rapidity of the course depends upon whether the general health, strength, and habits of the patient are good, and whether the disease is local, or only the part of a

diffuse infection. In a small number of cases tuberculosis of the prostate is amenable to surgical treatment. Various forms of local treatment other than operative have been tried with varying success. The general treatment is that of tuberculosis in other parts of the body.

*French and Italian Journals.*

**Race Psychology in Its Relation to the Accidents of Workmen.**—Blind has undertaken various researches, in order to discover whether different races show a different psychical reaction in the case of accidents occurring during work. He has studied the cases of eight hundred and six Alsatian men, ninety-nine Alsatian women, and fifty-one Italian men. The ages of these subjects varied all the way from twenty to sixty years. In the case of the Alsatian men, the different forms of traumatic neurosis amount to 6.6 per cent.; in the Alsatian women, to 12.1 per cent.; but in the Italian men the percentage was far higher, reaching 39.2 per cent. This preponderance of traumatic neuroses in Italian workmen is certainly due to a predisposition of the Latin race to these diseases.—*Le Bulletin Médical,* June 10, 1905.

**Cancer of the Esophagus.**—Agasse-Lafont reports this case. The patient suffered in the last weeks of his life from very frequent and very abundant hemorrhages, a rather rare occurrence in cancer of the esophagus. He died from these hemorrhages, which no treatment could arrest. At autopsy two cancerous foci were discovered. The first one was situated seven centimeters above the cardiac opening; it involved the entire circumference. It was five centimeters in length, and almost occluded the lumen of the tube. The second focus was above the first and was separated from it by a space of two centimeters. This neoplasm was of recent origin. It occupied only the anterior wall, which was dilated at this point. It was eight centimeters long, by four wide. The center was depressed, bloody, and very vascular. The hemorrhages had come from this point. It is interesting to note that the secondary focus was above the primary one. The fact is explained by the presence of a marked stenosis and a consequent adjacent dilatation. During the attacks of vomiting, bits of cancerous tissue were detached from the primary tumor and were carried into the dilated portion of the esophagus, where they attached themselves and formed a secondary growth. Histological examination showed this tumor to be an epithelioma.—*Bulletins et Mémoires de la Société Anatomique de Paris,* March, 1905.

**Paget's Bone Disease Cured by Antisyphilitic Treatment.**—Jacquet had this case under his care. The patient, when in full health at the age of fifty-three years received a severe injury to his right tibia. The shock was so great that the patient lost consciousness. Nevertheless, there was neither wound or fracture. Several months later, however, acute pains developed in the right leg with a sensation of heat, soon followed by deformity and swelling of the region. Now, three years after the accident, there is a distinct deformity of the type of "saber scabbard." There was at once suggested the presence of a bony lesion of syphilitic origin, and in spite of the absence of certain antecedents antisyphilitic treatment was instituted. The results were rapid and marked. Pain and functional impotence ceased. The writer believes that this was a case of Paget's bone disease due to a former traumatism; its syphilitic origin seems at least possible, after noting the rapid effect of specific treatment.—*La Presse Médicale,* July 5, 1905.

**Hypertrophic Acne of the Nose.**—Cléjat was interested in this case. The patient was a man sixty-five years old, a smith by trade. Thirty years ago he noted the development of several points of pustulous acne on the lobule and the wings of the nose. The skin of the nose soon thickened, becoming irregular and knobby. At the end of fifteen years the nose was about the same size as it was when the patient presented himself for treatment. The nose was transformed into a bosselated mass. The lobule itself was as large as a nut. The skin looked like that of an orange, and was sprinkled with comedones and fatty cysts. The tumor was indolent and of soft consistence. By palpation the cartilages could not be felt. This may have been due to the fact that they were masked by the thickness of the tumor—or, what is more probable, that they had undergone a diminution. On account of the thickness of the tumor, respiration was considerably impeded; this was especially noted on the left side and when the patient was lying down. Operation was undertaken. The thermocautery was first used, followed by dissection with the histoury. Although the nose was greatly diminished in size, it remained full large enough, for it was impossible to take away any more tissue on account of the amplitude of the cavities.—*La Médecine Moderne,* July 5, 1905.

**Antibacterial Serum in the Treatment of Diphtheria.**—Luigi Concetti draws our attention to the fact that in spite of the use of antitoxin, there are still a considerable number of deaths from diphtheria. The death rate would be reduced were all cases coming in contact with patients immunized, but there would still remain cases of mixed infections, which are very fatal because the virulence of the Loeffler bacillus exalts that of the complicating bacteria. In other cases there seems to be in the beginning an extreme degree of virulence of the infection, which overpowers the child before antitoxin can take effect. But the most important element in the causes of death is the fact that, although the toxins are counteracted, there still remain the bacilli, living, or the poisoning due to the presence of their dead bodies. Antitoxin counteracts only the soluble poison produced by the bacilli, and has no effect on the bacilli themselves. Bandi and Wasserman have, by different methods, produced a serum that is also active against the bacilli themselves. This antibacterial serum may be applied locally to the throat, to the conjunctiva, when that is affected, or to the nares as a prophylactic for those exposed to contagion. It may be introduced into the circulation so as to counteract the bacteria contained in the blood and internal organs. When the serum injected has the properties of antitoxin and antibacterial qualities combined, that is a bivalent serum, we get results superior to those of antitoxin alone.—*Rivista di Clinica Pediatrica,* June, 1905.

**Clinical Experience with Bivalent Antidiphtheritic Serum of Sclavo-Bandi.**—Maurizio Pincherle has used the bivalent antidiphtheritic serum of Sclavo-Bandi, which is antitoxic and antibacterial, in fifty-three cases, of which he gives us an account. There are two sera on the market—one for use by injection, and one rendered more active by the presence of very energetic antseptic substances, which is to be painted locally on the initial foci of the disease. There are also pastilles to be dissolved in the mouth. The author has found the serum of marked value in all classes of cases, severe, complicated with stenosis, or slight, and even in the severest forms of infection, and where delayed treatment has rendered them almost hopeless. He concludes as follows: 1. This treatment has exerted a rapid and effective therapeutic action in anginal or croupous cases, not complicated by lack of organic resisting power, or profound toxic phenomena. 2. It has been useful as an adjuvent to the antitoxic treatment, except in the most inveterate cases, even when the organism was severely intoxicated. 3. The serum locally applied seems destined to exercise a double action, preventive and prophylactic, of the greatest importance in preventing the diffusion of the morbid process.—*Rivista di Clinica Pediatrica,* June, 1905.

**Suture of the Heart for Hemorrhage.**—Giovanni Casapinta gives us his opinion as to the value of cardiac suture in cases of wound of the heart, and the technique that should be observed. He calls our attention to the fact that the amount of hemorrhage is not an index of the severity of the wound. The obliquity of the wound, the formation of a coagulum in it, or of a parietal thrombus, assisted by syncope, the arrest of the instrument in the wound, proximity to a columna carnea, may prevent the emptying out of blood externally. No distinction should be made, in regard to operation, between penetrating and non-penetrating wounds; operation is demanded in all cases of wound of the heart. The first consideration should be the immediate arrest of hemorrhage, to prevent fatal anemia. The hemorrhage should be stopped at once by the use of forceps, and the author has constructed one with long blades at an angle with the handle, provided with teeth to grasp the heart muscle. General anesthesia should be used; as strict asepsis should be maintained as the necessary haste will permit. The trans-pleural route has the advantage of permitting the renair of the accompanying lesions, the lung generally being wounded also; and the opening should be large enough to permit of easy suture of the heart. When the wound is near the sternum it must not be enlarged toward the right, lest we get a fatal double pneumo-thorax. Silk should be used for the sutures, since catgut is too soon absorbed. The heart action will remain irregular for some time after suture, and digitaline may then be given.—*Giornale Medico del Regio Esercito,* June, 1905.

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**Diacetic Acid in the Cerebrospinal Fluid in Diabetes.**—Grünberger describes a case of diabetic coma occurring in a girl of 16, whose symptoms were alleged to have begun only eight weeks previously. The urine contained large amounts of acetone, diacetic acid, and $\beta$-oxybutyric acid. On examining some of the cerebrospinal fluid obtained by lumbar puncture, diacetic acid was found, as well as other peculiarities in regard to sugar content and freezing point, which are not described. The author says this is the first described case in which this observation has been made.—*Zentralblatt für innere Medizin*

# Book Reviews.

Diseases of the Blood. By Dr. P. Ehrlich of Frankfort-on-the-Main; Dr. A. Lazarus of Charlottenburg; Dr. K. von Noorden of Frankfort-on-the-Main, and Dr. Felix Pinkus of Berlin. Edited, with additions, by Alfred Stengel, M.D., Professor of Clinical Medicine, University of Pennsylvania. Philadelphia and London: W. B. Saunders & Company, 1905.

The English translation of Nothnagel's Practice is now nearly completed. The volume before us treats of Diseases of the Blood, and is the work of four German specialists. The first part on Histology of the Blood, Normal and Pathological, is by Drs. Ehrlich and Lazarus. Here the well-known views of Ehrlich and his school are skilfully set forth, and the editor has done good service in giving space to the opinions held by other writers. Dr. Lazarus is also responsible for the article on the Clinical Features of Anemia. The section on Progressive Pernicious Anemia is particularly full and satisfactory. The part dealing with Chlorosis is from the pen of Dr. von Noorden, and is the longest and most thorough treatise in the volume. He devotes special attention to questions of etiology and symptomatology. The author has decided views on sex as a predisposing cause of Chlorosis. Fortunately, the editor here again tones down the dogmatism of the author and gives fair consideration to the opinions ignored by the latter. Dr. Pinkus is responsible for the chapter on Lymphatic Leukemia; and that on Myeloid Leukemia is the work of Dr. Lazarus. Editorial additions have been made wherever it was necessary to bring the original articles up to date, and also in several instances where the authors ignored too much those who differed from them. Dr. Stengel has, in this volume, accomplished a difficult and delicate task with consummate skill, and his editorial notes are of more than ordinary value. There is an unfortunate transposition of several lines on page 616.

The Development of the Human Body. A Manual of Human Embryology. By J. Playfair McMurrich, A.M., Ph.D., Professor of Anatomy in the University of Michigan. Second edition, revised and enlarged; with 272 illustrations. Philadelphia: P. Blakiston's Son & Co., 1904.

This book on Embryology consists of two parts, the first of which contains five chapters and deals with general development. The second part, which forms by far the greater part of the volume, considers in detail the development of the various tissues, organs, and systems of the body. There are chapters devoted to the integumentary system, the connective tissues and the skeleton, the muscular system, the circulatory and lymphatic systems, the digestive tract and glands, the pericardium, pleuro-peritoneum, diaphragm and spleen, the respiratory organs, the urogenital system and the suprarenal bodies, the nervous system, and the organs of special sense. The volume concludes with an important chapter on post-natal development. At the end of each chapter is a brief but recent bibliography. The general plan of the book is the same as in the former edition, and the only changes are such as have been rendered necessary by recent contributions to Embryology. The book contains numerous illustrations, and these are unusually clear and instructive.

Recherches Cliniques et Thérapeutiques sur l'Épilepsie, l'Hystérie, et l'Idiotie. Compte-rendu du service des enfants idiots, épileptiques et arriérés de Bicêtre pendant l'année 1903. Par Bourneville, avec la collaboration de J. Boyer, L. Izou, Lemaire, Reine Maugeret (Mlle.), Julien Noir, Paul-Boncour. Volume XXIV., avec 72 figures dans le texte et 17 planches. Paris, Felix Alcan, 1904.

The first part of this volume gives a *résumé* of the hospital service at Bicêtre and Fondation Vallée, for the year 1903. The remainder deals with various conditions more or less connected with idiocy and epilepsy, and the histories of the cases are given in considerable detail. The most important contribution is that by Drs. Bourneville, Lemaire, and Maugeret, on the different forms of nanism, and the treatment of the same by thyroid extract.

A German-English Dictionary of Terms Used in Medicine and the Allied Sciences. By the late Hugo Lang, B.A. Edited and completed by Bertram Abrahams, M.B., B.Sc., F.R.C.P. Assistant Physician, Westminster Hospital; Sub-Dean and Lecturer in Physiology, Westminster Hospital Medical School; Examiner in Physiology to the Conjoint Board. Philadelphia: P. Blakiston's Son & Co., 1905.

It is doubtful whether a perfect dictionary of German medical words ever can be compiled, but the present volume comes quite close to achieving the impossible. Its sins, both of omission and commission, appear to be very few, and the number of words not strictly medical included is large enough to help even an indifferent German scholar over many difficulties. The typography is extremely well adapted to its purpose, and the binding is unusually ornamental. The work is certainly the most satisfactory one of its kind that has recently appeared, and it may safely be commended to those interested.

Outlines of Inorganic Chemistry. By Frank Austin Gooch, Professor of Chemistry in Yale University, and Claude Frederic Walker, Teacher of Chemistry in the High School of Commerce of New York City. New York: The Macmillan Company; London: Macmillan & Co., Ltd., 1905.

The authors of this excellent book have almost succeeded in making the study of chemistry easy, and they have done even better—they have made it interesting to the beginner and to the man who would know the principles of this science and its main facts without burdening his mind with the mathematics of chemistry. The first part deals with the principles upon which chemistry rests. This embraces a consideration of the identity of substances, chemical change, the elements, the laws of combination, and chemical equivalents. Then follows an explanation of electrical phenomena, ions, the constitution of acids, bases, and salts, action and equilibrium, and the thermal relations of chemical action. The discussion of the properties of elements and their compounds is taken up in Part II., the elements being arranged in groups and series after a modification of Mendeléeff's periodic system.

The book is one which seems to the reviewer peculiarly adapted to the needs of the medical student who must know the principles of this science but who does not intend to be a practical chemist. It will also be very useful to the practitioner of medicine who may have acquired a smattering of chemistry in his student days—which he has probably forgotten—but who wishes to know something of the modern science in order to understand the relations of chemical action to electricity and to read intelligently of the phenomena of radioactivity. The language of the authors is so straightforward and clear, and the complex chemical phenomena are described and explained in such simple terms, that no one of ordinary intelligence can fail to comprehend them.

Atlas and Text-Book of Topographic and Applied Anatomy. By Oskar Schultze, Professor of Applied Anatomy in Würzburg. Edited, with additions, by George D. Stewart, M.D., Professor of Anatomy and Clinical Surgery in the University and Bellevue Hospital Medical College, New York. With twenty-five colored illustrations on twenty-two Lithographic Plates, and eighty-nine Text-Cuts, sixty in colors. Philadelphia and London: W. B. Saunders & Co., 1905.

In a handy volume, prepared especially for the medical practitioner, the author presents us with the essentials of regional anatomy, and a finely illustrated atlas of the same. The whole ground of the subject is gone over, but, by careful elimination of all except the most important facts, the book has been kept within the reasonable limits of one hundred and ninety small quarto pages; and it is, in fact, one of the few handy atlases dealing with the subject. The plates are magnificent, and are free from the usual blemish of being overloaded with details and names. The editor has added occasional notes, which materially increase the value of the volume. We wish that he had not been quite so sparing with his annotations; *e. g.* a few lines on the regions of the abdomen as understood by American and English readers, would have been of service. A few slips have been noted. On page 41, the parotid duct is made to open opposite the second upper bicuspid (on page 54 it is given correctly); Woolsey's name is invariably misspelt; the legend to plate 19 describes it as a "male pelvic outlet," yet we find Bartholin's gland, glans clitoridis, labium minus, vestibule of the vagina; plate 20, which claims to be a "female pelvic outlet," contains a corpus cavernosum of the penis. But these are mere flaws on a capital piece of work, and no one will be misled by them.

The Medical Epitome Series. Clinical Diagnosis and Urinalysis. A Manual for Students and Practitioners. By James R. Arneill, A.B., M.D., Professor of Medicine and Clinical Medicine in the University of Colorado, Physician to the County Hospital and to St. Joseph's Hospital, Denver. Series edited by Victor Cox Pedersen, A.M., M.D. Illustrated with 79 Engravings and 1 Colored Plate. Philadelphia and New York: Lea Brothers & Co., 1905.

This volume contains the essentials of laboratory examinations and diagnosis, and includes the following subjects: Blood, gastric contents, feces, sputum, urine, cerebrospinal fluid, etc. The book is intended for physicians and students, and the author is to be congratulated on having prepared a book that is so eminently practical and useful. The careful selection of the various procedures, and the judicious omission of many time-wasting processes make this volume of more than ordinary value.

# Society Reports.

## AMERICAN SURGICAL ASSOCIATION.

*Twenty-sixth Annual Meeting, Held at San Francisco, California, July 5, 6, and 7, 1905.*

PRESIDENT, DR. GEO. BEN JOHNSTON OF RICHMOND, VA.

The Association held its sessions in the banquet hall of the St. Francis Hotel.

After a brief executive session, Dr. Emmet Rixford of San Francisco, first vice-president, took the chair, and the president delivered his address.

**John Peter Mettauer.**—Dr. GEORGE BEN JOHNSTON selected as the subject of his annual address a sketch of John Peter Mettauer. He said that little was known of his childhood and youth beyond the fact that, raised in an atmosphere of surgery, he imbibed a love for this profession, and early determined to adopt it as his life's work. He was born in 1787. Mettauer's medical education was carried on under the most favorable conditions obtainable in America at that time. For a period of about forty years the number of surgical patients who gathered to Mettauer for treatment was sufficient to keep him constantly with from 45 to 60 cases under his care. Often it was true that about every good house in the community sheltered some person who was convalescing or awaiting his turn for operation. The speaker had heard his operations for cataract put in number far beyond the 800 that could be accounted for. Dudley's great record in cutting for stone 225 times in a practice of forty years must yield to Mettauer's total of 400 operations, and the number of strictures relieved was commonly put at something over 200. Three operations were recalled, performed in the last week of his life, when at the age of 88 his eyes were yet keen enough and his hands steady enough for him to make a successful operation for cataract, for stone, and for amputation of the breast. But Mettauer's most brilliant work in the way of operations was his method with vesicovaginal fistula, and his successful employment of wire sutures made of lead, in which he antedated by a good many years even Sims, whose name was generally associated with this operation. So successful was Mettauer that he declared his belief that every case of this sort was curable by his method, and so far as his efforts were reportsd, the speaker was not aware that he ever failed in one. Proper pride and regard for his own reputation in the coming years must make every surgeon careful to a degree in assigning credit for useful and honorable achievements to those who had preceded him, and there was in the history of surgery no claim more clear and unmistakable than that of John Peter Mettauer to the honor of discovery in this case, and he was plainly entitled to rank in medical history and in the grateful memory of his successors in the same class with McDowell and Dudley and Sims and Mott. Mettauer's first reference to the operation of vesicovaginal fistula appeared in the *Boston Medical and Surgical Journal*, Vol. 22, page 154, twelve years before Sims' communication, and it clearly outlined the operation which ought always to be associated with his name. Mettauer was decidedly of the opinion that every case of vesicovaginal fistula could be cured, and his success justified the statement.

Reference was made to the eccentricities of Mettauer, and among them was his invariable custom to wear on all occasions and at all times a preposterously tall hat. One of his children, now surviving, had told the speaker that she never saw her father without his hat on. He never attended service in the churches, and the explanation was always assumed to lie in the unwillingness either to remove the covering from his head or to attend church wearing his hat. He would decline to take off his hat in court on the occasions when his expert testimony was sought, and the sole occasion on which a judge seems to have insisted that the doctor should be uncovered brought from Mettauer the suggestion that if his evidence was essential to the cause he would be pleased to give it with his hat on, and that if it were not so, he would be quite as well pleased to leave the courtroom—meanwhile, of course, wearing his hat.

Dr. Johnston said that so great was his interest in seeing full justice done to the genius of Mettauer that he was seriously contemplating some extended work in the way of a biography.

**End Results in Surgery of the Kidney, with Report of Ninety Cases and One Hundred and Twenty-three Operations.**—Dr. ALBERT VANDER VEER of Albany, N. Y., read a paper on this subject, which was based on a review of ninety cases occurring in his own practice. The next largest group was composed of movable or floating kidney. These numbered twenty-three cases, exclusive of those where excision of the capsule for neuralgia, examination for stone, and decapsulation for Bright's disease were done. Nineteen of these cases occurred in women, about two-thirds of whom were married, the lesion being on the right side. There were four males, the lesion also occurring on the right side, and the entire number recovering. One required removal of the kidney four years after for abscess of the pelvis and stone; good recovery. He next presented a series of twenty-four cases of nephrotomies, in which there was a surgical lesion of the kidney, grouped under the headings of pyelitis, pyonephrosis, pyonephritis, and ascending pyelonephrosis. The series was divided as follows: Male, right side, two recovered, one died; male, left side, six recovered. Nine of these cases finally required nephrectomy, one of the latter resulting in death. Of the remaining fifteen cases, all made good recoveries; but one of them, after a period of four years, had a slight sinus—not deep, no pus, patient in excellent condition. The other patient recovered from the kidney complication, but developed a pelvic abscess, which was still draining, and she was gradually losing ground. In the cases of nephrectomies for hydronephrosis there were eight, as follows: Male, right side, two recovered; female, right side, three recovered; female, left side, two recovered, one died. Regarding the removal of the kidney by the transperitoneal incision, the author stated that it was an exceedingly easy and convenient way of removing a large cyst or tumor, the patients doing nicely afterwards. Of these, there were four cases. He then cited two cases of hydronephrosis in young women who were entirely cured by simple aspiration.

Of nephrotomies, followed later by nephrectomies, there were nine cases, as follows: Male, right side, two recovered; male, left side, one recovered; female, right side, three recovered; female, left side, three recovered. All of these cases made a good recovery from the two operations, with the exception of two patients, one dying a few months after from multiple abscesses of the remaining kidney, and the other, still alive, was gradually failing in strength.

The author was greatly impressed with the study of tuberculosis of the kidney, as to whether the invasion occurred from below or from systemic infection. There were seven of these cases, as follows: Male, right side, one recovered; male, left side, two recovered; female, right side, one recovered; female, left side, three recovered. There was a total of eight cases of malignant growths in connection with the kidney, as follows: Sarcoma, male, right side, two recovered, one died; male, left side, one died; female, right side, one recovered; female, left side, one died. Carcinoma, female, right side, one recovered, but died later from return of the disease. Hypernephroma, male, left side, one recovered. Of decapsulation of the kidney for nephritis, there were two cases that recovered; results excellent. Of traumatisms and injuries of the kidney, there were six cases. Of cases of renal neuralgia, associated with suspected stone of the kidney, the author was not able to confirm his diagnosis by exposure of the organ. The entire group was made up of six patients, and in only one instance was the diagnosis confirmed by needling of the kidney.

The author then reported some irregular cases, and concluded his paper by the relation of two cases of abdominal surgery which illustrated errors in diagnosis, in which the real trouble was with the kidney.

In a review of the cases presented in this paper, one was impressed with the very excellent results following the operation of fixation of the kidney. In the hands of all operators the mortality list was exceedingly small. Wearing of a bandage, with kidney pad, was exceedingly irksome to many patients, who gladly consented to surgical intervention when the prospects for recovery were so good.

The combined operation for nephrotomy and nephrectomy later for abscess of the kidney was appropriate for such cases as would not bear too long an operation, and where there might be a large kidney, made up of multiple abscesses in such a way as to make manipulation of the organ quite difficult. Simple drainage benefited the patient for a time, often causing a diminution of the mass to be removed later. In the purely cystic form of kidney, a true pyonephrosis, an immediate nephrectomy was proper in the majority of cases. Following a nephrotomy or nephrostomy a very fair number of cases recovered without further intervention. In a large pus kidney there was always some danger in a nephrectomy of causing an infective peritonitis. In traumatisms of the kidney firmness and decision on the part of the surgeon were an absolute necessity. There were no other forms of emergency surgery more exacting. In cases of movable or floating kidney, giving such marked symptoms that the surgeon was often led to believe that he had a stone to deal with, the speaker admitted that our diagnoses were very far from correct, and the cases here reported were disappointing by reason of not finding a calculus present. It was sometimes difficult to diagnose between a neuralgic kidney and one containing a calculus in its pelvis. Splitting of the capsule relieved pain in cases that could only be classified as a neuralgic condition. It was yet a mooted question as to how much could be accomplished by resection of the kidney for relief of abscesses and growths. The cases of tuberculosis reported manifested decidedly the importance of an early operation, and gave a most encouraging outlook for these patients regarding permanent recovery. Malignant growths gave our mortality list, and yet there was much hope for these cases if reached early. Surgery of the kidney was becoming more and more exact with the splendid advances made in methods of examination of the urine, etc. Errors of diagnosis would occur less frequently in the practice of abdominal surgeons as methods of examination became more perfect. The writer was impressed with the oblique incision, which had been employed in nearly all of his cases during the past ten years. The one case of hernia reported resulted from the old incision, parallel with the spine and transversely through the muscle, causing a lumbar hernia, but none of the others presented this complication. In a total of about 90 patients there were 123 operations done. This was readily accounted for because of the patients requiring more than one operation. The rate of mortality was exceedingly small, malignant disease and abscesses of the kidney being alone responsible.

Dr. William J. Mayo of Rochester, Minn., asked the speaker whether he took out the ureter or considered it necessary to remove it in cases of tuberculosis of the kidney. Also, whether any of the cases in which nephrotomy for tuberculosis of the kidney was performed had been followed by permanently good results. Recently he had gone over the histories of some 36 nephrectomies for tuberculosis of the kidney, and had found that a large number of people who were supposed to have tuberculosis of both kidneys in the early stage had only one kidney involved. Careful examination had shown in the majority of these cases, according to his recent experience, that the tuberculosis was confined to one kidney. He thought a large majority of cases of tuberculosis of the kidney were one-sided to start with; that his experience, as furnished largely from post-mortem examinations, was that the second kidney became involved at the time of death, and that therefore he had post-mortem rather than living evidence of the fact that in the early stages the percentage of cases in which tuberculosis of the kidney was bilateral was small.

Dr. N. B. Carson of St. Louis mentioned a case in which a diagnosis of floating kidney was made by several good surgeons, and he operated with the intention of fixing the kidney. He found the kidney slightly movable, but not floating. Later an eminent surgeon said the case was undoubtedly one of floating kidney, even after the operation had been done. The speaker told this surgeon that he had already fixed the kidney. Later he operated again and instead of a floating kidney found a floating right lobe of the liver. The gall-bladder was enlarged to the size of a kidney. This was fixed to the liver. It contained a number of stones. The right lobe of the liver was so freely movable that the gall-bladder could be floated, so to speak, all over the abdomen, and it so corresponded to the shape of the kidney that every one who examined the patient made a mistake. The floating kidney was removed, and the patient made a good recovery.

Dr. Archibald Maclaren of Minnesota mentioned the ease with which a kidney could be removed after resection of the twelfth rib. He got this idea from Dr. Mayo. He had tried this in a recent case and found he could do the operation more easily by resecting the twelfth rib, although he opened the pleura. The opening in the pleura could be easily plugged with iodoform gauze.

Dr. Vander Veer, in closing the discussion, said, in reply to Dr. Mayo, that the tuberculosis was confined to one kidney in his cases, and he had no record of bilateral kidney tuberculosis. In regard to the removal of the ureter, in the first case he operated upon, he did not remove the ureter, and in one case he had to do a secondary operation on account of relapse. In regard to Dr. Carson's case, he had seen almost a duplicate of it, in that there was a sarcoma which involved the gall-bladder and right lobe of the liver.

**Non-Parasitic Cysts of the Spleen.**—Dr. Charles A. Powers of Denver, Colo., in a paper with this title, stated that this subject had a twofold origin: (1) The few and comparatively recent clinical reports; (2) the somewhat more numerous accidental post-mortem findings. In September, 1895, a young man of 18 was referred to him who presented a large, right-sided, abdominal cyst. The mass was of four years growth. There had been a gradual loss of flesh and strength, anorexia, headache, and general pressure symptoms. Fluctuation was plain. The diagnosis of splenic cyst seemed positive. A free incision was made over the prominent part of the tumor, the walls of which were found to be about one-half of an inch thick, semi-cartilaginous and solidly adherent to all the adjacent structures. Extirpation seemed impossible. Later autopsy findings confirmed this. The single cyst held several liters. A posterior incision was made, with through drainage. The walls of the cyst did not collapse and the patient died of septic absorption from the cyst wall on the twelfth day. The anatomical diagnosis was hemorrhagic cyst of the spleen. From the autopsy findings the author could not see how the cyst could have been successfully extirpated. He presented a brief analysis of thirty-two tabulated cases. In considering the treatment he spoke of puncture, incision and injection, incision and drainage, marsupialization, resection of cyst, and splenectomy.

**Status Lymphaticus and the Ductless Glands.**—Dr. Roswell Park of Buffalo, N. Y., defined the term status lymphaticus, and stated that the reason for bringing the subject before a body of surgeons was because the condition itself had so much to do with the question of toleration of anesthetics, and the matter of repair of wounds, that it really was one of exceeding importance. Not a few cases of sudden death during and after operation were to be explained by the abnormalities constituting this condition. These had usually been attributed to the anesthetic or the anesthetist, and it might be that, had the latter

appreciated all the dangers offered by the condition, he would have guarded his anesthetic, or perhaps abstained from giving it. Nevertheless, the anesthetizer was not always to blame, because he was often called in without previous knowledge of the case, it being really the function of the medical attendant to study it carefully and determine its peculiarities. The relation which the lymphatic system and the lymph-making organs bore to each other and to the ductless glands was as positive as it was obscure. Lymphoid tissue throughout the body seemed to increase as the thymus normally disappeared. In infantile marasmus the thymus had usually completely and prematurely disappeared, its condition being a fair index as to general nutrition. But it was hypertrophy rather than atrophy of the thymus which most interested the surgeon, since those individuals who died suddenly and unexpectedly usually had an enlarged thymus. There certainly existed strange relationships between the pituitary body, the thymus, the thyroid, the coccygeal body, the testes, the ovaries, and perhaps the bone marrow. In this list the quite recent researches relative to the parathyroids should also be included. A clearer recognition of the function of the latter seemed to have changed the whole aspect in which we should regard Graves' disease, it being made quite probable that this condition was due rather to atrophy of the parathyroids than to excess of the thyroid or its secretion. In the ordinary forms of cystic goiter, where thyroid secretion was not augmented, the symptoms of Graves' disease were lacking. It was usually after removal of the thyroid proper that the opposite symptoms of Graves' disease appeared—*i.e.*, myxedema and cachexia, while when the parathyroids were taken away the peculiar symptoms of Graves' disease appeared. The life-history of the thymus was closely related to that of the testes. Atrophy of the former would seem to depend upon complete maturation of the latter. These statements could be corroborated by a study of cryptorchids and castrated animals. The status lymphaticus was also described under the terms lymphatism, lymphatic constitution, and status thymicus, the condition having apparently more to do with the thymus than any other isolated organ. Thymus extract produced in animals a fall of blood pressure with acceleration of the heart, and, in fatal doses, collapse. Thymic enlargement might cause death by pressure on important structures, even distinct from the trachea. Thymic asthma, a condition known for some time, was one in which death sometimes occurred most unexpectedly and quickly. In these cases not only was the thymus enlarged, but there was found a general hyperplasia of the lymphatic tissue, with enlargement of the lymph nodes and of the spleen. The relations between status lymphaticus and rickets were frequent and pronounced. Nearly all cases of the former displayed the ordinary clinical evidences of the latter. The participation of the lymphatic system was most casually apparent in the involvement of the faucial, laryngeal, and lingual tonsils, *i.e.*, the so-called adenoids of the throat specialists. It was notable that it was in these cases that death most often occurred during or after anesthesia. Thymic asthma was practically the same thing as laryngismus stridulus. The occurrence of this in children ought always to serve as a warning, as well as an indication for careful study and treatment. Should, then, chloroform be given in such a case inadvertently or unnecessarily, the agent would not be nearly as responsible for the death as the practitioner who employed it. The condition was to be recognized by the ordinary evidences of rickets which were usually present, by generalized enlargement of the lymph nodes, the presence of adenoids in the nasopharynx, a history of laryngismus stridulus or special liability to spasm of the glottis, perceptible enlargement of the thymus or notable enlargement of the thyroid or spleen. In the young these conditions simulated cretinism. Such a clinical picture as would afford the above features should serve as a warning and make one abstain from the use of anesthetics unless absolutely necessary, while it should also prompt carefully directed treatment. This treatment should consist in careful attention to elimination, as well as to nutrition, while thymus or pituitary extract should be administered internally, as well as the glycerophosphates or some similar upbuilding tonic. If, now, it should be necessary to clear out the nasopharynx in such a case, the parts should be first desensitized by cocaine, to which a little adrenalin might be added, even previous to beginning anesthesia. If the patient were known to be subject to glottic spasm, one should be prepared to do a tracheotomy on an instant's notice, and especially so if the thymus were perceptibly enlarged. One might even have to use a long trachea tube. Operations of convenience should be postponed until the patients could be carefully built up. Operations of necessity might be practised with the above precautions, while in cases of impending or actual emergency one might depend upon artificial respiration after tracheotomy and the use of adrenalin.

**Patent Urachus, with a Review of the Cases Reported; Operation on a Case Complicated with Stone in the Kidney.**—Dr. George Tully Vaughan of Washington, D. C., explained the defective development in embryology which leads to the formation of patent urachus and of Meckel's diverticulum. He gave a short review of the literature, and stated that the older anatomists held different opinions as to whether the urachus was a tube or a solid cord. He divided cases of patent urachus into the complete, blind, blind internal, and blind external, and into congenital and acquired varieties, and explained the occurrence of some cases of acquired patent urachus by the pressure of urine in the bladder from obstruction to its normal outflow, causing Wutz's valve (a small valve which guards the bladder opening of the urachus) to give way and permit urine to enter the urachus, when, if infection took place, abscess formed, and pus broke through the umbilicus or discharged into the bladder. He briefly recounted 52 cases reported in the literature, and added one case of his own, of which 38 cases were operated on, with 32 recoveries, 3 deaths, and in three the result was not reported. He divided the methods which had been tried for closing the open urachus into 8 classes as follows: (1) The application of caustic or of the actual cautery to the umbilical opening. (2) The use of the cautery and of ligatures or sutures. (3) The use of ligature or suture only. (4) Plastic operations, the application of a flap of skin to close the opening. (5) To open or slit up the urachus, curette or cauterize, and pack. (6) Removal of sources of irritation from the urachus, such as stones, pus, etc., and keeping the parts clean. (7) Removal of obstruction to the flow of urine from the bladder through the urethra, as a tight prepuce, strictures of the urethra, hypertrophy of the prostate, and tumors or stone in the bladder. (8) Extirpation or dissecting out of the urachus and sewing or ligating the part next to the bladder, after the manner of treating the appendix in appendectomy. The author did not approve of the method of simply closing the umbilical end of the fistula, lest an infected suppurating area be left which might cause septicemia or peritonitis. He considered slitting open and packing the abscess cavity a rational operation, but thought the operation of election was to dissect out the urachus with the entire diseased area. Dr. Vaughan used this method in his case—a man of 40, who had an acquired patent urachus since the age of 17. A month after the patent urachus had been cured it was necessary to perform nephrolithotomy on the right kidney, and nine months later the same operation on the left kidney. A brief consideration was given to tumors and cysts of the urachus.

**A Summary of All the Cases of Fracture of the Spine (244) Which Were Treated at the Boston City Hospital from 1864 to 1905.**—Dr. H. L. Burrell of Boston contributed a paper on this subject, in which the author presented the following conclusions: (1) That fractures of the spine may well be divided into two classes—*first*, fractures of the spine with injury to the cord; and, *second*,

fractures of the spine without injury to the cord. (2) That it is not best to decide what the treatment of an individual case of fracture of the spine should be from the statistics, because the lesion varies so widely. (3) That in many cases of fracture of the spine it is impossible to state primarily whether the cord is crushed or pressed upon by bone, blood, or exudate, except by an open operation. (4) That only by the persistence of total loss of reflexes, complete insensibility to touch and pain, and motor paralysis below the level of the lesion can total transverse destruction of the cord be diagnosed. (5) That if pressure on the cord is allowed to remain for many hours, irreparable damage to the cord may take place. (6) That unless it is perfectly clear that the cord is irremediably damaged, an open operation to establish the condition of the cord and to relieve pressure is imperative as soon as surgical shock has been recovered from. (7) That in certain cases of fracture of the spine, when the cord is not injured, but is liable to injury from displacement of the fragments of a vertebra, rectification of the deformity and fixation of the spine may be used. (8) That if the cord is crushed, no matter what treatment is adopted, there will of necessity be a high rate of mortality.

**Case of Suture of the Spinal Cord Following a Gunshot Injury Involving Complete Severance of the Structure.**—Dr. George Ryerson Fowler of Brooklyn, N. Y., reported the case of A. E., aged 18, clerk, born in America, single. The patient was admitted to the Brooklyn Hospital on April 28, 1903. He gave the following history: He suffered from pneumonia several years ago. Four years ago, while working at a machine, his left hand was caught in the latter and so badly crushed that it became necessary to amputate four fingers. He had gonorrhea six months ago; no discharge at the present time. Shortly before admission he was shot in the back, his assailant using a 38-caliber revolver, at a distance of about thirty feet. The shooting took place somewhat from the right side. He suffered severely from shock, and paralysis of the lower extremities occurred at once. The bullet wound was located one and a quarter inches to the right of the medium line and on a level between the tenth and eleventh dorsal spines. He was found to be paralyzed below the waist; sensation was absent over all of both lower extremities, and over the abdomen as high as one inch above the crests of the ilia on the sides, and about halfway between the symphysis and the umbilicus in front. Bladder and rectum were also paralyzed. The bowels moved involuntarily and irregularly, and without the volition or cognizance of the patient. There was considerable twitching of the muscles of both legs, especially the toes. Operation was performed May 9, 1903. An incision was made, six inches long, over the spines of the vertebræ, the middle of the incision resting upon the eleventh dorsal spine. The laminæ of the tenth, eleventh and twelfth vertebræ were removed by the chisel. The bullet was found lying transversely between the severed ends of the cord, concealed from view by a large blood clot. A very narrow, ragged, and contused strip of dura, scarcely more than one-sixteenth of an inch in width, remained intact. The blood clot was carefully sponged away and the bullet removed. The ends of the cord were then sutured with three fine chromicized catgut sutures, the dura being included in the sutures. No special difficulty was experienced in drawing together the ends of the cord and closing the defect, the latter representing in width the diameter of the 38-caliber bullet. The dura was further secured with a number of sutures of fine catgut, and a drain consisting of a half dozen narrow strips of oiled silk protective introduced. The skin incision was sutured with silkworm gut. On May 30 the following note appeared on the hospital record: "Wound healed, upper line of anesthetic area from one and a half to three inches lower than before operation. Twitching of toes of both feet and occasional clonic muscular spasms of the flexors and extensors of the thighs; the patient says his 'feet jump up on him.' Can feel when the bowels move, but is without control of the rectum. Can feel distention of the bladder with urine, but is without control." The main points of interest in this case related to the possibility of regeneration of the spinal cord following a destructive lesion. Prior to the report of Dr. F. F. Stewart's case, in which Dr. R. H. Harte sutured the cord after it was severed by a bullet, it was the opinion of the majority of investigators that such regeneration in man was impossible. Mikulicz, of Breslau, endeavored to demonstrate the possibility of a successful regenerative process in the lower animals following section of the cord, but without result. Spiller and Frazier found that after division of a posterior root in the dog, followed by immediate suture, regeneration occurred, and that regeneration into the cord did not occur. In Dr. Fowler's case, twenty-six months after the injury, voluntary motion was practically lost in the affected area. The patient was able to stand when supporting himself by the hands resting upon an apparatus, and to make some locomotion by swinging movements in a special frame on wheels. The bladder and rectum control was doubtful, to say the least, the former acting automatically. The patient had the sensation that the bladder and rectum were about to empty themselves, and if the urinal or bedpan were brought to him promptly, soiling was prevented. The amount of urine passed in this manner probably averaged more than a pint in the twenty-four hours. The urine was sometimes voided during sleep. Sensation was practically abolished in the entire affected region, with the exception of an area about five inches in length extending down the outer side of the right thigh, where some sensation was present. He was not able to distinguish correctly between heat and cold. Tactile sensations were recognized, but were usually referred to a point two or three inches distant from the point touched. Marked rigidity and spasticity of both legs were present. Patellar reflex exaggerated; Achilles reflex marked; ankle clonus present on one side and absent on the other. The reaction of degeneration was absent. Bed sores developed in the third month; these extended to the muscles and were six months in healing. The skin showed but slight, if any, evidences of trophic disturbance. A final and important comment was suggested in comparing this case with the Stewart-Harte case, namely: The Stewart-Harte case was operated on three hours after the injury, while in Dr. Fowler's case upwards of ten days had elapsed before consent to interfere operatively was obtained. The prolonged separation of the divided ends of the cord and the presence of the foreign body had, in all probability, an influence in preventing a complete regeneration of the cord, as occurred in the first case, provided, of course, that regeneration did actually occur. While the case in hand was therefore not so striking in many of its features as the Stewart-Harte case, the author thought it presented some points of interest, and for this reason was offered as a contribution to the literature of the subject.

**The Surgical Treatment of Intraspinal Tumors.**—Dr. Richard H. Harte of Philadelphia said that the science of spinal localization was now so well developed that it usually was not difficult to determine with accuracy the location of an intraspinal growth. What was usually understood by the term tumor of the spinal cord was an extramedullary but intraspinal growth like a sarcoma, a fibroma, or a myxoma, giving no evidence of its existence except by the symptoms of medullary pressure which it produced. There had been found records of 92 operations for spinal tumors, among which number 43 patients died, a total mortality of nearly 47 per cent. The nature of the tumor was recorded in 88 of the reported cases. It was sarcomatous in two-fifths of the whole number (37 cases); adhesions, thickenings, etc., hold second place, with 11 cases; then came echinococcus, 8 cases; fibroma, 6 cases; syringomyelia, 5 cases; endothelioma, 4 cases; psammona, 3 cases; cyst, 3 cases; fibromyxoma, 2 cases; osteoma, 2 cases, and one each of myeloma, lipoma, lymphangioma, dermoid cyst, primary and secondary carcinoma, and one

tumor of bone whose nature was not stated. The author reported an interesting case of paraplegia from Pott's disease in which he resorted to laminectomy, with great improvement. With very few exceptions, he said, it was impossible to determine the nature of the tumor before operation. He reported a case of dermoid cyst of the spinal canal on which he operated, followed by recovery, the patient being a girl 7 years of age. Of 82 cases in which the region of the spine affected was given, the upper dorsal region was involved in 33 cases, or over 40 per cent. The tumor was found in the lower dorsal region in 24 cases, in the lumbosacral region in 14, and in the cervical region in 11 cases. The cause of death was given in 28 cases. One-half of these were due to shock and hemorrhage, or to infection and meningitis, there being seven fatal cases under each of these categories. Eight patients died from exhaustion, three from recurrence of malignant growths, two from hypostatic pneumonia, and one from bed sores and sepsis. As regards the technique of the operation, it was essentially the same as when employed in traumatic cases.

(*To be Continued.*)

## AMERICAN MEDICAL ASSOCIATION.

*Fifty-sixth Annual Meeting, Held in Portland, Oregon, July 11, 12, 13, and 14, 1905.*

(Special Report to the MEDICAL RECORD.)

(*Concluded from page 204.*)

### SECTION ON DISEASES OF CHILDREN.

*Third Day—Thursday, July 13.*

**Ataxia of Central Origin in Childhood.**—Dr. ARTHUR WILLARD FAIRBANKS of Boston read this paper which was a consideration of a symptom-complex, the most characteristic features of which are muscular incoordination of the extremities and of the trunk, head, larynx, tongue, and eyes; slowness of muscular action, slow, hesitating speech, sometimes of nasal character and occasionally explosive; swaying; unsteady gait; nystagmus; oscillation or tremor of head, body, or extremities; certain involuntary movements, which may or may not be of choreiform character, and which may occur independently, or may be associated with volitional intended movement of some other part of the body; lateral curvature of the spine; deficient energy in executing voluntary movements; and, in an advanced period of the disease, paralysis, muscular spasm, and contractures. Vertigo; headache; optic atrophy; and impairment of action of pupils and of the external ocular muscles; apathy of facial expression; loss of muscular tone; involuntary, unprovoked laughter; sensory disturbances; peculiar deformity of the feet; disturbance in action of the sphincters; muscular atrophy and minor trophic changes in the skin; are to be considered inherent but less common phenomena. Certain other symptoms, such as depreciation of intellectual power, psychical phenomena, epileptic attacks, etc., were mentioned as complicating phenomena due to implication of other parts of the nervous structure than that usually affected by the disease. In the class of cases covered by this symptom-complex, Dr. Fairbanks remarked that there should be probably included cases previously described under the title of Friedreich's disease, cerebellar ataxia, or hereditary ataxia. In his opinion, careful study of a large number of cases indicates that it is impossible to establish any arbitrary differentiation between the varying types reported, these cases merging into one another in such a manner that it is clearly evident that it is a question of extent, duration, and location of the process rather than a matter of difference in nature. This, also, pathological demonstration sufficiently proves. The varying condition of the knee jerks, so long a bone of contention between the adherents for and against the maintenance of Friedreich's original type, in the writer's opinion, is of no differential diagnostic value, but only indicates whether or not the process has involved certain definite portions of the nervous structure. Several cases have come under the observation of the writer, in the early stage, in children from three to ten years of age. In none of these children were the knee jerks absent. The clinical features in these cases were the unsteady "cerebellar"-gait, well marked ataxia of the extremities, especially the upper; and, in some of the cases, affection of speech, choreiform movements and nystagmus. That many of the symptoms of the complex suggest cerebellar affection, the writer stated was evident, and it was found that post-mortem examination of the very pronounced cases of Menzel, Nonne, and Sanger Brown showed, in addition to the degenerations in the posterior columns, the direct cerebellar tracts, Clarke's columns, and the posterior nerve roots in the cord, marked changes in the cerebellum, pons, and medulla were present. Certain features of the complex have also been features of experimental lesions in animals as well as affections of the cerebellum in human beings.

Dr. WAHRER asked whether there were degenerative nutritive changes in the nerves.

Dr. H. E. GARRISON inquired whether there had been any tuberculous tendency present, and cited a case in which there was almost complete paralysis.

Dr. Fairbanks replied that there was extreme atrophy of some of the nerves, and to Dr. Garrison that there was no ground for the assumption that tuberculosis was an element in the etiology or pathology, but that tuberculous processes were sometimes the terminal features of the disease.

**Pneumonia in the Young.**—Dr. EDWARD F. WELLS of Chicago said that to estimate fairly the prevalence and fatality of pneumonia in the young was a statistical and judicial feat of no mean proportions. From an analysis of 30 025 cases of and 225,642 deaths from pneumonia, he concluded that during childhood pneumonia is encountered oftener than at any other period; from 10 to 30 years much less frequently; from 30 to 50 somewhat oftener. On the contrary, if its prevalence is estimated by comparing the deaths caused by pneumonia with the number of persons living at various age periods, it will be found that in early childhood its mortality prevalence is moderate; from 10 to 20 years it sinks to its lowest level; from 20 to 50 it gradually but markedly advances; it is greatest in old age. These facts were clearly shown in an accompanying table and curves. The recently born infant is the least likely to be affected by pneumonia. The physical signs of pneumonia are present and discoverable at some stage in practically all cases. The course, type, severity, and danger of an attack of infantile pneumonia, he said, will vary in different localities and at various times, depending upon the natural or acquired virulency of the strain of infecting pneumococcus. He had found empyema the chief of the serious complications, and these are found more frequently in the pneumonia of the young than of adults. In the presence of doubt, he would use the exploring exhaust needle without the slightest hesitation. The majority of cases of alleged "unresolved pneumonias" in children were in fact examples of empyema Otitis media he had encountered rather frequently. The morbid anatomy of pneumonia in early life, he said, is modified by the structure and functional peculiarities appertaining to this period. Prognostically pneumonia in the young is at present an unsolved problem. The application of the underlying principles of proper management to meet the exigencies of the individual patient is an art which the author believes cannot be transferred from one physician to another. Eminence in this art is attained only by those who have extraordinary natural capacity, a broad foundation, and keen perception of the pertinent facts with the advantage of long years of practice. He favored the giving of liquids as freely as they could be taken The child should be disturbed as little as possible, the purest, freshest, and most

comfortable air should be supplied. Beginning early, it was his practice to give moderate or large doses of a reliable tincture of digitalis; various other vasomotor stimulants might be used. Oxygen inhalations were useful when the patient was not fretted by their use. He would also make use of decinormal salt solutions

Dr. A. C. COTTON endorsed the speaker's therapy along the line of supplying salines. He thought it important to maintain the alkalinity of body fluids, especially in a disease like pneumonia with high temperature and intoxication.

Dr. W. J. BUTLER of Chicago thought the diagnosis of lobar pneumonia in infancy not so difficult as was usually supposed He considered the clinical picture quite as typical as in the adult, as are also the physical signs. The diminished respiratory murmur, sometimes almost complete absence of it, with diminished resonance he has found the most conspicuous sign of beginning pneumonia in children under two and a half years. He does not think that there should be associated rigidity of the neck with middle ear disease in pneumonia, because in pneumonias during certain epidemics meningeal symptoms will sometimes predominate the whole clinical picture, and because middle ear disease may occur with any infection of the respiratory tract or of the throat, and in those cases rigidity of the neck is rather the exception. Therefore, he would style those symptoms usually as pseudomeningeal symptoms.

Dr. T. L. RILEY of New York said that with the stethoscope modeled on the plans of the phonendoscope one could hear twenty-four hours earlier in the many so-called central pneumonias than with the ordinary form of stethoscope. Lobar pneumonia in children, in his experience, is one of the safest diseases the physician is called to see. He considered the mortality to be about three or four per cent. The old-fashioned poultices appear to give more comfort to children and old people than the anodynes. The physician who loses the greatest number of cases is the one who sees his patients the least often.

Dr. FAIRBANKS asked to what Dr. Wells attributed the extreme fetor sometimes seen in these cases.

Dr. JOHN LOVETT MORSE called attention to the importance of differentiating the pneumonia of infants and the pneumonia of children; in the former it was extremely fatal; in the latter an extremely mild disease. In his opinion, the most important point in diagnosis of pneumonia in infancy was the increase of respiration out of proportion to the pulse rate. This in an acute disease with a high temperature in an infant almost certainly means the presence of pneumonia. In his experience children with otitis media complicating pneumonia do not show symptoms pointing directly to the ear. Another noticeable point is the frequency with which the symptoms of pneumonia are referred by the child to a point away from the lung. With an abundance of fresh air he would not consider oxygen an essential, and he would not use poultices except for the relief of pain.

Dr. A. C. COTTON advocated the abstraction of bloody by leeching for the relief of the right heart in pneumonia.

Dr. Wells in closing said that increasing the alkalinity of the blood in pneumonia might be useful, detrimental, or innocuous. He believed the work along this line to be in the early stages of investigation and without sufficient facts to determine its value. He had intentionally omitted mention of methods of treatment which are in the investigational period. He believed that inferentially the introduction of large quantities of sodium chloride in the system might be considered useful. This method, however, is also in the investigational period. One of the first and most important symptoms of pneumonia, he observed, was the decline, almost the absence, of chlorides in the urine. Personally he was in the habit of giving chlorides as freely as possible, but did not advocate the intravenous injection. He particularly emphasized the value of an abundance of comfortable pure air. He believed there were no facts to warrant the belief that uncomfortable air—overheated or overcooled—was more beneficial to the patient. In regard to the fetor of the breath, he thought there was not sufficient evidence for an opinion. In some cases this was due to the fact that the child did not breathe through the nostrils; the mouth remained open and the secretions in the throat and nose became fetid. Rigidity of the neck, in his experience, had been found most frequently in connection with otitis media. He believed that Dr. Riley's estimate of mortality was too low.

**Pleural Effusions in Children.**—Dr. C. F. WAHRER of Fort Madison said that the object of his paper was to bring out discussion which would throw light upon the diagnosis of pleural effusions. He thought the condition was often overlooked, and when recognized frequently not treated with sufficient vigor. Nine-tenths of the cases in children he believed follow pneumonia or broncho- or pleuropneumonia. Tuberculosis is too often considered a causative factor. A pleural cavity, properly speaking, he stated, only exists when the layers of the pleura are distended with fluid. The diagnosis of the effusions he regarded as more difficult than ordinarily supposed. Auscultation, palpation, and percussion he regarded as usually sufficient, and when in doubt he would aspirate. In aspiration the anatomy of the parts must be borne in mind. The prognosis he regarded as dependent upon early diagnosis, faithful treatment, and the progress of the disease causing the effusion. In general the prognosis is better in children than in adults. When the disease is purulent, surgical treatment is always indicated The choice of methods was described. He regards the operation as simple and has found the results usually good.

Dr. COTTON referred to the suggestion of Holt to locate the apex beat if possible in every case of suspected empyema where the needle shows pus.

Dr. W. J. BUTLER was inclined to regard with great skepticism the diagnosis of pleural effusion necessitating surgical interference when the dullness was obscured by a change of position of the patient. The absence of fremitus would be a more valuable diagnostic sign than the presence of bronchial breathing. He thinks it desirable to wait for a little while to see what the case is going to do before puncturing.

Dr. D. S. HANSON of Cleveland thought that the diagnosis of pleural effusions could be made without the needle.

Dr. Wahrer in closing repeated his statement that some of the cases are unrelieved and end in death for want of diagnosis and proper treatment. He felt that there was no harm in introducing the needle into the chest if the chest, hands, and instrument were pedantically clean.

**Typhoid Fever in Children.**—Dr. WILLIAM J. BUTLER of Chicago reviewed the literature of the subject and remarked that Hippocrates' description of a fever observed by him during autumns would form an excellent picture of what is now termed typhoid fever. Dr. Butler regarded it quite impractical to make an accurate estimate of the frequency of typhoid in children without reference to statistics derived in epidemics taking place in small towns. A table of statistics of this character was given. The clinical analysis of 210 cases, including symptomatology, blood examinations, relapses, complications, mortality, and treatment was also given. The children presented symptoms for from a few to ten days before coming under observation. These symptoms were detailed in the paper, as were those observed during the course of the disease. Anorexia was invariably present. Vomiting occurred in 28 cases during the course of the disease; in 13 of these it had been present at the onset. Roseola were found in many cases but seldom before the sixth day of the disease. While the respiratory rate was usually somewhat increased, as a rule it was not accelerated beyond its normal ratio to the pulse rate, unless pulmonic complications developed. Eighty-two of the

210 cases ran a high temperature lasting from 18 to 55 days; 90 had an elevated temperature for less than 15 days. A table showing the average duration of the disease for each year of age was shown in the paper. The disproportion between the pulse rate and temperature observed in adults, the author stated, holds good for later childhood, but in very young children the pulse runs more or less parallel with the temperature. Blood counts were made in many cases and the weekly average counts of leucocytes were shown in tabulation. Eighty-six cases gave positive Widal reaction; 10 negative. Headache was almost a constant symptom among the older children for the first week or two. Relapse, in the writer's opinion, seems more frequent in children than in adults. The mortality of typhoid fever in children he regarded considerably lower than in adolescence and later life. Many of the cases under observation presented interesting disturbances of the nervous system; in a boy of 11 years, the left eye was noticed to be turned in on the second day. Three cases showed more or less marked meningeal symptoms. There was acute angina in five cases. Six patients developed pneumonia. The treatment employed consisted in proper hygiene, appropriate diet, and symptomatic treatment, including hydrotherapy; in some instances intestinal antisepsis, and the treatment of special symptoms and complications as they arose.

Dr. Quevil of Tacoma asked if the author would speak upon the differential diagnosis of typhoid fever and tuberculosis in children.

Dr. Fairbanks said that he had been interested in noticing the fact that in children the rule of differential diagnosis of typhoid fever and tuberculosis—the disproportion between heart and temperature—does not apply. He referred also to the value of the leucocyte count in diagnosis.

Dr. Butler in closing referred to a case mentioned by Dr. Cook in his paper in a series of enterocolitis which illustrated that in typhoid fever in infancy, under two years, the only sure and positive way of diagnosing was by the Widal reaction.

Dr. Wahrer asked what were the results with the dry specimen test, and Dr. Butler replied that the test was quite as satisfactory as with the fresh serum.

**The After Effects of Diphtheria Upon the Heart.**—Dr. Franklin W. White of Boston presented the above paper, which was read by the Secretary. In a study of the heart complications in nearly 1,000 cases of diphtheria treated at the South Department of the Boston City Hospital, it was found that while severe heart complications are relatively infrequent, moderate disturbances of the heart are very common. The large number of children discharged from the hospital with a rather rapid and irregular pulse and cardiac murmur contrasted strongly with the condition of children at the end of other acute infections. The paper was a statistical study of 78 cases of diphtheria with heart complications after discharge from the hospital. Sixty-five cases to all appearances became entirely well. Especial care was urged in examining the hearts of children, because in health the physical signs vary with the age of the child and because in heart disease the signs are not the same as in adults. An important physical sign present was cardiac enlargement accompanied by a systolic murmur at the mitral area and an accentuated pulmonic second sound. Histories were given of a number of cases of the average type, also of the severe type.

The following were the conclusions: (1) The cardiac disturbance after diphtheria usually presents the picture of a mitral insufficiency with regular heart action and few symptoms. Occasionally cases have rapid pulse or cardiac irregularity without any other signs. (2) Moderate disturbance of the heart is very common after diphtheria, and in a large number of cases persists for from two to six months after the original illness. (3) In many cases the cardiac lesion does not clear up in the first half year; some ultimately recover; others probably do not. The duration of the heart trouble is usually in proportion to the severity of the original illness. (4) The fact that children often have few heart symptoms after diphtheria must not mislead us as to the importance of injury to the heart. (5) Cardiac disturbance of long duration following diphtheria may be entirely recovered from. (6) The treatment of the condition consists in a sufficient period of rest in bed and then in watching the effects of mild exercise upon the heart for several months and grading it to meet the individual requirements.

Dr. G. R. Campbell of Augusta strongly endorsed the value of rest after diphtheria as a preventive treatment of the after effects of the disease upon the heart. He thought many physicians were apt to feel that their cases of diphtheria were entirely well as soon as the throat was cleared and the patient able to sit up. He felt that the action of the heart after moderate exercise should be the warning note that the heart muscle had not resumed its normal tone.

Dr. H. M. McClanahan of Omaha referred to the feeling among the laity, and entertained, perhaps, by some members of the medical profession, that antitoxin in the treatment of diphtheria was injurious to the heart. He attaches much importance to the time of its administration. He agreed that the child should be kept in bed until the pulse has resumed its normal rate.

Dr. Butler of Chicago thought the time of the administration of the antitoxin in relation to the onset of the diphtheria was of much importance. The cases receiving the treatment within the first forty-eight hours, he thought seldom showed deleterious after-effects upon the heart. He thought Dr. White had somewhat overrated the value of the systolic murmur as indicative of mitral insufficiency, and thought that in almost any of the acute infections there might be systolic murmurs without organic lesion. The irregularity both in quality and rhythm he thought the most important points with reference to the deleterious effects of the diphtheria toxins upon the heart.

Dr. Fairbanks thought that without doubt the cases of heart lesion following diphtheria have seemed to increase since the use of antitoxin. The chief factor in this he thought was that the majority of patients with very severe diphtheria now recovered while formerly the majority died during the diphtheria. He thought Dr. Campbell's warning against allowing the children to get up too soon was of much importance, and that the fault was not with the parents alone, but with the family physician. On account of the quarantine rules, some of the children are kept in a room for a good many days, which results fortunately for the child. During the acute stage he does not think that the occurrence of systole can be interpreted as an indication of mitral insufficiency. Later on it is an index of insufficiency, although that insufficiency may be only a relative one. He thought that in this country the Schott treatment of heart disease was not sufficiently practised.

Dr. Wahrer said that the apparent increase of heart lesions since the introduction of antitoxin was similar to the seeming increased frequency of operations. The explanation lay in the fact that to-day surgery is saving the very people who were formerly allowed to perish.

Dr. H. E. Garrison referred to the diet in diphtheria and cited a case in which death had occurred from indiscretion in eating.

Dr. Lindsay emphasized the remarks in regard to the necessity of careful diet until after the subsidence of the disease and thought physicians should aim to be specialists in giving directions for the care of the sick as well as specialists in other departments of medical science. Not only should a child be kept physically quiet but also free from nervous excitement.

Dr. William J. Butler of Chicago thought the presence

of a systolic murmur following diphtheria could not be accepted as evidence of cardiac disease unless there was a very marked dilatation, especially of the left ventricle.

Dr. John Lovett Morse thought that the statement of Dr. White, in his paper, that functional murmurs of the heart in childhood were rare, was absolutely a misstatement; and that, on the contrary, they were very common. He thought the work of Dr. White important, because it had been carefully done by competent men.

**The Management of Children with Typhoid Fever.**—Dr. W. C. Hollopeter of Philadelphia thought the early diagnosis of typhoid fever was not an easy matter, because the disease is frequently ushered in under the disguise of some other acute disorder. He gave a brief outline of the methods of treatment which he had found most satisfactory. The Widal and Diazo reaction he considered of little value prior to the beginning of the second week. Any treatment that would lessen the toxemia and shorten the leakage in the general circulation he regarded as a step toward a specific treatment. The two essential elements to successful treatment were to reduce the toxemia and supply food and fluid. The first step toward this end was quietude in a large, well ventilated room with the administration of calomel, and a daily colon irrigation. He placed the emphasis of the whole treatment upon the manipulation of the colon washing, which is carried out daily unless there is grave contraindication. The temperature of the irrigation is governed by the temperature of the body. He frequently substitutes bicarbonate of sodium for the chloride or adds tincture of asafetida or some aromatic infusion if tympanites and pain are troublesome.

Dr. John C. Cook of Chicago accentuated the value of water in treatment.

Dr. Lindsay used the ice-bag to advantage in typhoid fever with the application for three to five minutes of warm fomentations immediately following.

Dr. A. C. Cotton thought there was too great a tendency to trust the details of colon irrigation to the nurse, and too often the rectal tube would be introduced with the child lying on its back, in which position there was danger of traumatism to the posterior wall of the rectum.

Dr. Morse urged care in the formation of a too favorable opinion of the results of the treatment of water internally. Since the vasomotor system is relaxed and all the blood vessels, care must be exercised about further dilating the vessels. Personally he did not keep patients with typhoid fever on so restricted a diet as is usually done, and did not believe that a diet entirely of milk was the best one. Diluted cream gives a greater calorie value th n milk and without much residue.

Dr. Hollopeter in closing said, with reference to possible injury to the bowel in colon irrigation, that he never allowed the tube to be inserted beyond the sphincter until the water was turned on. This gave a water cushion to dilate the bowel slowly and the tube following was not liable to cause injury.

**Report of a Case of Imperforate Rectum with Absence of the Anus.**—Dr. Edward H. Small of Pittsburg reported the case, which was that of a male born under his care. The raphe ran from the base of the scrotum to the tip of the coccyx. There was phimosis and the base of the penis was turned toward the scrotum. When the boy was thirty hours old he was held in the exaggerated lithotomy position and without the use of anesthesia a trocar one-fifth of an inch in diameter and two and one-half inches long was thrust, by Dr. J. A. Hawkins, into the perineum where the anus should have been, and in the direction where the rectum should have been, into the hollow of the sacrum. When the trocar was about all introduced lack of resistance was noticed, the stylet was withdrawn, and meconium came out through the cannula. The opening was further enlarged, and the rectum could be felt at the bottom of the wound. The bowel was not sutured to the external wound owing to its firm attachment. A rubber catheter was inserted and secured. In five hours the baby was resting quietly and the subsequent course was favorable. At twenty months old the mother reports that the bowel movements are the same as those of other children of the same age. The anus is somewhat funnel shaped, the sphincter is in good working order, but is about one-half inch higher than normal. The dilators are used once a month but cause no pain. The author stated that the case belongs to the third species of Bodenhammer's classification of the Congenital Malformations of the Rectum and Anus.

**Officers.**—The following officers of the Section were elected: *Chairman*, Dr. W. C. Hollopeter of Philadelphia; *Secretary*, Dr. William J. Butler of Chicago; *Member of the House of Delegates*, Dr. C. F. Wahrer of Fort Madison.

Dr. J. Ross Snyder offered the following resolution, which was seconded and carried: "Resolved by the Section on the Diseases of Children of the American Medical Association that the Chairman appoint a committee of three to ascertain the average number of hours and the relative importance given to the subject of pediatrics in the medical schools of the country; to investigate the various methods and the efficiency of the instruction in this subject; and that this committee shall make a report to this body at its next annual meeting."

The Chair announced that he would make the appointments later. The section then adjourned.

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**A Case of Vision Acquired in Adult Life.**—James Burt Miner has had the opportunity of studying a case of complete congenital cataracts in which vision was not acquired until adult life. The patient in question was blind from birth. She was operated on when she was twenty-two years of age. The results of the observations which have been made on this patient up to the present time are presented by the author as follows: While hearing and touch show great keenness in some respects, there seem to be no records that cannot be explained on the basis of greater interest and training, and without supposing a compensatory change in the capacity of these sense organs. Color vision is so far above normal as to contradict any supposition that twenty-two years of disuse would cause degeneracy. On the contrary, the color process deteriorates with either use or the removal of the lens and unusual interest produces a remarkable ability to discriminate colors. A very surprising fact is that the patient sees black objects larger than white objects of the same size. This reversal of irradiation indicates that a central process may readily outweigh the retinal process. The absence of retinal rivalry suggests that this process is developed by education; and the tendency to regard a single object as double indicates that this is the nature of the first visual experience with two eyes. Contrary to a prevalent opinion, single binocular vision may be acquired, at least temporarily, by an adult born blind. In regard to the experiments to determine the patient's conceptions of form, solidity, distance, and number, it was noted that number and space perceptions were apparently dependent upon movement. The writer believes that on account of the irresistible impulse to move and to touch, it may be doubted whether a blind person who acquires vision is a suitable subject to decide whether visual images have spatial meaning apart from movement. An unexpected spread of training, especially in memorizing the visual impressions of printed letters and sentences, suggests a caution as to the amount of training which an intelligent adult may transfer from one field to another. The preliminary tests which the writer has been able to carry out indicate that there are only slight differences between auditory touch and visual memory of a series of letters or of sentences.—*The Psychological Review.*

**A Rapid Staining Method for Microscopic Sections.**—Wederhake recommends the following process for use in making diagnoses from frozen sections. After the frozen section has been made in the usual manner, it is placed directly in a freshly prepared diluted iodine solution consisting of two to five drops of the tincture of iodine in 20 c.c. of water. It is allowed to remain in this one to five minutes, and then, without washing, it is carried into the staining fluid. The stock solution for this is a saturated solution in 70 per cent. alcohol of crocein-scarlet, and for ordinary sections 20 c.c. of this are added to 100 c.c. of water. The section is kept in this stain for from one-half to three minutes, and is then mounted in glycerine. Fixed sections and urinary sediments can be stained in the same way.—*Zentralblatt f. Gynäkologie.*

## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

PSYCHIATRY. A TEXT-BOOK FOR STUDENTS AND PHYSICIANS. By STEWART PATON, M.D. 8vo, 618 pages, illustrated, muslin. J. B. Lippincott Company, Philadelphia. Price, $4.00.

TREATISE ON ORTHOPEDIC SURGERY. By EDWARD H. BRADFORD, M.D., and ROBERT W. LOVETT, M.D. Third Edition. 8vo, 669 pages, illustrated, muslin. William Wood & Company, New York. Price, $5.00 net.

THE SURGICAL ASSISTANT. A MANUAL FOR STUDENTS, PRACTITIONERS, HOSPITAL INTERNES, AND NURSES. By WALTER M. BRICKNER, B.S., M.D. 8vo, 363 pages, illustrated, muslin. International Journal of Surgery Co., New York. Price, $2.00 net.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY, SIXTEENTH SESSION. Held at Detroit, Mich., May 30, 31, and June 1, 1904. Edited by Linnaeus Edford La Fetra, M.D. Vol. XVI. 8vo, 296 pages, illustrated, muslin.

FOURTH ANNUAL REPORT OF THE METROPOLITAN WATER AND SEWER BOARD. January 1, 1905. 8vo, 277 pages, illustrated, muslin.

A MANUAL OF ACUTE POISONING WITH METHODS FOR USE IN FIRST AID TO THE INJURED. By JOHN W. WAINWRIGHT, M.D. 16mo, 96 pages, muslin, flexible. E. R. Pelton, New York. Price, $0.75 net.

FIRST AID IN ILLNESS AND INJURY. By JAMES EVELYN PILCHER, M.D., L.H.D. Ninth Edition. 16mo, 356 pages, illustrated, leather. Charles Scribner's Sons, New York.

DIETETICS FOR NURSES. By JULIUS FRIEDENWALD, M.D., and JOHN RUHRÄH, M.D. 8vo, 363 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price, $1.50 net.

THE TREATMENT OF FRACTURES, WITH NOTES UPON A FEW COMMON DISLOCATIONS. By CHARLES LOCKE SCUDDER, M.D. Fifth Edition. 8vo, 563 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price, $5.00 net.

HUMAN PHYSIOLOGY. By JOSEPH HOWARD RAYMOND, A.M., M.D. Third Edition. 8vo, 687 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price, $3.50 net.

DISEASES OF THE KIDNEYS AND OF THE SPLEEN, AND HEMORRHAGIC DISEASES. By DR. H. SENATOR and DR. M. LITTEN. Edited by James B. Herrick, M.D. Authorized translation from the German. 8vo, 815 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price, $5.00 net.

HAND-BOOK OF ANATOMY; BEING A COMPLETE COMPEND OF ANATOMY, INCLUDING THE ANATOMY OF THE VISCERA AND NUMEROUS TABLES. By JAMES K. YOUNG, M.D. Second Edition. 8vo, 402 pages, illustrated, flexible muslin. F. A. Davis Company, Philadelphia. Price, $1.50 net.

THE PHARMACOPŒIA OF THE UNITED STATES OF AMERICA. Eighth Decennial Revision. 8vo, 692 pages, muslin. P. Blakiston's Son & Co., Philadelphia.

REPORT OF THE COMMISSIONER OF EDUCATION FOR THE YEAR 1903. Vol. 2. 8vo, 1217-2511 pages, muslin.

LES CARDIOPATHIES ARTÉRIELLES ET LA CURE D'EVIAN. Par Le Dr. P. BERGOUIGNAN. 8vo, 159 pages, paper. Georges Steinheil, Paris, France.

LA CHIRURGIE ENSEIGNÉE PAR LA STEREOSCOPIE—GUIDE DES OPERATIONS COURANTES. I. CURE RADICALE DE LA HERNIE INGUINALE. 12mo, 28 pages, illustrated. J. B. Baillière et Fils, Paris, France.

BEITRÄGE ZUR KLINIK DER TUBERKULOSE. Herausgegeben von DR. LUDOLPH BRAUER. Band 14. Heft 1. By various authors. 8vo, 112 pages. A. Stuber, Wurzburg, Germany.

A SYLLABUS OF MATERIA MEDICA. Compiled by WARREN COLEMAN, M.D. Second Edition. 32mo, 189 pages, muslin. Wm. Wood & Company, New York. Price, $1.00 net.

OPHTHALMIC NEURO-MYOLOGY. By G. C. SAVAGE, M.D. 8vo, 221 pages, illustrated, muslin. Published by the Author, Nashville, Tenn.

GYNÄKOLOGISCHE DIAGNOSTIK. IN ZWANGLOSEN VORTRAGEN FÜR STUDIERENDE UND ARZTE. Von Dr. MAX HENKEL. 8vo, 256 pages, illustrated. S. Karger, Berlin, Germany.

DIE PALPABLEN GEBILDE DES NORMALEN MENSCHLICHEN KORPERS UND DEREN METHODISCHE PALPATION. Von Dr. TOBY COHN. 1. Teil: Obere Extremitat. 8vo, 216 pages, illustrated. S. Karger, Berlin, Germany.

## Medical Items.

**Contagious Diseases—Weekly Statement.**— Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending July 29, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 274 | 13 |
| Diphtheria and Croup | 166 | 13 |
| Scarlet Fever | 54 | 4 |
| Smallpox | ..... | ..... |
| Chickenpox | 14 | ..... |
| Tuberculosis | 342 | 141 |
| Typhoid Fever | 141 | 18 |
| Cerebrospinal Meningitis | 21 | 10 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | ..... |
| Totals | 1,012 | 199 |

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, Public Health and Marine Hospital Service, during the week ending July 29, 1905:

SMALLPOX—UNITED STATES.

| | | CASES. | DEATHS. |
|---|---|---|---|
| California, Los Angeles | July 8–15 | 4 | .. |
| Dist. of Columbia, Washington | July 15–22 | 1 | .. |
| Illinois, Chicago | July 15–22 | 11 | 1 |
| Indiana, South Bend | July 15–22 | 1 | .. |
| Michigan, Grand Rapids | July 15 22 | 5 | 1 |
| Missouri, St. Joseph | July 8 15 | 4 | .. |
| New York, Rome | July 15 22 | 1 | .. |
| Ohio, Cincinnati | May 10 June 2–June 8–23 | 6 | .. |
| Pennsylvania, York | July 15 22 | 11 | .. |
| Wisconsin, Appleton | July 15 22 | 1 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Africa, Cape Colony | | .. | .. |
| Cape Town | June 18 14 | 3 | .. |
| Brazil, Rio de Janeiro | June 11 July 2 | 32 | 21 |
| Chile, At Ports | June 14 | Present. | |
| France, Lyon | July 2– 9 | 1 | .. |
| Paris | July 1– 8 | 10 | 1 |
| Great Britain, Birmingham | July 1– 8 | 1 | .. |
| Bristol | July 8–15 | 1 | .. |
| Cardiff | July 8–15 | 3 | .. |
| Newcastle-on-Tyne | July 1– 8 | 5 | .. |
| Greece, Athens | June 24–July 1 | . | 1 |
| India, Bombay | June 13–27 | .. | 10 |
| Calcutta | June 10–17 | .. | 2 |
| Karachi | June 11–25 | 3 | 1 |
| Madras | June 10–23 | .. | 5 |
| Italy, General | June 29–July 6 | 8 | .. |
| Catania | June 20–July 6 | .. | 3 |
| Messina | June 25–July 2 | 1 | .. |
| Palermo | July 1– 8 | 1 | .. |
| Mexico, City of Mexico | June 24–July 15 | 20 | 10 |
| Canada, New Brunswick, St. John | July 14 | 1 | (Imported.) |
| Panama, Bocas del Toro | July 1– 7 | 1 | .. |
| Russia, Moscow | June 17–July 1 | 0 | 6 |
| Odessa | June 15 July 8 | 10 | 1 |
| St. Petersburg | June 24–July 1 | 13 | 2 |
| Spain, Barcelona | June 1–10 | .. | 2 |
| Turkey, Constantinople | June 18–25 | .. | 4 |
| Venezuela, Maracaibo | June 6 July 2 | 4 | 4 |
| West Indies, Grenada | June 15–29 | 5 | .. |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Florida, Tampa | July 28 | 1 | .. |
| Louisiana, New Orleans | July 21 26 | 73 | 22 |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | June 11 July 2 | 84 | 42 |
| British Honduras, Belize | July 6–13 | 1 | .. |
| Honduras, Choloma | July 7 | Present. | |
| Puerto Cortez | July 1–17 | 20 | 4 |
| San Pedro | July 15 | 200 | 15 |
| Mexico, Coatzacoalcos | July 9–15 | 2 | .. |
| Tierra Blanca | July 9–15 | 3 | 1 |
| Vera Cruz | July 9–15 | 1 | .. |
| | July 23 25 | 4 | .. |
| Panama, Colon | July 2–11 | 5 | 1 |

CHOLERA.

| | | | |
|---|---|---|---|
| India, Bombay | June 13 20 | 3 | .. |
| Calcutta | June 10–17 | . | 8 |
| Madras | June 17 23 | .. | 1 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Africa, Cape Colony | | .. | .. |
| East London | June 3 24 | 6 | 3 |
| King William's Town | June 17 24 | 1 | .. |
| Brazil, Rio de Janeiro | June 18–July 2 | 6 | 2 |
| China, Hongkong | May 13–20 | 20 | 19 |
| Egypt, General | June 10–24 | 25 | 16 |
| India, Bombay | June 4 27 | .. | 221 |
| Calcutta | June 10 17 | .. | 37 |
| Karachi | June 11–25 | .. | 85 |
| Madras | June 10–16 | .. | 1 |
| Japan, Formosa | May 1 31 | 734 | 622 |
| | June 1–20 | 213 | 134 |
| Peru, Callao | June 1–10 | 1 | .. |
| Cerro de Pasco | June 1–10 | 1 | 1 |
| Lima | June 1–10 | 6 | 2 |
| Mollendo | June 1–10 | 1 | 2 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 7.
Whole No. 1814.

NEW YORK, AUGUST 12, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### A NEW METHOD OF ORCHIDOPEXY.*

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RETENTION of the testicle is a very frequent condition, and deserves much greater attention than it generally receives; its dangers, such as fatty or fibromatous degeneration, as well as its tendency to inflammation, intumescence, and strangulation, being considerably underrated. Its great tendency to malignancy is illustrated by the cases of Kocher, Fischer, Johnson, Spencer Wells, Maydl, von Kahlden, Butjaegin, and Eigenbrodt; and in connection

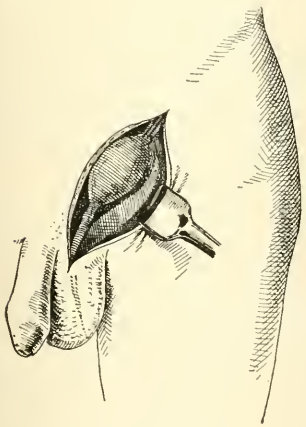

Fig. 1. Formation of flap.

with a case of hermaphroditism I have called attention. As a rule, no operative interference is requested, the frequency of malignancy under these conditions. Fischer bases his views on forty and Kocher on sixteen cases of the inguinal type of retention.

The patients are generally of a nervous disposition. As a rule, no operative interference is requested, because of the widespread and erroneous opinion that the displaced testes will descend at the age of puberty. I will not deny that this may sometimes occur, but I have never observed it myself, nor have any of my surgical friends on whose experience I have called. It seems to me to be unwise, therefore, to defer surgical interference until puberty—that is, until after the testis has become more and more atrophied, and I advise it after the third year, unless there is some strong contraindication.

*Demonstrated before the Surgical Section of the Academy of Medicine, April 21, 1905.

It was Schueller who first advised orchidopexy. His *modus operandi* consisted in first dividing the vaginal process and fixing the undescended testicle in the scrotum by suture. His example was soon

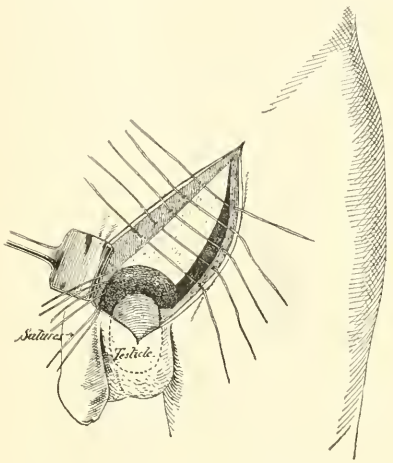


Fig. 2. Testicle held down by inserting flap.

followed by Kocher, Nicoladoni, Tillmanns, and others. In a number of cases the patients improved,

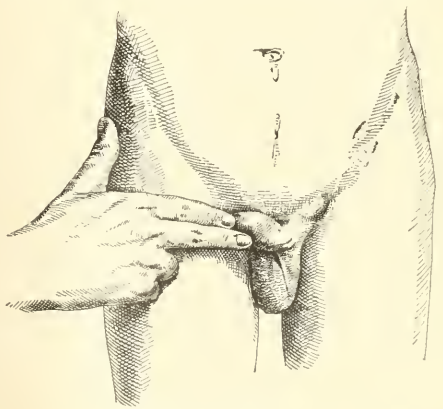

Fig. 3. Scrotum containing the right testicle; the undescended testicle in the left inguinal region.

but in most of them the testis was drawn back again towards its former habitat.

Bevan deserved great credit for calling attention to the main cause of the failures—the insufficient

liberation of the cord from the surrounding tissues. No doubt his ingenious method permits of the most thorough reduction of the testis, avoiding tension at the same time; but this is effected at the expense of the blood-vessels to such an extent that the further nutrition of the testicle is seriously threatened.

The method which I have employed does not interfere with the vessels, and retains the reduced testicle nevertheless. The *modus operandi* is the following: The incision is similar to that of Bassini for the operation for inguinal hernia. It extends from the external ring for more than three inches downward alongside the normal direction of the cord, and divides the aponeurosis of the external oblique, the cremasteric fascia, and the thin transversalis fascia. After the pouch of the testicle is opened, the testicle is lifted from its bed and pulled down, while all the tense bands of connective tissue, as well as the peritoneal adhesions which prevent its mobility, are carefully and thoroughly divided. The testicle being thus well mobilized, a pocket is formed in the scrotum, into which it is pulled down. In order to secure it there, a flap is dissected from the outer margin of the inguinal ring downwards (Fig. 1) and turned in such a manner that it can be

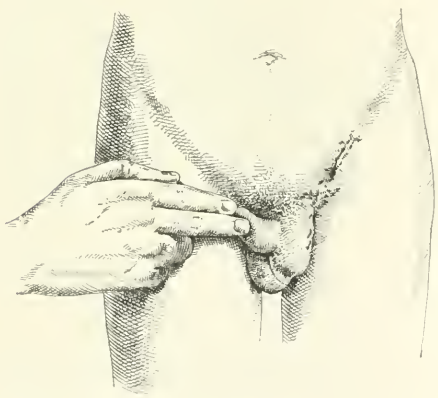

Fig. 4. Left testicle held in scrotum; two weeks after the necktie operation.

attached to the opposite layer in a semilunar shape (Fig. 2). Thus this band surrounds the testicle like a necktie, the testicle being retained as in a buttonhole. The length of the semilunar flap will be determined by the greater or less extensibility of the cord. The aponeurosis is then united above.

It is evident that the defect caused by the displacement of the flap narrows the canal, which is a decided advantage if there happens to be any tendency to hernia.

The patient whom I present to you is a youth of eighteen years, who, as Fig. 3 shows, suffered from the inguinal type of retention of the testis. The "necktie operation" was done without difficulty, and, as can be readily seen, the testis remains at the fundus of the scrotum (Fig. 4). Recovery was uninterrupted.

If the tension on the cord is considerable, as is usually the case, the "necktie" may be attached a little further above. It seems to me of little importance whether the testis finds lodgment further up or down in the scrotal cavity, so long as it actually is placed within the scrotum.

## ASCENDING CURRENTS IN MUCUOUS CANALS AND GLAND DUCTS, AND THEIR INFLUENCE ON INFECTION: A STUDY IN SURGICAL PATHOLOGY.*

By C. J. BOND, F.R.C.S.,
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I PROPOSE, in using the opportunity now afforded me, to depart somewhat from the usual custom, and instead of adopting a retrospect of recent surgical triumphs, and of advances in surgical technique, I would rather try to throw the searchlight of inquiry in the other direction, and indicate some of the ways in which these very surgical triumphs may themselves throw light upon physiological and pathological problems, and in this way enable surgery in some slight degree to repay something of the debt she owes to these two foundations of her existence.

Thus, to come closely to the matter of my remarks to-day: Consider for a moment the very frequent, nay, the daily establishment of intestinal fistula for surgical purposes.

The operations of colotomy, cholecystotomy, nephrotomy, cystotomy, with the resulting fistulous opening into the bowel, gall-bladder, kidney, and urinary bladder, should enable us, if rightly studied, to observe something of what goes on in the hollow viscera, the biliary canals, and the urinary tract, when the fecal stream or the biliary or urinary flow is wholly or partially diverted from its normal course.

We will consider the fistulous opening in the bowel, established by the operation of colotomy, first. I have in several of these cases tried to ascertain what occurs in the bowel below the colotomy opening by means of the introduction of some insoluble, innocuous pigment, such as hollow suppositories containing a few grains of sterilized indigo or carmine.

From these cases we learn:

First, that in the large intestine, in cases in which the fecal stream has been diverted by previous colotomy, there is an upward current capable of carrying foreign particles, such as powdered indigo, along the bowel, and taking about twenty-four hours to pass from the anus through the sigmoid flexure to the colotomy opening. The shortest time recorded has been twelve hours.

Secondly, that this current is not arrested by the presence of a stricture in the rectum, provided that there is, of course, some patency of channel left.

Thirdly, that it is not essential for this upward current that the fecal current should be wholly diverted or absent, or that the bowel should be prevented from undergoing brisk downward peristalsis, the effect of an aperient.

Fourthly, that this ascending current takes about three days to pass from the anus along the whole length of the large intestine to the cecum.

In offering any explanation as to the means by which this upward carriage of pigment particles is brought about, we must remember that

(1) In the case of the indigo, at any rate, the particles are insoluble in the intestinal juices. Indigo, administered by the mouth, is recovered, unchanged, as far as microscopic appearance goes, from the feces, so that the material is conveyed in particulate masses, probably by a mucous stream, and not by the agency of phagocytes or wandering cells.

*Abstract of the Address in Surgery delivered at the seventy-third annual meeting of the British Medical Association. From advance proofs by courtesy of the editor of the *British Medical Journal*.

(2) The current is absent in the dead bowel, and it not due to capillary flow in a closed tube. If, for instance, indigo is inserted into the lower end of a portion of sheep's colon, removed after death, no ascent of the powder occurs in the tube.

(3) Even in healthy animals, in the absence of any fistulous opening there is some upward flow, though slight, along the bowel. Indigo, inserted into the rectum of a guinea-pig, may be found forty-eight hours later in the feces higher up in the colon.

(4) The current is quickened by any influence, such as the administration of an aperient, which acts by increasing peristalsis, or, very possibly, by increasing the secretion of mucus.

In fact, a consideration of the facts strongly suggests the explanation that the particles of indigo, etc., are carried up the bowel by a mucous current, and that, while there is a central downward current of solid or semisolid feces, caused by peristaltic contraction, there is going on at the same time, intermittently, or possibly alternating with the downward peristalsis, an upward peripheral mucous stream, covering and hugging the intestinal mucous membrane, and capable of conveying minute particles only along with it.

Some sort of upward intestinal current has been suspected in the large bowel, and hypothetically spoken of as due to reversal of the peristaltic wave. This is an unlikely explanation from the facts mentioned above—that it is present while the downward peristalsis is going on at its normal rate, and also when the bowel is quite empty of any feces at all.

I venture to think that these facts have a not unimportant bearing on the physiology of the large intestine. By means of such an upward stream the nutritious fluids and particles, which are being absorbed out of, or squeezed out of, the gradually solidifying and hardening feces, as they traverse the colon, are carried gently upwards into the emptying upper reaches of the bowel and are presented to the free mucous membrane for readier absorption. They, too, have a direct bearing on therapeutics and on the administration of enemata, both nutritive and purgative.

We now pass to the consideration of the female generative canal. Here surgical operations on the Fallopian tubes have afforded opportunities for careful observation.

In a considerable number of cases during the last two years, in which it appeared likely that operation would become necessary on the appendages, after the preliminary douche a little colored pigment—in most cases purified and sterilized indigo, in a few carmine—has been either placed upon, or inserted just within, the os uteri at varying periods up to twenty hours before operation. Careful microscopical examination of the contents of the Fallopian tubes in these cases has nearly always shown the presence of indigo or carmine particles, while in several cases the pigment has been found on the peritoneal surfaces of the broad ligament, mesosalpinx, and the fimbriæ of the Fallopian tubes. This shows that the particles are carried from the os uteri below, right through the uterus and the Fallopian tubes, to the peritoneal sac around the ovary above.

In the case of these pigment particles, automobility (such as the spermatozoa possess) is of course out of the question, and we must fall back on ciliary action, or an ascending mucous stream along the contiguous walls of the mucous canal.

Thus in these twenty-two cases, in which careful examination was made of the contents of the Fallopian tubes and peritoneum for the presence of indigo introduced into the os uteri at periods up to within twenty hours before operation, there were only four in which the pigment was found.

Of these four cases, one was a case of double hydrosalpinx, in which any connection with the uterine cavity was difficult or obliterated. In one the indigo had been inserted only sixteen hours before operation. In two cases the indigo was inserted on the first day of the establishment of the menstrual flow, and probably failed to enter the uterus.

On the other hand, positive results were obtained in three cases of double pyosalpinx. In one case of uterine fibroid and in two cases of tubal pregnancy, in which rupture or tubal abortion had occurred. Indigo was also found in two cases of chronic appendage disease, in which the indigo was inserted on the last day of the menstrual period, and in two cases of hysterectomy, which are of special interest. In one the patient was seventy, and therefore the uterus was senile. In the other the uterus was removed some months after the artificial menopause produced by oöphorectomy twelve months before. These two cases clearly show that this upward mucous stream is not dependent on the functional activity of the uterus, since it occurs in the senile and postclimacteric organ, as well as in the actively functional state. In two cases of large ovarian cysts pigment granules were found on the peritoneum, and in the contents of the tube dilated and stretched over the cyst wall. In a case of suppurating ovarian cyst with pyosalpinx indigo was found in the pus in the tube. It was also found in three case of chronic inflammatory disease of the appendages, probably gonorrheal in origin. In one case of large pyosalpinx the ovarian abscess on one side, and hemosalpinx on the other, operation became necessary while the temperature was 104°, and twenty-eight hours before the operation pus began to escape from the uterus. Indigo was found in the bloody contents of the left tube, but not in the pus of the right tube, or in that of the ovarian abscess. No doubt the particles were washed away from the uterine opening of the right tube by the flow of matter from the opening.

I desire also to draw attention to the presence of the indigo within the pus cells in one of the two cases of pyosalpinx. The granules were actually ingested by the cells, and lay scattered as blue pigment grains in their interior. In fact, we had succeeded in feeding the pus cells with indigo, and had produced an intravitam staining.

Two explanations are possible: Either the material had entered the blood or lymph stream, and had been ingested by leucocytes or phagocytes, which had then migrated into the abscess, or the pus cells had ingested the granules *in situ* in the abscess after the pigment had been carried thither up the Fallopian tube. This will, I believe, prove to be the true explanation, and also carries with it the interesting fact that pus cells, as such, after their entry into an abscess are capable of ingesting foreign particles into their interior.

In the other three cases of double pyosalpinx examined, indigo was found in the pus in the tubes, but not in the cells. Now, in these cases there was no manifest discharge of matter from the uterus, though the presence of indigo in the tubes proves that the communication between the tubes and the uterus was still patent. In fact, I believe that this is the case in most, if not all, cases of pyosalpinx. Blocking, temporary and intermittent, no doubt occurs of the lumen of the tube on the uterine side, but bearing in mind how difficult it is, even by operation, to obliterate the channel by any means, short of excision, I think it very probable that some communication exists in most of these cases of secondary in-

fection of tubes with purulent contents, and that an occasional slight escape of pus occurs, with corresponding relief of intratubal tension.

In fact, the whole subject of tubal regurgitation of uterine contents is very interesting. We know from the artificial production of hydrometra and hydrosalpinx in animals, under aseptic conditions, that regurgitation of the hydrometric fluid from the distended uterus is much prevented by the sudden deviation of the direction which the tube takes in passing through the uterine muscular wall. At the same time, no opposition is encountered by the mobile spermatozoa in their upward passage. And we also now know, from the observations I have just described, that foreign particles of a suitable size, if introduced into the vagina, are habitually carried up the whole length of the genital canal in women. It is not absolutely necessary that the indigo should be inserted into the cervix, for, if deposited in the upper vaginal vault, it is still found occasionally in the tubes at the operation.

The question of the size of the particles is an important one. Particles up to the size of lycopodium grains are carried up, but this seems to be about the limit, as I have found lycopodium (a very few grains) in one case only.

This same upward current exists also in animals, for I have repeatedly found indigo particles in the Fallopian tubes of rabbits after insertion of the powder in the vagina.

I wish also to record an observation at this point on the question of mucous currents in the oviduct of birds. After dusting indigo on the cloacal opening, or after insertion of the powder within the cloaca of fowls, the pigment was found, not only upon, but also sparingly incorporated in, the egg-shell, and I have seen it in the Vitelline membrane, thus showing that it had passed up the oviduct. Further observations are necessary to ascertain whether this occurs only at certain periods or throughout the egg-laying period.

I feel sure, however, from repeated observations during intra-abdominal inspection of the fimbriated ends of the Fallopian tubes during the menstrual period, that regurgitation of menstrual blood and mucus occasionally occurs from the abdominal ostium of the tubes; moreover, blood is sometimes found free in the pelvic cavity without symptoms, and apart from any question of tubal pregnancy. In fact, I have no doubt that in many cases of dysmenorrhea in young women, the pain is really tubal in origin, and is due to peristalsis of the tube in its effort to overcome this regurgitant wave. The pain, in fact, is due to tubal, not uterine, colic.

Let us for a moment consider one other important fact, depending on the establishment of the presence of this upward, uterotubal, mucous current. Those who are brought in contact with uterine cases know that gonorrheal and puerperal poisons, although the most important, do not exhaust all the sources of tubal and peritoneal infection. The mere exposure of the upper vaginal tract to dirt, to lotions and ointments, to any substance surgically unclean, by whatever means introduced, has in many cases originated the salpingitis and chronic endometritis, and I am not without hope that this picture of constant upward mucous current which I have described may produce a greater sense of responsibility in surgeons and tend, perhaps, to check some of the indiscriminate curetting operations which are so fashionable and which (while the only treatment in some cases) in others only aggravate the troubles they are supposed to cure.

Fortunately the door, though open, is guarded by the watchful peritoneum. Foreign particles and fluids introduced, as it were, guttatim, by the tiny canal of the tube, if not too virulent, are at once incarcerated and rendered innocuous. But it should surely make us all most careful to know that any powdered substance we introduce into the os uteri will probably be found within twenty hours, inside the peritoneal cavity.

I shall say a few words later about the means whereby this current is brought about; meanwhile, we pass to the consideration of the upper intestinal tract and the mucous ducts of the glands opening into it.

The gall-bladder is the viscus, which, owing to its frequent exploration and drainage for surgical purposes, is specially adapted for investigation on these lines.

I have examined the bile in several cases of gall-bladder fistula following the removal of gallstones, systematically and daily, for varying periods, indigo being administered by the mouth in cachets containing about 5 gr. during the same period. The bile collected from the fistula is allowed to deposit a sediment, which is examined microscopically, and, in some cases, centrifugalized.

The indigo thus administered by the mouth makes its appearance in the feces about forty-eight hours later, and colors them a dirty or slaty-blue color, which, on microscopical examination, is found to be due to indigo grains in masses. This shows that most of the indigo passes, unchanged, by gastric, pancreatic, or intestinal digestion, through the alimentary canal.

The positive results in several cases examined suggest the fact that a reflux mucous stream becomes established from the duodenal papilla, along the bile ducts to the gall-bladder, in cases in which a fistulous opening has been made into the gall-bladder, and by means of this current the indigo particles are conveyed.

It will no doubt be urged that the indigo was absorbed in the ordinary way, by blood or lymph stream, from the gastric or intestinal mucous membrane, and was only detected in the bile after excretion by the liver. There are, however, many facts which oppose this explanation.

We have seen that indigo passes, for the most part unchanged, through the alimentary canal, and is not absorbed from the stomach or intestine. It is, of course, known that soluble indigo, in the form of sulphindigotate of soda, and other soluble dyes, such as carmine solutions, administered by the mouth, do color the bile.

I find on examination that indigo, itself a very insoluble substance, is slightly soluble in bile, and can be deposited from such solution on evaporation as minute crystaline needles, and never, as far as my own observation goes, in the shape of large or amorphous particles. Now, the indigo obtained from the fistula in these cases was in the form of fair-sized, irregular masses, sometimes bright blue granules, never crystals. Moreover, it is a suggestive fact that they are found chiefly in the mucus lining the gall-bladder, rather than in the rapidly flowing bile.

Further, in two cases indigo was absent from the contents of the gall-bladder and bile-duct at the time of the operation, although the patient had been taking it previously, while it was found in the bile and mucus regurgitating from the fistula when this was fully established some days later.

In order to throw additional light on this point, I fed a guinea-pig for some days with indigo, and then, after killing the animal, examined the contents of the gall-bladder. No indigo was found in the bile contained in the gall-bladder, nor did any crys-

tallize out on evaporating this to dryness. A scraping was then taken of the mucous membrane lining the gall-bladder, and numerous bright blue indigo granules were found. The bladder itself was then opened out on a slide and cleared, but no indigo was found in the peritoneal or muscular coats. This observation is also important, as in this animal the bile and gall-bladder currents were normal, and unaffected by fistula.

On these and other grounds I have no doubt that the indigo found in the bile in these cases is actually conveyed along the mucous channel of the bile and cystic ducts from the duodenum, and not by way of the blood or lymph stream. No doubt, it is only sparingly present, and considerable examination of quantities of bile and mucus is necessary to find it. But we must remember that the opening of the biliary papilla in the duodenum is only a lateral one—an open window, as it were, past which, and not directly into which, the hurrying duodenal stream of semi-digested food is passing, and it is only such few particles of indigo as adhere and cling round the opening of the duct that will be carried by the mucous current along the duct to the gall-bladder.

It will be suggested that if indigo particles find their way thus, why not particles of food? And, indeed, I think it very probable that such small particles do pass in this manner, from the bowel under the altered conditions of the bile circulation, in fistula of the gall-bladder. I have myself found, in the fistulous bile, along with blood cells, bile pigment, epithelial cells, pus, and other substances—particles which look, under the microscope, suspiciously like cellulose and vegetable fiber.

We must remember that, owing to the surgical operation and the establishment of the gall-bladder fistula, the normal action of this viscus has been suspended, there is no longer any outflowing stream of mucus passing from the gall-bladder along the cystic and common bile ducts into the duodenum. In fact, there are many difficulties in accepting the conventional, bile-reservoir, function of the gall-bladder. And in view of the demonstrated importance of a continuous mucous stream, along the bile and other mucous ducts, in the direction of their flow, I am strongly inclined to think that one important, if not the chief, function of the gall-bladder, is to supply this lubricating stream.

The question of the origin of gallstones also intrudes itself on our notice. Does the demonstrated passage of inorganic particles along the bile ducts from the bowel, under the abnormal conditions of gall-bladder fistula, throw any light on this important question?

I fear at present we are not justified in making any definite statement on this point. Given, however, a temporary cessation of normal bile flow along the ducts, or of a normal mucous flow from the gall-bladder—a condition, in fact, produced pathologically, somewhat resembling the condition present in gall-bladder fistula, produced by surgical operation—we may, I think, say this much: That it is probable that not only may the upward passage of even non-motile infective organisms be possible, but that minute foreign particles may, under these conditions, find their way into the gall-bladder and serve as nuclei for the deposition of biliary concretions.

We know from Naunyn's valuable work on cholelithiasis that pathological changes in the epithelium lining the biliary passages, are more important factors in the causation of gallstones than any alteration of the chemical composition of the bile. Naunyn also showed the influence of stagnation of bile in this matter, and the important rôle played by pyogenic organisms derived from the intestine, especially bacillus coli, in causing the cholangitis, and catarrh of the mucous membrane of the ducts.

We know from the observations I have described that the temporary diversion, or reversal of the direction of the bile current bought about by gall-bladder fistula favors the entrance of minute particles from the duodenum into the bile ducts. Does it not, therefore, appear likely that the temporary stagnation of bile flow, probably associated with cholelithiasis, and present in certain pathological conditions of the liver and duodenum, may really operate by bringing about a like entrance of microorganisms along the common duct, with, possibly, minute foreign particles also, which may serve as condensation nuclei. Is it not probable that many cases of so-called catarrhal jaundice are thus explained?

We now pass to the consideration of the urinary tract, from the kidney to the bladder, and from the bladder to the surface, by way of the male and female urethra.

We will consider the ureters first. Reverse infection of the pelvis of the kidney so frequently occurs from interference with bladder function by septic instrumentation, that the ureter is universally regarded as the usual channel of infection, and not the blood-stream. When we come, however, to consider the manner of this ureteral infection, the successive steps are not so clearly known.

In extreme cases of marked obstruction to the outflow of urine from the bladder, in which backward pressure of urine leads to dilatation of the ureters, and in which the interior of the bladder has become infected, by instrumentation or otherwise, it is, of course, quite possible that the open waterway, by arrest or reversal of current, may explain the upward carriage of infective organisms. At present I have not had an opportunity of testing the transference of indigo to the pelvis of the kidney in these cases. The more important point, however, was, if possible, to determine whether, supposing that from any cause (such as the establishment of a renal fistula) the normal downward current of secretion from the kidney to have been arrested—whether under these circumstances and regurgitation of mucous stream occurs in the normal, or at all events undilated and competent, ureter.

The following case of lumbar nephrectomy for cystic destruction of the kidney by calculus impacted in the lower end of the ureter has an important bearing on this point: The calculus was detected by a probe in the ureter at the time of the nephrectomy, but the condition of the patient was such that it was thought wiser to bring the open end of the ureter to the skin surface in the loin, and remove the calculus at a later date through a vaginal incision. This was done one week later, and a good recovery ensued. After the operation of nephrectomy the bladder was irrigated daily, and two drachms of an iodoform emulsion, containig sterilized indigo, allowed to remain in the bladder. The fistulous opening of the ureter on the loin was lightly plugged with a little white sterile gauze. This and the mucopus from the ureter were examined daily, and on three occasions numerous indigo particles were found, showing that here, at all events, a reverse mucous current had passed up the ureter in the absence of any urine.

The position then at present is probably this: Given an arrest, from any cause, of the normal downward current of urine along the ureter, it is possible that a backward mucous current may occur, carrying with it any infective organisms or foreign particles, such as pus, or blood cells, or débris, which may be present in the bladder.

What we do not at present know is whether this regurgitation occurs in those cases of kidney infection in which there is no direct evidence of arrested secretion. We are not at liberty to assume, however, that even in such cases temporary arrest does not occur. It is, indeed, known that the flow of urine from the ureteral orifices is intermittent under normal circumstances; it is possible that this intermittency may be increased to the point of temporary arrest under pathological conditions.

We still have to consider the question of the entrance of infection into the bladder from outside; the conditions, in fact, of the mucous currents in the urethra.

I will first consider the male urethra. The conveyance of infection from the exterior, in the absence of any outside interference, with a normal flow of urine along a healthy urethra is, of course, practically unknown. But, as in the case of the gall-bladder, the frequent performance of suprapubic cystotomy for surgical purposes, in the urinary bladder, affords opportunities of investigating what goes on in the urethral mucous canal.

I have investigated two cases of suprapubic cystotomy in which the bladder was drained by Sprengel's pump after prostatectomy. In both cases indigo placed within the urethra appeared in small amount in the bladder. Now, since all source of accidental contamination from outside was avoided by a dressing over the suprapubic opening, the indigo can only have gained access to the interior of the bladder by traversing the urethral canal. In both these cases no instrument had been passed, and the urethra was uninjured, at any rate, up to the triangular ligament and prostatic portion. All passage of urine had been arrested for some days along the mucous canal.

I have also tried inserting indigo within the urethra alongside of a cathether retained in the urethra and bladder, in cases where it has been necessary for surgical reasons for some days to drain the bladder through a tied-in catheter. In several of these cases I have recovered the indigo from the urine flowing from the catheter, showing that the material has passed centripitally along the urethra to the bladder. I do not feel, however, that much stress can be laid on this, as there is always more or less to and fro, or inward or outward, movement of any instrument tied in the bladder; it tends to be expelled, and is passed back again and resecured, as the movements of the patient alter its position, and it is thus quite possible that, by friction of the instrument against the wall of the urethra, any material might be mechanically conveyed, in successive waves, along the urethra to the bladder.

This objection does not, of course, apply to the previous cases in which no instrument was used; but, at any rate, the experience of the latter case shows how easy it is for infection to be conveyed from a dirty meatus alongside a retained instrument into the bladder; for if inorganic particles can float, as it were, in the mucous stream which is set up between the instrument and the urethral wall, and are carried thus backwards into the bladder, infective organisms can do the same. It is not necessary to assume that they must be conveyed on the point of, or by a dirty instrument; they may reach the bladder by way of the urethra from the surface at the meatus, after the introduction of the instrument.

In fact, surgeons know well that even though the urine be received by a tube direct from the cathether into some antiseptic fluid without contact with the air, yet it is practically impossible to keep the bladder aseptic for any length of time in cases in which an instrument traversing the urethra is tied in the bladder, and I think the above observations throw some light on the manner in which, and the route by which, this infection is brought about. At any rate, they point to the extreme importance of guarding the external orifices, and probably careful disinfection of the external meatus and the application of efficient antiseptic filtering dressings at this spot would have a good influence in preventing bladder infection in the manner above described, especially in those cases (and they should be very few) in which it is necessary to tie an instrument in the bladder.

One word as regards the short female urethra. In one case of vesicovaginal fistula, with a very considerable opening, in which it was necessary to perform suprapubic cystotomy, and operate from within the bladder, the opportunity afforded by subsequent suprapubic drainage was utilized to trace the urethral mucous stream in the female urethra. A little indigo was inserted just within the meatus, and a small filtering plug of sterile gauze inserted in the suprapubic tube through which the urine was draining. Indigo granules were found in the mucus coating this plug when removed six hours later.

We have thus traced the reflux passage of inorganic particles of a recognized substance, like indigo, from the surface, along the urethra to the bladder, and from the bladder to the upper end of the ureter. In all cases the important associated condition has been that the normal flow of urine has been diverted. We still require observations on cases of pyelitis, made at the time of operation, when the pelvis of the kidney is first explored, and in which indigo has previously been inserted into the bladder. Observations on animals will probably be necessary to investigate this point, under conditions in which no previous diversion of the urinary flow has been brought about by surgical operation or disease.

The mode of infection of the epididymis by the tubercle bacillus, or by the gonococcus, or pyogenic organisms requires further examination.

I have not yet been able to test the mucous current in the vas deferens, but I think it likely that sterilized indigo inserted into the prostatic urethra in suitable cases will be recovered from tuberculous and other abscesses in the epididymis or the vesiculæ seminales. If this should occur, then the mucous canal of the vas deferens, and not the blood stream, will probably be the route taken.

With regard to the respiratory tract, and the mucous canals in connection with it, the accessory nasal cavities, the Eustachian tubes, and the bronchi, any observations on this part of the body are all, of course, open to the obvious objection that foreign particles may be, and no doubt are, carried by the air currents and distributed over the mucous surface.

I should, however, like to mention one case of chronic otitis media, with tympanic perforation, in which sterilized indigo was insufflated for four days into the retropharyngeal cavity. The mucopus flowing from the external meatus was collected on both sides, and on the fourth day showed abundant indigo granules.

Of course, it will be objected that, owing to some effort of sneezing, or blowing of the nose, the material was transported up the canals by a blast of air. The patient was instructed to avoid all such sudden expiratory efforts, and I am inclined to think that the presence of the indigo in the internal ear is not due to this cause.

Supposing, however, that such is the case, it is surely a matter of considerable importance that in, at any rate, cases of perforated drums, not only air

currents should pass habitually from pharynx to middle ear, but that foreign particles should also find their way up the Eustachian tubes in the absence, of course, of all instrumentation. The bearing of this on the question of conveyance of infection from pharynx to middle ear is obvious, though in the case of tympanic perforation the important condition of diverted flow is present.

We now pass to the consideration of the glands with ducts opening on to the surface of the body, and the possible conveyance of pigment particles along the ducts, from the skin to the alveoli of the glands.

The mammary gland, with its numerous ducts opening on the nipple, is the largest and most important of these glands. In a case of duct cancer of the breast, for six days before the removal of the breast sterilized indigo was rubbed on the nipple twice daily, and a simple dressing of wool worn. Great care must of course be taken to avoid contamination of the exposed breast tissues at the time of the operation, but this, after all, is an object lesson in surgical technique, and the same precautions in the way of repeated washing and sterilization of the skin, which are taken to prevent contamination by skin organisms will apply to the indigo also. In order to insure absence of contamination, I have either coated the nipple and surrounding skin to be excised with a layer of gauze and collodion, or, having turned the flap of skin to be excised upwards and inwards all around the nipple, I have tied this by a purse-string suture, thus leaving only the raw surfaces exposed.

The whole breast, after removal, is laid on a slab, with the deep surface uppermost, and incisions are made into the breast tissue in the neighborhood of the ducts, and into the portion affected by the cancer. Scrapings were taken from these incisions, and indigo granules were found sparingly, but from several parts of the breast. Other cases of mammary cancer have yielded the same result. I have also examined unstained sections of breast tissues obtained in the same way in two cases of cystic disease associated with chronic mastitis, in which indigo had previously been applied to the nipple, and detected it in the breast.

In a case of chronic mastitis, with a scirrhous nodule in one part of the breast, in which indigo was applied for four days before operation, the pigment was found in the portion of the mammary tissue containing the ducts, just beneath the nipple, but not in the solid portion invaded by growth. Now, the importance of this fact, of the conveyance of pigment particles from the skin to the deeper parts of the mammary gland along the lacteal ducts, lies in its application to the question of the transference of infective organisms by the same route.

Here again it is a question of conveyance by blood, or lymph stream, as against transference by mucous currents along the ducts, and it seems to me that the demonstration of the passage of inorganic pigment particles by this latter route strongly confirms the suspicion that it is by these duct channels that pyogenic, and probably tuberculous, organisms gain access to the mammary gland.

I feel some hesitation, in the present unsettled state of the cancer problem, in mentioning cancer in this connection. All I will permit myself to say is this: That if, in the course of future research, the exciting cause of cancer shall be proved to be parasitic, the above observations may stimulate inquiry into the nipple route as a possible channel of infection in cancer of the breast.

**Conclusions.**—We have now passed in review the conditions present in the more important mucous canals, and gland ducts opening in the interior of the body, and in one case in the ducts of a gland opening on the skin surface, and a few general observations bearing on the facts so observed may not be out of place.

I think from the observations I have described we may consider it proved that by some means or other, and under certain conditions, particles of an insoluble substance, such as indigo, inserted into the orifices of a mucous canal, or duct, are converted along the mucous channel in a reverse direction to that taken by the contents of the tube, or by the secretion or excretion of the glands along such ducts. The conditions which seem to favor this passage are:

First, some interference with the normal flow of the contents of the mucous tube or duct; some arrest or diversion of secretion, such as is produced by a fistulous opening, though it is by no means necessary that this should be complete. By what agency is this transference of foreign particles brought about?

*Ciliary Action.*—Though present in the upper generative tract, cilia are absent in the lower genital tract, in the intestinal canal, in the biliary ducts, in the urinary tract, and in the ducts or glands opening on the skin.

*Muscular Contraction.*—No doubt irregular or reversed peristaltic contractions in the bowel, if present, would bring about the result. It is, however, suggestive that the ascent of the indigo up the colon is not prevented, but rather accelerated, by the increased downward peristalsis produced by purgatives. Reverse muscular contractions are as yet, moreover, unknown, or, rather, undemonstrated in the bile ducts, urethra and urinary tubes, Fallopian tubes, or in the ducts of glands.

The phenomenon is not due to physical agency alone, such as capillary action. It is absent in the non-living tube. The transference of particles in empty tubes and ducts is one, and there are other reasons, before explained, for regarding the mucus which coats the walls of the tube, or duct, as the vehicle in which the particles are carried. Further observations are necessary to ascertain whether a reverse current—a sort of mucous backwater—is present in all mucous channels, or whether it only exists where the normal outgoing current of secretion or excretion is interfered with. Such a back current is probably present to a certain extent normally, though much increased by an agency, such as a fistula, which starts a flow of mucus from the other end of the canal.

The essential conditions, then, seem to be a living tube, whose walls are partially, if not wholly, in apposition, and lined by a mucous secretion; while the reversal of this mucous current is favored by any condition (such as a fistula) which leads to arrest or diversion of the ordinary secretion of the viscus or gland.

The bearing of these remarks on the larger question of infection will be at once apparent.

I am inclined to think that in some cases more attention should be paid to mucous channels as routes of invasion, rather than to the lymph or blood stream. Thus I have spoken of the large share which such a mucous, as opposed to a blood infection, plays in the diseases of the female generative tract. The rapid ascent of the urethra by the non-motile gonococcus, and the colonization of deeper portions of the tube, apart from direct extension of growth and in the absence of instrumentation or injection are thus explained. The ascending infections of the kidney by way of the ureter can also be investigated from this point of view.

Our knowledge of the causes which produce biliary and urinary calculi is still very incomplete. The facts which point to the importance of diseased conditions of the mucous linings of the excretory tubes, in favoring the deposition of concretions, are of especial importance from this point of view. And, bearing in mind the proved transference of particles under certain conditions, from the duodenum to gall-bladder, and from urethra to ureter, I hope that further light may thus be thrown on these calculous diseases.

In fact, the burden of my remarks points to the necessity for the active recognition of the importance of all communications between the efferent canals of the body and the external world, and thus accentuates the value of personal hygiene and true cleanliness.

## DYNAMICS OF DREAMS.

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When the white ray of light is permitted to fall through a prism, it becomes sundered into seven specific rays of colors, each one exhibiting distinct characteristics in relation and in response to the nature of its environment. In a corresponding way, the single cell, constituting a prism through which a passage is found for the stream of universal life, breaks the latter into the numberless structures which are springing up in the course of natural evolution.

The only stable point or synthetizing factor in this ever-fluctuating sea of evolution, where forms appear and disappear, increase, culminate, and decrease in the restless metamorphosis of growth, is the informing center of intelligence—the personal Ego, or Soul. Indivisible and indestructible, this center of individuality persists and keeps intact in the midst of the wrecks and break-downs of forms and structures on the battlefield of evolution. It is in this egoity—this power of conscious identity—that we find the helmsman who holds the tossed and battered vessel of life to its true compass. The confused surge of cellular and functional activities with their storms of sensory reports never for a moment succeed in silencing the one clear, penetrating note of individuality.

Now if the cell be allowed to represent a prism of *life*, the individuality may stand for a prism of *consciousness*. And as it is in the response to the evolutionary life-impulse of the various cell-structures and organisms that the latter receive their several forms and characteristics, so it is in the reactions of the Ego to the pressure of consciousness that we find the source of the various shades and degrees of intelligence expressed in waking or dreaming life.

With sleep is understood either partial or general suspense of physiological activities in an entity for recreative purposes. But sleep refers only to outward existence—to the relations of the life to its objective or physiological pole; while in its subjective, ideative, and dynamic aspects, life, even during sleep, remains fully awake, active and demonstrative; and it is in this latter condition that life, unhampered by the turmoil of objective existence, introduces the dramatic representations which we know as dreams.

Brought by sleep into relationship with this purely subjective phase of life, the Ego plunges into dreamland. This gives to dreams a meaning at once as universal and as particular, as natural and as philosophical as its antipode—waking. They constitute the two ends of a balance; one ascends when the other decends—the one forming the complement of the other. Nor is dream limited to the kingdom of man. That animals dream can easily be ascertained by watching dogs during sleep, when they often bark and strike attitudes of excitement and animation, indicating engagement in some chase. In fact it can safely be said that whatever is susceptible of sleeping, also is susceptible of dreaming. And as plants sleep, so they also are found to have relapses into a state of sub-consciousness corresponding to dream. Through exhaustive experiments it has been brought beyond the realm of doubt that the *Mimosa* and its sub-orders, under hypnotic treatment lose their sensitiveness, and glide into a state of life, different from the normal, which must mean something analogous to dream. And we may extend this borderline of dream still farther, until it embraces every form or unit of life. For if groups or combinations of cells (organisms) sleep and dream, so the individual cells themselves must sleep and dream, as the whole can possess no characteristics not contained in the parts of which it is made up.

It is this power of the cell to enter into dream life that lies back of what has been termed prognostic dreams. Harvey, of the vascular circulation fame, records a dream in which a bumble-bee stung him in his left thigh, on a place where a couple of days later appeared an ugly ulcer, and Malesherbe, the renowned French author, found himself in a dream attacked by a rowdy who stabbed him in his left breast with a dagger in an area where the following evening he felt the first attack of a severe lobar pneumonia. The archives of medical reports are heavy with cases of similar characters, which have either received no explanation at all, or else have been explained away entirely.

But facts are stubborn things to deal with, and while mutable and elusive as ghosts, they nevertheless possess the endurance and indestructibility of elemental forces. A fact is an implacable sphinx confronting the wayfarer with its ominous riddle; and similar to the conditions of old, only one right-of-way is obtainable: the solving of the riddle.

The prognostic dream is the result of cellular experiences along subjective paths of consciousness during sleep, when the stillness of objective life permits the turning of self-consciousness towards inner aspects of existence. Dipolarized to the life-current in its constructive and organizing action, the cells, either as units or as functional structures, become attuned and receptive to impulses of the subjective and unmanifested side of nature. Polarized to this purely subjective aspect of life, the cell-units are brought into reciprocal touch with potency in place of potentiality, with the ideative in place of the manifestive forces of evolution, and charged with their currents. Like every other force, life flows along the lines of least resistance, from the subjective to the objective plane, giving rise to disturbances and friction wherever it meets points of obstruction. And it is these obstructions in the flow of consciousness, appearing in the subjective or dreaming mind as more or less fragmentary issues of intelligence, that are used by the Ego as constructive material in the dramatization and staging of its dreams.

And this may furnish a clew to the prognostic powers of the dreams experienced by Harvey and Malesherbe. For the sting of the bumble-bee and the stab of the dagger in the duel, constitute "*dramatis personæ*" introduced by the Ego, and constructed from disturbances ensuing somewhere along the transition line between subjective and objective life; the line where the psychic or mental *impressions* are passing over into physiological or functional *expressions*. The emergence in dream-

life of the brooding disturbance, prior to its manifestation in the body as a palpable disease, is due to the different media of transmission as represented by the noise of the waking and the quiet of the sleeping consciousness. In the quietude of the senses following upon sleep, when the storm of mental reflexes is subdued, the finer changes of life may be brought into notice. Prophetic dreams may, therefore, not be without a scientific basis.

But it is not necessary that an image, to appear in the mind awake or adream, must be generated in the consciousness of that mind or Ego itself. Through thought transmission, or telepathy, images and ideas may be projected from one mind into another, to start trains of emotions and mental processes capable of exerting the same strength of influence as if integral to the influenced mind itself. It is in accordance with this again and again verified fact that Dr. Charcot, in *La Saltpêtrière*, succeeded in conducting the trains of events in the dreams of his patient-subjects, by silently inducing thought-images into their hypnotized minds. External noises, faintly transmitted by the semi-dormant senses of the sleeper to the retired mind of the Ego, may produce the same effect. Thus Prof. Hansen of Copenhagen, in his interesting reports of individual experiments with his pupils, mentions how in one case the noise of a passing carriage started a long series of dramatic representations in the mind of the dreamer, involving thunderstorms, journeyings, accidents of various kinds, etc. And as memory is the storeroom of events, or, perhaps more correctly stated, the gallery of pictures, to which the key is found in the idea-association started by external or internal incidents in the mind of the dreamer, it follows that the latter will have ample opportunities to find material in his dormant memories for the extending and rounding out of the subjective sketches in his dream-life.

But there are dreams in which the law of causation seems to be defied, and where the effect apparently precedes the cause. Thus in his book, "Traite des Facultés de l'Ame," Dr. Garnier mentions the case of the first Napoleon, who was sitting asleep in his carriage at the time the famous explosion of the infernal machine took place almost immediately under it. The noise of the explosion aroused him from a long dream, in which he was crossing the Tagliamento with his army. Suddenly encountering an unexpected cannonade from a masked battery of the Austrians, he exclaimed: "We are undermined," and awoke. It is evident that the report which aroused the Emperor from his dream was the very report that gave rise and contents to it, and consequently presented a case where the effect must have preceded the cause.

This reversion of causality, however, is merely apparent. For from the arguments already presented in this paper, it has been seen that the self-conscious Ego oscillates between the two poles of subjective and objective existence, receiving its knowledge by consciously reacting upon impulses, which may or may not reach it through the media of sense-functions. For, as in our telegraphic communications, we have a system with wire connections and a system without wire connections, so in the body we possess corresponding systems of communication where the mental or sensuous impressions may or may not be transmitted through the connecting wires of the nerves. And that such wireless or nerveless connections exist in the physical organism is demonstrated in the physiological phenomenon known as *pseudopodium*—an amebic protrusion for locomotive purposes—by which a phagocyte under the stimulus of some trackless impulse may all of a sudden desert his field of action and hasten through intervening tissues and cell-wall divisions to a point where its immediate presence is needed. Thus a phagocyte stationed somewhere, let us say in one of the finger ends, may receive intelligence concerning a bacterial invasion of some distant part of the organism without the involvement of demonstrably known nerve paths.

Now, in the case of Napoleon's dream and other similar cases, the nerve-cells of special sensation being charged simultaneously at what may be termed their sensuous-objective and sensuous-subjective poles, the length of time required for the transmission of the message from the transmitting to the receiving stations must of necessity depend on the media of conduction. The objective sense-impulse with its conduits passing over demonstrable nerve connections requires, according to the measurements of Paul Bert, a time of one minute for every thirty meters of distance. Hence the time for the transmission of an impulse from any anatomical point to the central station—*medulla oblongata*—is appreciable in terms of direct measurement; while the subjective discharges, with their instinctive rise in consciousness, and, proceeding along the "wireless," or rather "fiberless," system of transmission, can be conceived of only as a pure psychic impulse, reaching the sensorium on no known or appreciable medium of conduction, and hence subject to no condition of time or space. The interval ensuing between the time of arrival at the medulla of the two evoked impulses—the objective and subjective, or physiological and psychical—would furnish opportunity for the timeless and unconditioned subconscious Ego to elaborate the involved subject matter into the drama of a dream, and even run through its stage performance before the auditory nerve, along the fiber of special sensation, would have had time to approach the medulla with a note of warning resulting in the awakening of the Ego and the subsequent closing of the dream.

Perhaps no phenomenon of consciousness is more convincing with regard to the fact of a dual system of transmission of sense-impressions than the effects arising from stupefaction through narcotics. An experience often occurring to persons held under chloroform consists in the miraculously short time passed in unconsciousness, which can be explained only by the different standard of time prevailing in the sleeping and waking states of consciousness. The scale of time is changed during the dream, while memory still presents the series of events as related to normal time, and which, upon waking, is held as standard in forming a judgment of the length of time occupied in the process. Now, however, as the nervous system is adjusted to physiological laws in terms of normal time, it follows that any other scale by which the succession of events can be measured operates in independence of the nervous system.

In dreams, ideas are substituted by images. To think of a place or of a person means to enjoy their immediate presence. And the rationale for this seeming incongruity is by no means undiscoverable, though the explanation may be found somewhere else than in the mere statement that the condition is the result of the workings of an unhampered imagination. For imagination itself needs an explanation, as its subtle, yet epochal work in the processes of constructive intelligence is neither understood nor appreciated. Plato has said somewhere that imagination is seeing, and knowledge is memory—statements which on their very face bear the stamp of a profound significance. For if imagination is seeing, then evi-

dently the power of vision involved in this seeing depends for its functioning on some other media than the retina, crystalline lens, and optic thalami. From the fact, brought to light by a closer observation of the movements of the single cell, namely, that function precedes structure, has sprung, by sheer force of logic, the still more important fact, that function as such can exist in independence of structure. Brought under the influences of environments where opportunities for the development of a certain function are at hand, the organism will gradually evolve corresponding structures. Yet structure does not more exhaust the capacity of the indwelling function than a field glass limits the functional capacity of the eye in general vision. So, for instance, in dream, when the sensory structures are all suspended and inert, the corresponding functions are in full operation. For no one will deny that the dreamer in his journeyings and sight-seeing, and in his power to enjoy the charms of music, depends on some other media than those known to us as the five sense-organs. A most conclusive evidence in favor of this view is found in the circumstance that even the blind are able to see in dreams—as witness the experiences recorded by Helen Keller, "Blind Tom," the poet of "Paradise Lost," and others. Nor is this power limited to the kingdom of man. An accidentally blinded seal, brought under the observation of Charles Darwin, was, according to the statement of this great scientist, capable of finding its way from the Isle of Man to Cape Clear on the south coast of Ireland. Hence the conclusion seems to be unavoidable that it is only as far as physical vision is concerned that the optic nerve guides and limits the field of vision. If we are to believe the personal records of Michael Angelo, Milton, Helen Keller, and others, it must even be conceded that the absence of the physical eye, so far from arresting the vision of consciousness, adds to it powers of penetration and exaltation. For any representation of form, position, or expression, be it on the subjective or objective plane, necessarily involves the power of vision. Nor does this view lack scientific basis, as every single cell of the body possesses functional power, adequate for the evolution of any special sense, and thus conferring to every mathematical point of the organism a power of vision. Brought under the stress of necessity, the body may become all eye, or all ear, or, as at present, all touch. In the evolution of life we find environment furnish opportunities, and necessity furnish force, by the cooperation of which, ideal funcaions become externalized into organic structures.

For what is the rationale of this paragraph from Berlin, dated the 8th of June last year, and containing the statement that Dr. Lunden has proved by actual experiment that rays collected from radium enable blind persons to see more or less clearly? What, if not the amazing fact, that by the vibrations of these mysterious rays the optic thalami and basal ganglia by responding to new conditions, may yield new functions—unique and unknown—through which the undying function of vision may find new means of expression? For, while function precedes and transcends structure, it yet depends on, and is conditioned by it, when pressing for sensuous manifestation.

Now, in sleep, the whole optic apparatus is placed under temporary arrest. Dislodged from the channels of physical vision, the function of sight, still intact and seeking for expression, reappers in a new mode of manifestation on the plane of dream. To explain away the power of sight in dream by calling it imagination does not detract anything from its true functional value. For in its last analysis what is imagination but an expression of the same power which manifests in physical vision, though functioning through structures other and subtler than those of the cerebral nuclei and connected optic apparatus? In waking consciousness, while our minds are blinded by the blazing pyrotechnics and flitting apparitions of the senses, the vision of imagination remains dim and uncertain, and may even impart misleading representations to consciousness. For just as there is a difference between mere seeing and observing, so there is a difference between the idle day-dreams of an untrained imagination and the strong, vivid realization of ideal prototypes, as experienced by poets and artists, in whom imagination is developed into a distinct and reliable function of subjective seeing.

Now in dream, when the turmoil and disturbance of the waking consciousness is kept in abeyance, the powers of imagination are set free, turning every individual, to some degree, into an artist and a seer. Manifesting along the lines of least resistance, the power of consciousness, when finding its sensory avenues through physical fatigue rendered unavailable, seeks expression through interior and more subtle structures. For the difference between visions of dream (imagination) and visions of waking (ordinary seeing) consists in the difference of the involved structural media, and as a change of octave in a musical instrument reveals new tonal powers, so the introduction through sleep of a new medium for vision gives to the world-picture a new perspective. Nothing new, however, has been brought out; dream reveals, but does not create. It presents the same seer, the same function, the same world; only the viewpoint is changed, which again results in the appearance of new aspects, with corresponding powers of universal expression.

Waking or dreaming, the connecting link which holds the experiences of self-consciousness together, either as image or event, is found in memory. Individuality, personality, identity of Ego, rationality of perception, and logic of conception have their sole possibility and explanation in memory. The latter holds in the mental world the same influence as cohesion in the molecular world. Every cell-unit is equipped with power of memory. For what is habit but the collective impulse formed by the memories of numberless cells, and aiming at the repetition of once inaugurated vegetative processes. Biologically or psychically considered, memory constitutes the recording film in the phonograph of human consciousness, and every thought, motion, or event impinges on this film its minute and indelible tracings. Hence memory is not an individual process, limited to personal minds, but a universal process, involving every aspect and movement of life and consciousness. Had memory its seat and center in the brain, its power of yielding recollections would be incomprehensible. Nor would the physical structures of the brain be adequate to hold the numberless and ceaselessly increasing records of memory. In his treatise on human memory, Dr. Huber of Heidelberg furnishes some very ingenious calculations with regard to the relation between the volume of the brain-substance and memory. If one-third of a second, Dr. Huber reasons, suffices for the production of an impression, then during the time of 100 years a man's brain must have accommodated for some 9,467,280,000 impressions. Now, however, as one-third of the human life is spent in sleep, a reduction of that amount must be made from the total, leaving the final sum of 3,155,760,000 impressions, which, limited to a course of 50 years, would amount to 1,577,880,000. Now as the brain-substance on an average, weighs about four pounds, from which,

however, must be reduced one pound for blood and vessels, and another pound for external integuments, there remains as the final result of the calculation a sum total of 205,542 traces to be impressed on each single grain of brain-substance!

If we thus fail to locate the seat of memory in the physical brain, we are, by force of circumstances, induced to search for it in the mind itself, the substance of which, ethereal and impalpable, would set no limits to its recording powers. From this mental or psychic storehouse it is not improbable that the dreaming Ego may obtain the material by which to rear its fairy structures. If so, it would further follow that the motives, ideas, emotions, thoughts, and feelings, with which we employ our minds during every moment of time, go to form our character and to influence our life for good or bad, in waking or dreaming. Held as living images in the picture gallery of memory, in the zone of the mind, this mental output forms the Banquo's ghost of our existence, pursuing us with their influence in every walk of life, and if base and selfish will weaken our will, blur our intuition, and unbalance our judgment. And as the processes of memory are identical for waking and dreaming consciousness, it follows that ordinary dreams are children of our mind, and influenced by the character and attitude of the latter. Dreams, be they grotesque or exalted, must, therefore, of necessity have a basis in our mental and moral constitution, though their ruling elements may have been so deeply buried in our nature that our waking consciousness fails to take notice of them.

As the dream presents incidents and conditions unknown to the waking man, it might be said that to some extent all dreams are prophetic. If adjusted in consciousness to the memories of the cells of his body, the dreamer, in the quietude of the sensory exchanges, may become the recipient of truths concerning his physiological conditions.

Such dreams are prognostic, and may, if the dreamer be sufficiently sensitive to the cellular consciousness of his body, also become prophylactic, and set free powers of self-prescription. With such powers is meant a function already present in animals and plants in the form of instinct. It is the power of self-preservation—the force back of natural evolution, which practically determines the survival value of every entity. In the absence of the storms of emotions and passions, which in the human mind continues to drown almost every other expression of consciousness than that of sensation, the nature of the animal is receptive and responsive to the needs of its cell-lives. From this springs the startling power of self-diagnosis and self-prescription, so frequently and incomprehensibly exhibited by the animals, when overtaken by accident or ill health.

For what is this inexplicable power of the animal to select the kind of food conducive to its health, and avoid all others, but a form of self-prescription—a concomitant to self-preservation? The highly artificial existence which prevails at present in human society has not yet succeeded in breaking down every vestige of this instinctive power, once native to every entity of evolution. Thus idosyncrasies, by which the individual, by more or less powerful physiological disorders, is made aware of the injurious effect an indulgence in a certain food, a certain berry, or vegetable, etc., may have upon his system. Some persons are kept away from strawberries and crawfish by what is known as "St. Anthony's fire." Goethe's antipathy to garlic amounted to convulsions, and Napoleon felt attacks of cramp in his intestines at the mere sight of brown cabbage.

On the other hand, we find that the same mystic intelligence, which through involuntary and inexplicable aversions or idiosyncrasies prescribes for the individual what substances to avoid, in a no less distinct way, when conditions demand it, informs the individual of substances necessary for his existence. Hence these numerous instances of travelers famishing in the desert, who see images of oases and springs, banquets with delicious repasts, etc., but powerless to enjoy them, like once Tantalus before the receding viands. The famous traveler and author, Mungo Park, has brought such experiences under scientific scrutiny by furnishing day-book notations during a journey in Africa, when overtaken by a fainting spell, due to hunger and thirst, he dreamed, awake, of the richly-watered valleys and pastures of his home.

Hence hunger itself is a health-prescription by which the human self-consciousness is made aware of certain physiological necessities of the body. Now as impulses or instincts in the generality of cases fail to make their presence known to the mind, owing to the turbulence of thoughts, and storms or emotions sweeping through the sensorium, it requires the inner and outer quietness of sleep to develop a clear image in consciousness of what is needed to restore a broken physiological equilibrium. This development, however, of an idea into an appropriate image —the instinctive impulse turned into analytic self-prescriptions—is a course which nature resorts to only when her ordinary sanative power does not suffice for the removal of a disease, but requires special remedies from the external world. Or, as Schopenhauer expresses the same thought in his work, *Parerga*: "Nature herself kindles a light by which the assistance needed by the organism from without can be sought and obtained."

Thus, if mindful to the impulses of a nature which ever surrounds her entities with means and opportunities for their protection, the individual will be safeguarded against disease and premature death. But to be responsive to nature means to be obedient to her laws, and which again means to live in accordance with our individual sense of duty and conscience regarding the measures and limits for sanitary indulgences. It is in this circumstance we find exhibited the powers of different individuals, to feel, and to interpret nature's healing impulses. Thus it is not in the absence of these impulses that the infrequency of the power of self-prescription is to be explained, but rather in the failure of the individual to exert the purity and open mindedness which forms the condition for all receptivity and growth.

This power of nature to reveal to the mind what is needful for the body was recognized by the sages and savants way back in the days preceding our era. Plato is recorded as having made the observation that when "desire arises, imagination comes in and presents the object." And this not only in sleep and dream, but also in waking. For what are hunger and thirst in the healthy, sane mind, but suggestions from nature, referring to the special things needed for preservation of health? In dream, these suggestions under the formative power of imagination present themselves as images or symbols. In extreme cases, when the life of an individual is threatened by the absence of certain vital necessities, as in the case of shipwrecked, starving sailors, nature, realizing the seriousness of the situation, does not wait for the approach of sleep, but pierces the waking consciousness itself with her life-saving message. Through a vivid imagery she presents in unmistakable forms and colors the means needed for the occasion. The delicious repasts miraged before the inner vision of such unfortunates receive their reason and purpose only when gauged by the

meaningful power of nature extended in behalf of the health and survival-value of her creatures.

This sanative undercurrent of natural evolution proceeds every moment of time in waking, no less than in sleeping life. But, like the light of the stars which appear only during the night when the brighter light of the sun has passed out from the field of vision, so the admonitions and health instincts of nature rise to the level of self-consciousness only after the storms of sensation incident to waking existence have subsided for the calmness and quietude of sleep.

To sum up the argument, dream and waking differ in degree and form of manifestation only, not in principle and essence. Like waking consciousness, dream *reveals*, but does not *create*. The same world that surrounds the waking individual surrounds the dreaming, only the viewpoints and media of observation are changed. Observed through the operation of new structural media, the world-picture becomes visible in a new perspective—a perspective which involves the relations not only of space but also of time. For the events of a dream unfold at an incomprehensible rate, and its space, according to our notions of locality, is completely annihilated. But the workings of self-consciousness are identical. As the life-experience of an individual in his waking consciousness receives its character and value by and through his power of response to environment, so in a similar way the value of a dream depends upon the power of the Ego to respond to consciousness in its various forms of emotions, ideas, and feelings which constitute the environments of the subjective or dream-plane. Waking or dreaming, the individual is or becomes what he chooses to be at any given moment of his existence. High standards of life will generate in him a power to respond to high ideals, accompanied by a corresponding growth in his moral nature of a high and sterling character. Nor has the memory of a dream much to do with its deeper evolutionary value. For, as the recollection of important changes in the working life of an individual is not a *sine qua non* for the value of these changes as character-building forces, so the direct recollection of a dream is not a test condition, neither for its existence as such, nor for its value as ethical and moral force in our life. Dreams are concomitants to sleep, as inevitably as mental action and sensibility are to waking, but the recollection of dreams depends on the power of the mind to record the experiences of the subjective plane on the tablets of waking memory, and thus attune the corresponding cerebral structures to the scale of vibrations prevailing on the subjective or dream-plane. The somnambulist, while seldom remembering his dreams, yet by his pantomimes and soliloquies demonstrating that he is engaged on subjective planes, bears irrefutable testimony to the possibility of dreaming without the dreamer upon awakening having the slightest suspicion of having dreamed.

It would be a mistake, however, to regard all dreams as made up by sanitary admonitions, health-prescriptions, or prophesies in general. The background for ordinary dreams consists of disconnected remnants of waking life. Hence, ordinary dreams are merely undigested consciousness, being made up by longings, desires, anticipations, idle hopes, and miscarried realizations, which, occupying the mind during the day, are overtaken by sleep before having reached their fruition. On this background of disconnected odds and ends from a day of mental and moral wrestlings the images of a meaningful purpose, however, may sometimes float into view, to enter the conscious perception of the dreamer. Hence the mixture in most dreams of the sane and the insane, of truth and delusion.

On the other hand, the life lived out and assimilated in a purposeful existence becomes absorbed in the formation of character and leaves no residue to form the bizarre staging for the confused dream. And to such an individual the intuitions of dream-life, with their dazzling imagery, will introduce symbols, which, properly interpreted, may carry the significance of prevision or prophesy.

To reach this end, means to live full and absorbingly in the present. The resolute fulfilment of one's daily duty leaves no remnants for foolish dreams. Time is to events what space is to objects, and exists only where nothing has been produced to fill it. Hence, as space disappears when crowded with objects, so time will vanish when we crowd it with events. Therefore, to turn dreams into useful, intelligent, and intelligible factors we must fill our waking life with deeds and thoughts of universal usefulness, and freight the train of events with an unflinching devotion to duty and virtue.

## LENGTH OF THE ENTERON (SMALL INTESTINE).

By BYRON ROBINSON,

CHICAGO.

The enteron (small intestine) consists of the jejunum (two-fifths) and ileum (three-fifths). There is no marked division between them, nor difference in function and structure; jejunus signifying empty, and ilium flank. There is a difference in position between the two which has a fairly constant physical relation. It appears that it was J. B. Winslow, 1669-1760, a Dane, professor of anatomy in Paris, who named the proximal two-fifths of the enteron jejunum, and the distal three-fifths ileum. The enteron is the active or functional segment of the intestinal tract. It is the digestive portion, receiving the ducts (biliary and pancreatic) of the main digestive glands. Its function is peristalsis, absorption, and secretion, and its object is digestion. It is located in the area of dangerous peritonitis; in the area of absorption and not in the exudative area. The other segments of the intestinal tract are food or fecal reservoirs. The intra-abdominal pressure, which is muscular and elastic tension, compresses the enteronic loops into packets so compact that no unfilled place exists in the clefts between them. The measurements of the length of the enteron in this paper were performed chiefly in adult cadavers in the regular consecutive order of autopsies in Cook County Hospital during the past 12 years. There were some 450 males, 150 females, and 75 children. However, only 400 males and 150 females are referred to in this communication. The enteron was measured while *in situ* under similar conditions. One foot was allowed for the duodenum. The following represents the minimum, maximum, and average measurements of the length of the enteron in 550 adult subjects:

| | Min. Ft. | Max. Ft. | Aver. Ft. |
|---|---|---|---|
| 550 males and females | 10½ | 32 | 21 |
| 400 males | 11½ | 23 | 23 |
| 150 females | 10½ | 30 | 19 |

These measurements represent the enteron of man as being four feet longer than that of woman, which accords with the differences in bodily weight and stature. It also presents the average combined length of the enteron of man and woman as being 21

feet, which accords with the averages given by 30 authors during the last hundred years.

MEASUREMENTS OF THE ENTERON.

| Name | Minimum | | Maximum | | Average | |
|---|---|---|---|---|---|---|
| | Ft. | In. | Ft. | In. | Ft. | In. |
| Cruveilhier | 15 | 7 | 21 | 7 | 19 | — |
| Meckel | 11 | 3 | 23 | 5 | 15 | 7 |
| Richet | 12 | 2 | 23 | 5 | 17 | 8 |
| Hoffman | — | — | — | — | 20 | 2 |
| Luschka | 7 | — | 29 | 4 | 21 | 9 |
| Tarenetzky | 13 | 1 | 29 | 2 | 17 | 8 |
| Byron Robinson | | | | | | |
| (400 males) | 11 | 6 | 32 | — | 23 | — |
| (150 females) | 10 | 6 | 30 | — | 19 | — |
| Horner | 24 | — | 28 | — | 26 | — |
| Wilson | — | — | — | — | 25 | — |
| Treves | | | | | | |
| (Males) | 25 | 6 | 31 | 10 | 22 | 5 |
| (Females) | 19 | 10 | 29 | 4 | 23 | — |
| Gegenbaur | 18 | — | 21 | 6 | 19 | 8 |
| Von Behr | — | — | — | — | 19 | — |
| Morton | — | — | — | — | 25 | — |
| Henle | 18 | — | 21 | 6 | 19 | 8 |
| Quain | — | — | — | — | 20 | — |
| Weber | — | — | — | — | 22 | 10 |
| Gray | — | — | — | — | 20 | — |
| Sappey | — | — | — | — | 22 | 10 |
| McClellan | — | — | — | — | 20 | — |
| Pancoast-Wister | — | — | — | — | 20 | — |
| Testut | 18 | 8 | 26 | 2 | 22 | 5 |
| Brinton | — | — | — | — | 20 | — |
| Allen | 20 | — | 25 | — | 22 | 5 |
| Hyrtl | 16 | — | — | — | 16 | — |
| Morris | | | | | | |
| (Male) | — | — | — | — | 22 | 6 |
| (Female) | — | — | — | — | 23 | 4 |
| Cunningham | — | — | — | — | 20 | 4 |
| De Bierre | — | — | — | — | 26 | 6 |
| Krause | 13 | — | 26 | — | 19 | 8 |
| General average of authors | 15 | 6 | 26 | 6 | 21 | — |

Every investigator who has studied the length of the intestinal tract has been unable to solve the problem which determines the law of its growth or dimensions. A common statement by many authors is that the enteron measures three to five times the length of the body; for example, an anatomical treatise of 1792 states that the intestines are six times the length of the body. There is no practical rule of any merit that I can discover which shows distinct relations between the length of the intestine and that of the body. Meckel announces that in man the length of the intestine is five to six times the length of the body, and in other animals three to ten times the body length. Most anatomists have been content to follow him. By reading anatomic textbooks issued during the past one hundred years, it will be noted that the two Meckels (father—1714 to 1774—and son) have been followed as authorities to a considerable extent. After Meckel's day few records of enteronic measurements were recorded until 1859, when Brinton measured 40 subjects. In 1885 Treves obtained noteworthy results by measuring the length of the intestines in 100 subjects. His reports have, for twenty years, been copied in anatomies in the English tongue. Treves states that the enteron of woman is 23 feet in length, while that of man measures 22½ feet: that is, the enteron of woman is six inches longer than that of man. This last statement I could not believe was true, for man is, in general, larger than woman, and hence it was really the announcement of Treves which induced me, some 12 years ago, to measure systematically the intestines of a series of subjects. Of the 600 subjects observed, I report 550 measurements which prove that Treve's measurements are incorrect, for woman's enteron is four feet shorter than that of man. I measured the intestines of a goodly number of animals, as the cow, pig, horse, dog, lion, tiger, seal, bird, monkey, ape, rabbit, etc., but without gaining any clues applicable to human conditions. Man's enteron stands midway between the narrow, short muscular enteron of the flesh-eater's (carnivora), and the long, wide, thin-walled enteron of the plant-eaters (herbivora). I am unable with records at command to observe any national differences of the length of the enteron. However, the clear-headed, accurate anatomist, Emil Huschke (1797-1858) asserted that the intestines of the French are shorter than those of the Germans on account of the character of the food eaten, and another author states that the Russians have longer intestines than the Germans.

It is reasonable to believe that the length of the enteron depends on the character of the food eaten during the period of the intestinal growth. However, to produce perceptible changes in the length of the enteron, ages on a definite diet would be doubtless required. The length of the enteron has no special relation in the adult to height, weight, or age. Similar testimony has been announced by anatomists for nearly 200 years. In my investigations the measurements of the enteron were made while it was *in situ*. Sufficient measurements, however, were made on the extirpated enteron by severing the mesenteron at its junction with the enteron to demonstrate that extirpated from the body it would measure from three to six feet longer than *in situ*, or while attached to the mesenteron. The conditions of the enteron are not always the same. Immediately after death the intestines are contracted, and are not as long as they are several days after death, with consequent post-mortem changes, when they relax and elongate. If the enteron contains fluid or gas, it will have a greater length than if it were evacuated and contracted. A consideration of the extensive variation in the range of length of the enteron in man should be based on childhood and youth, but especially during the first two years of extrauterine life, when we found that the minimum length of the enteron (*in situ*) was 10½ feet, while the maximum was 32 feet—a difference of 21½ feet. Twenty-one feet of intestine is an enormous addition to the usual length of the enteron, especially when it is known that the small intestine is the active or digestive portion of the intestinal tract.

Dr. Lucy Waite and I measured the enteron of quite a number of infants of different ages. We found that the enteron averages 10 feet in length at birth, but the minimum length was 6½ feet, and the maximum length was 12 feet. Referring to my notes in some 75 autopsies on children we observed: A male child, 18 months old, enteron 18 feet; male child, 8 months old, enteron 14 feet, 4 inches, etc. It was noted from our autopsies on infants that the enteron immediately after birth assumes a rapid growth in length. Treves asserts that the enteron may grow two feet a month. This is more rapid growth than our autopsies demonstrated, yet it appeared that the enteron would grow more than a foot a month immediately after birth.

The reason of the rapid growth of the enteron immediately after birth must be sought in the field of physiology—it depends on the dimensions of the enteronic nerve and vascular apparatus, and the kind of food. If an infant possesses a maximum nerve, vascular, and digestive (glandular) apparatus, by nourishing the child with coarse food, which leaves a large fecal residue, the irritation will attract a large volume of blood to the enteron, inciting peristalsis, and enhancing its assimilation and consequent growth in length. Some infants possess a maximum vascular, nerve, digestive, and muscular apparatus, hence by repeated congestion with consequent vigorous peristalsis and maximum assimila-

tion of food rapid growth in the length of the intestine may exceed the usual increase and persist beyond the usual period of development resulting in extra length of the enteron (21 feet). Extensive variation in the length of the enteron might occur in an infant from intestinal catarrh or other disease comprising digestion. Though possessed of a nominal nerve, vascular, and digestive apparatus, diseased mucosa might check assimilation, and consequent lessened length of the enteron result. Infancy and childhood is the period of maximum enteronic growth. The proper food at the proper moment in childhood tells the story of the length of the enteron. Disease of the enteronic mucosa, debilitating the nerve apparatus, compromising the vascular supply, checking peristalsis, and consequent nourishment, involves variation in the lengths of the enteron. Supposing that an infant's enteron grows at the rate of 18 inches a month, as some of the autopsies indicated, and that such an infant becomes ill or receives non-nourishing food, or has sufficient enteritis to check the growth of 18 inches a month, it would not require long to lose the growth of several feet of enteron. It is not infrequent for intestinal catarrh, or indigestion in infants to exist in various degrees for months. This supposition is not overdrawn, since it is known how much the infants of the poor are subject to changes of food fortune—now excess (indigestion), and now deficiency (starvation). All improper changes in food, excess, deficiency, or defective quality, induce compromising enteronic vascular disturbances which disturb and inhibit enteronic growth.

Enteronic growth is quite different from general bodily growth—it is more directly dependent on proper food at the proper time, and is more directly local on account of local changes in the enteronic vascular, nerve, and muscular apparatus induced by the food. Two factors must be studied in enteronic length—food and enteritis. The unfortunate vascular, peristaltic, and food fluctuations among the infants of the poor (and even the rich) tell a wondrous story as regards the length of the enteron. Perhaps a normal nerve, vascular, digestive, and muscular apparatus with similar food would produce practically a similar length of enteron. It would be interesting to study this subject in young animals for confirmation. A man with a short enteron has not such perfect powers of assimilation as one who has a long enteron, and besides a long enteron economizes food by utilizing a maximum amount of nourishment from it.

*The Position of the Enteron.*—The enteron in general occupies five locations, viz.: (*a*) some loops of the proximal end of the jejunum lie in the left hypochondrium, on the ventral surface of the left kidney; (*b*) the jejunum next crosses the vertebral column and its coils lie in the right hypochondrium on the ventral surface of the right kidney; (*c*) the enteron now recrosses the vertebral column and the loops of the distal end of the jejunum and those at the proximal end of the ileum occupy the left iliac fossa, that is, to the left of the psoas muscle; (*d*) the loops of the proximal end of the ileum occupy the central space of the abdomen between the two psoas muscles; (*e*) the loops of the distal end of the ilium occupy the lesser pelvis (especially in woman). Splanchnoptosis begins at 35 years of age and practically changes this position of the enteron by forcing more loops into the iliac fossa and lesser pelvis. As splanchnoptosis progresses the loops of the jejunum in the right hypochondrium, and to a considerable extent in the left hypochondrium, all pass distally from the relaxation of the abdominal wall and elongation of the mesenteron with distal movement of the root of the mesenteron. The psoas muscle is an important factor in the position of the enteron.

The contractions and relaxations of the psoas muscles include an extensive range, and these movements of the left psoas will form a dividing line projecting the enteronic loops either toward the left iliac fossa, or, preferably, toward the lesser pelvis (the greater space with less resistance). The largest packet of the enteron is found between the two psoas muscles. In adult life practically one-third of the enteron occupies the pelvis, and two-thirds the central part of the abdomen and the left side of the vertebral column, the relatively small number of jejunal loops occupying the right side (hypochondrium) gradually pass towards the left with increasing age and consequent splanchnoptosis. It is well to recognize the general position of the enteronic loops for diagnostic purposes in gunshot and stab wounds of the abdomen. I shot some 60 dogs to test the effect of a bullet passing through the abdomen in different directions, with special regard to position. A bullet shot through the abdomen laterally will frequently make 8 to 12 perforations in the enteron, but if the bullet passes in the ventrodorsal direction (*i.e.* with the dog standing on his hind feet), it may not make a single perforation in the enteron. To expose the most natural view of the position of the enteron secure a spare cadaver, well starved two weeks previous to death, with evacuated enteron, well frozen immediately after death. Make long crucial abdominal incisions, reflect the abdominal flaps, and the five positions of the enteron noted above may then be observed.

*The Form of the Enteron.*—The form of the enteron is that of a truncated cone, with the base at the pylorus, and the apex at the ileocecal valve. The walls of the enteron, muscular, and mucous coats, decrease in dimensions from base to apex. The enteronic muscularis diminishes in thickness and area from pylorus to cecum. The enteronic mucosa diminishes in thickness and area from pylorus to cecum. The enteronic nerve, vascular, glandular, and muscular apparatus (with digestive power) decrease distally. The enteronic power of digestion diminishes from pylorus to cecum.

*Mesenteron.*—The mesentery in 550 cases measured 7 inches both in male and female cadavers. The mesenteron is the neurovascular pedicle of the enteron. It has two borders and two surfaces. The distal border is attached to the enteron and is of the same length of the latter (average, 21 feet), the proximal border is attached obliquely to the dorsal wall of the abdomen, and is some six inches in length. The length of the mesenteron, that is, the distance from the dorsal wall to the enteron averaged seven inches in 550 adults. The mesenteron of 400 men and 150 women was practically the same in length. The enteron has two borders—one concave border, the mesenteric margin to which is attached the mesentery which conducts vessels and nerves. If this margin be destroyed by bullet or injury, gangrene of the enteron is likely to follow, because an extensive, delicate net work of nourishing vessels exists in this region. The other, the convex border, is the free border. It lies opposite to the insertion of the mesenteron. This border may be destroyed by bullet or injury, but gangrene will not follow. The form of the mesenteron is that of a truncated cone. The truncated part of the mesenteric cone, at the dorsal wall, measures six inches, the base of the cone, at the mesenteronic border of the intestine, measures 21 feet. The mesenteron is of sufficient length to allow the enteron to prolapse through the inguinal and femoral rings in 96 per cent. of subjects.

CONCLUSIONS AS TO THE LENGTH OF THE ENTERON.

1. The average length of the enteron in 400 males was 23 feet.

2. The average length of the enteron in 150 females was 19 feet.

3. Man's enteron averages 4 feet longer than that of woman.

4. The enteron increases in length most rapidly a few months subsequent to birth, when it may grow 1½ feet a month.

5. The enteron assumes its chief length in early childhood.

6. The chief variation in the length of the enteron depends on enteritis, compromising the enteronic peristalsis, absorption, and secretion, and consequently digestion, during early extrauterine life.

7. Extraordinary lengths of the enteron depend on the favorable conditions of a maximum enteronic nerve and vascular supply, with maximum assimilation continued beyond the usual period of enteronic development.

8. A subject with a maximum length of enteron possesses a stronger constitution than a subject with minimum length, as he can digest and economize more food.

9. A maximum enteronic nerve, vascular, glandular, and muscular apparatus with similar food would practically produce a similar length of enteron.

10. The foods which produce the most vigorous enteronic functions (peristalsis, absorption, and secretion) are those that leave the greatest fecal residue, which excites the enteronic muscularis into peristalsis, thus attracting more blood and inciting the enteronic mucosa to greater secretion and absorption—increasing digestion and consequently enteronic growth.

11. General and local disease influence the length of the enteron, especially during childhood, the period of life of rapid enteronic growth.

12. A child nourished with food which requires vigorous digestion, leaves a fecal residue, as cereals, would attract more blood to the enteron, enhancing its growth, than one nourished on milk only, which passes through the enteron without inducing vigorous peristalsis and leaves little residue.

13. The human enteron presents colossal differences as to length (males, 11½ feet minimum, 32 feet maximum = 20 feet, and female, 10½ feet minimum, 30 feet maximum = 19½ feet). This variation of 20 feet is almost equal to the length of an average enteron. The enteron varies over double or two and one-half times its length.

14. In adults the relation of the length of the enteron to the body length is as 7.2 to 1. There is a vast difference between the absolute and relative length of the enteron in man.

15. The enteron measured *in situ* is 3 to 6 feet less in length than when exteirpated.

16. Different diseases of the enteron may result in elongation or contraction.

For the privilege of examining the subjects I am indebted to the courtesy of Drs. Hecktoen, Crowder, Le Count, Edwards, and Evans.

100 STATE STREET.

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**Russian University Professors to be Elected.**—According to the Odessa *Novosti* in the projected new university statutes the principle of election will be the basis of university life. It is proposed that candidates for chairs shall be elected by the existing professors, and that those who read treatises to qualify for professorships shall likewise be subject to the ballot of their colleagues. It is added, however, that the professors' selection will be subject to the approval of the Government, so that the appearance of liberalism is only an appearance.—*The Lancet.*

## THE POSITION OF THE BLADDER IN FIBROID OF THE UTERUS.

By J. A. SCHMITT, M.D.,

NEW YORK.

It is exceptional for the surgeon to encounter unforeseen complications while performing laparotomy for the removal of uterine myoma, because a careful examination and its verification under narcosis immediately before the operation afford him sufficient information to map out some special plan of procedure. In the clinical history we also consider the findings as to the function and position of the bladder. We decide that the position of this organ is normal, or higher or lower than normal, without going into details. If, however, after opening the abdomen, we note carefully any displacement of the bladder, if such is present, we shall find many interesting peculiarities worthy of mention and brief discussion. The bladder may be displaced laterally, may be pushed down or up, or it may be pulled up. The greatest importance attaches naturally to the last two conditions, as an elevated bladder may easily be injured in making the abdominal incison too impetuously. The term "high position" of the bladder generally applies to the elevation of the summit and body of the bladder, as demonstrated by palpation, the sound, and the existence of a fixed area of dulness above the symphysis, unchanged by catheterization. In extreme cases, the entire bladder is elevated to such an extent, that its base lies near the upper border of the pubes—a true upward displacement.

The empty bladder, to recall well-known facts, is situated in the true pelvis, behind the pubic bones; even when slightly distended, its summit may still be within the true pelvis. Of all the vesical parts, the base, with the internal urethral orifice is the least movable, because of its firm attachment to the pelvic floor. Summit and body, on the other hand, are characterized by great mobility, and loose connection with the surrounding parts. The basal portion remains fixed, while the upper portion easily distends, and rises when urine accumulates, or yields to the pressure and traction of uterine tumors. The peritoneum is reflected from the posterior surface of the abdominal wall upon the summit of the bladder at the level of the upper border of the symphysis. This reflected part is loose, and not infrequently dips into the prevesical space, thereby forming a fold. On opening the abdominal cavity, with the pelvis raised, we occasionally observe the visible part of the bladder floating. It is this part, covered by peritoneum, which displays the greatest mobility, and is first raised when the bladder distends. The anterior vesical wall is not covered by peritoneum. With increasing distention, the bladder rises, its anterior surface coming into direct contact with the abdominal wall. The loose areolar tissue of the prevesical space, continuous with the subperitoneal connective tissue, favors the free movement of the bladder and the upward displacement of the parietal peritoneum, the reflected portion of which is furthermore capable of being lifted to a considerable extent. It may happen that a myoma grows toward the pubes and bars the approach to the bladder from above, thus preventing the viscus from rising. Such imprisoned bladders produce no symptoms because of the ready lateral and downward distensibility of the organ. In women with a weakened pelvic floor, cystocele and prolapse of the anterior vaginal wall are liable to occur. Fibroid tumors situated in the lateral wall of the uterus, may displace the uterus to the opposite side; the bladder follows such lateral dislocation, but always in connection with the uterus,

and sometimes to such an extent as to occupy one side of the true pelvis.

An elevation of the bladder may be caused in a variety of ways, and depends chiefly upon the location of the tumor and the direction in which the growth develops. Any deeply seated uterine myoma may produce an elevation by pressure. Whether this pressure is exerted upon the bladder or upon the urethra, materially alters the clinical picture. In the former case, the bladder is compressed, or pushed upward and to the sides, without necessarily having its function impaired. In the latter, the pressure may cause partial or complete obstruction of the urethra and is apt to give rise to all the well-known symptoms referable to retention, viz., ischuria, dilatation with atony or hypertrophy, incontinence, cystitis, etc. Distention of the bladder may become permanent, although nowadays, when operations are more freely undertaken, an elevation of the bladder from this source seldom comes under observation. There may, however, be exceptions, when patients refuse surgical interference. I had under my care for a considerable length of time a woman suffering from a large submucous fibroid. During the process of expulsion and gradual descent, difficulty and occasional inability to urinate set in, so that the catheter had to be frequently employed. The condition became chronic; vesical catarrh and a permanent distention of the bladder established themselves. What long suffering from excessive pains and hemorrhages could not accomplish, the horror of inability to micturate brought about, namely, consent to operation.

An elevation of the base of the bladder with displacement of the whole organ upwards, so that its anterior wall comes into contact with the abdominal parietes, occurs, especially in myoma of the vaginal cervix. This pushing mechanism is easily understood and can be demonstrated experimentally by distending the rectum and bladder. High position of the bladder may also be brought about by fibroids which are situated anteriorly near the vaginal junction, or higher up, beneath the uterovesical fold of the peritoneum, where the lower posterior wall of the bladder is loosely connected with the cervix. During the process of growth, such tumors may drag the vaginal vault high up, thereby abnormally lengthening the vaginal canal. At the same time, the fundus of the bladder is drawn upwards, so that a part of it may occupy the abdominal cavity.

Fibroids developing in the anterior wall of the uterus, above the peritoneal fold, leave the position of the bladder unchanged, except in those rare cases where peritoneal adhesions exist between the bladder and uterus. The peritoneal surfaces of tumor and bladder are, as a rule, smooth, and instances in which inflammatory adhesions lead to a partial or complete obliteration of the vesicouterine cul-de-sac are seldom encountered. Those irregular distortions and dislodgements of the whole or parts of the bladder that are associated with inflammatory processes of the tumor and of the uterine adnexa, are also of rare occurrence. Of greater frequency are adhesions, supervening upon the inflammatory processes in the subserous tissue, which make the connection between tumor and bladder more intimate, and are apt, by overcoming the resistance of the strongly attached vesical fundus, to draw the bladder upward. This traction may be so extreme as to carry the internal urethral orifice up behind the upper border of the symphysis. The peritoneal fold on the floor of the vesicouterine pouch is remarkable for its great mobility, which allows its being raised for a considerable distance. In making the cross incision for detaching the bladder, we make use of this moveable peritoneal area as a line of demarkation. Tumors beneath this fold, may push the peritoneum upward and partly obliterate the vesicouterine cul-de-sac without affecting the position of the bladder. But the extent of this elevation has its limits, as above the movable zone, the peritoneum is firmly attached to the bladder and uterus. After the distensibility of the peritoneal fold has been exhausted, further traction from the tumor will be followed by elevation of the bladder.

What has so far been stated, may be summarized as follows: A tumor may cause the bladder to be: (1) pushed up by pressing on the fundus of the organ or on the urethra; or (2) drawn up by (*a*) peritoneal adhesions, (*b*) subserous adhesions, (*c*) traction on the peritoneum after the vesicouterine fold has been obliterated. Of these various agencies, I consider the subserous adhesions as the most frequent cause of an upward displacement of the bladder. It is important to bear this in mind, as an attempt to detach the bladder *with the fingers* may easily lead to an injury to this viscus.

What are the relations of the peritoneum in front of the elevated bladder? Here, also, an extraordinary mobility exists of the peritoneal bridge, which spans the space between the symphysis and the summit of the bladder, and allows the bladder to rise above the pubes. It does not matter whether the elevation is produced by an urethral obstruction or by the bladder being pushed upward from below or by being drawn up from above, the effect is always the same—the elevated bladder will lift the peritoneum and a greater or smaller part of its anterior surface, devoid of peritoneum, will come in contact with the abdominal parietes. When the prevesical peritoneal fold is lifted to an extreme degree, it finally becomes reflected upon itself, and a vesicoparietal pouch will thus be formed. I would be erroneous to believe that in extreme cases of distention a traumatic detachment of the parietal peritoneum would take place, and that the bladder would ascend between the peritoneum and the transversalis fascia. In cases of elevated bladder from uterine fibroid, we are always able, bearing this relation in mind, to introduce the finger for a variable distance into this prevesical peritoneal sac. As it is, there is always danger of injuring the bladder while making the incision, as the bladder and both layers of the peritoneum may be closely pressed by the tumor against the abdominal wall.

Those instances of elevated bladder, in which we do not find a prevesical peritoneal pouch, must be differently explained; they owe their existence to an inhibition of postfetal development and have no direct causative relation to uterine fibroids. But, as in performing laparotomies, we occasionally discover the bladder high up and immediately behind the fascia transversalis without intervening peritoneum, it may be profitable to devote a few remarks to this anatomical condition.

The bladder of the newly born infant differs from that of the adult, principally in its position and shape. The internal urethral orifice is situated near the upper border of the pubes. Three-fourths of the bladder project into the abdominal cavity and are imbedded in the loose connective tissue which extends from behind the pubes as far as the umbilicus. At the border of the upper and middle third of the space between umbilicus and symphysis, the parietal peritoneum is reflected upon the summit of the bladder, without forming a cul-de-sac, and covers its posterior surface. The still thick urachus and also the obliterated hypogastric arteries on each side of the urachus, extend from the summit of the bladder to the umbilicus. During infancy, the bladder is coni-

cal in shape, the axis of its cavity being straight. In the course of years the organ descends and assumes an ovoid or cup shaped form, its axis usually forming an angle at the junction of the posterior and inferior walls; at about the time of puberty, the empty bladder lies in the true pelvis, and the reflected peritoneum is at the level of the upper border of the symphysis pubes.

It may happen, for reasons unknown to us, that the descent of the bladder does not take place, or may only partially take place, so that an abnormally high position of the empty bladder may persist in later years. With this failure in physiological descent, there is usually associated a persistence of the conical shape. It is difficult to say how often such anomalies occur; they do not seem to give rise to any symptoms, and we are not in the habit of looking for this condition when women present themselves for gynecological treatment. It is, therefore, not strange that we are better informed about an infantile uterus, than about an infantile bladder.

Anatomists attribute the descent of the bladder principally to mechanical agencies; the pelvic cavity widens and deepens with progressive development, so that the bladder descends, while at the same time the pelvis ascends. Disturbances in the development of the pelvis may, therefore, interfere with the descent of the bladder. The different forms of contracted pelvis may consequently be associated with an infantile bladder. At all events, it is well to bear in mind the possibility of its existence when we open the abdominal cavity. In well marked cases, we discover high up and directly behind the fascia transversalis, without intervening peritoneum, a loose connective tissue, in which the conical or pear shaped bladder lies imbedded. Difficulties in recognizing this anomaly may arise in those instances, where a partial descent has taken place, but here the anatomical conditions give us sufficient clues to distinguish an infantile bladder from a bladder elevated by a uterine fibroid. In the latter, we are able to introduce a finger into the peritoneal sac in front of the bladder; in the former, the parietal peritoneum passes directly to the summit of the bladder. Furthermore, we are frequently surprised at the ease and rapidity with which the elevated bladder, when detached, resumes its former place down in the pelvis; the infantile bladder, however, remains in its bed. If, in addition, we discover a conical shape and a thickened urachus, any doubt as to the true condition is dispelled.

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## DUAL GENITAL AND EXTRAGENITAL CHANCRES—CHANCRE A DISTANCE.*

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Although it is commonly recognized and generally well known that, in spite of the fact that syphilis when inoculated into the human body does not long remain a local infection, and promptly assumes a general and systemic character, a secondary successful inoculation can occur for some period of time after the first inoculation has taken place. This is proportionately greater the farther the points are removed from each other on the surface of the body. Sufficient clinical instances have already been adduced amply to confirm the above observation, but they are by no means numerous, and aside from their rarity, possess sufficient clinical interest and value to merit their careful report. This is especially true in the light of our present knowledge of syphilis, particularly as to how long the infection is a local process, and in respect to the propriety of excision of the infecting chancre in order to modify or materially change the future course of the disease. It will also be of interest to note the influence of the added infection on the character of a case.

Mrs. B. I., æt. 21 years, of Tuscombia, Ala., consulted me June 19, 1905, in reference to an inflammation of the throat which had severely troubled her for almost two months. An examination revealed a large ulcer, which occupied the greater part of the right tonsil and the corresponding lateral border of the tongue. The ulcer presented a reddened, glazed appearance, and was situated upon a slightly elevated and infiltrated base, which gave palpable evidence of induration to the examining finger. The ulcer, aside from a thin coating of mucus, was clean-looking, in a state of apparent repair, and was not surrounded with much reactionary inflammation. The cervical glands on the corresponding side were enormously enlarged, to a degree producing marked deformity, but, according to the statement of the patient, had already subsided considerably in size. The cervical glands on the opposite side were perceptibly enlarged, and, according to the patient's statement, were steadily increasing in size. The patient stated that she married March 12, 1905, and four weeks later she began to experience a slight irritation, mostly in the nature of an uncomfortable sense of scratching on the affected right side of her throat. During the course of a few weeks the discomfort materially increased, and the pain became very intense, gradually subsiding the past three or four weeks, until at the present time she experienced no evident distress. Although the roseola had not as yet made its appearance, the diagnosis of an extragenital right tonsillar syphilitic chancre of a probable connubial origin was promptly established; the absence of the husband precluded the examination for confirmatory infectious plaques on the oral mucous membranes.

The patient presented herself for the second time June 20, and stated that there was some sort of a sore on her genitals which caused her some annoyance. An examination revealed a large, well-defined hard chancre situated on the crest of the right labium majus, the size of a silver quarter, with indurated base and edges. The ulcer, from which oozed just enough serous discharge faintly to stain the otherwise immaculate undergarments, was clean-looking and glazed in its appearance. The inguinal glands on the left side were markedly enlarged, insensitive to pressure, and freely movable, and those on the right side were much smaller, but otherwise similar. The patient stated that the genital lesion began about three or four weeks ago, and fully a month after the first throat manifestations asserted themselves, in the form of a small excoriated pimple, and had steadily increased in size, without causing her subjective pain and distress. On June 20 I referred the patient to a laryngologist, Dr. T. V. Fitzpatrick, who confirmed the diagnosis of tonsillar chancre.

Cases of multiple syphilitic chancres, separated from each other by considerable distance on the surface of the body, are rather infrequent. Cases of genital and extragenital chancres are even more rare, and almost unheard of in women for the reason that the genital lesion in the female sex is frequently so carefully concealed that its presence cannot be readily detected. Sherwell[13] reports the case of a wet nurse who was infected on both nipples by a child suffering from hereditary syphilis, whose mouth was full of mucous plaques. Feulard[4] re-

*Presented to the Cincinnati Academy of Medicine.

ports a chancre upon each elbow of a patient who had been treated for scabies at the Hôpital St. Louis, Paris, and assumed that the syphilitic virus gained access to the scabetic lesions from a contaminated examination table, the probability of which was strongly denied by Besnier. Pringle[12] reported a case of seven infecting lesions, all extragenital, which were situated respectively on the upper lip, forehead, left thigh, left leg, right buttock, and left nostril; they all had an apparently simultaneous development, but were of unknown origin. Petrini[10] reports a case with six extragenital chancres, all situated upon the face. Gruder[6] reports an initial chancre on the upper eye-lid, infection being derived from an hereditary syphilitic child, which was followed three weeks later by the appearance of a second or postinitial chancre on the opposed lower lid. Cases of this character are quite numerous in the literature, but cannot be properly classed with multiple infections. The postinitial lesion in such cases is not an infection, but is the result of the irritative and macerating discharges emanating from the opposed mucous or cutaneous surface. Morrow[10] reports a double chancre of that character on the upper and lower lips in a young man, and Julien[7] one of both tonsils of a young girl; the question whether these are multiple infections or the result of irritation from the opposed primarily infected surface will be clinically determined largely by their initial or postinitial development, and if postinitial they can be properly termed *Chancre irritatif*.

Few cases, to my knowledge, have been thus far reported of genital and extragenital infection in females. Ledermann[9] reports a child infected by the mother, with one lesion on the labium majus, the other in the inguinal region. Cases in males are more numerous. Dumesuil[3] reported two cases, both on the lip and the penis, to the American Medical Association in 1888. Charrier[2] reports an initial infection on the pubis, which was followed in twenty days by the appearance of the second (postinitial) chancre on the penis. Lang[8] reports three cases from personal experience, in his textbook on syphilis, one lesion on the genitals in each case, and the other on the chin, eyelid, and finger. Gaucher[5] reports an interesting case of genital and extragenital lip infection, in which the latter (postinitial) lesion manifested itself much later than the first, or initial lesion, and a considerable time before the appearance of the roseola. Audry[1] reports a chancre (postinitial) of the lip that developed fully a month after the initial lesion manifested itself on the penis, and after the latter was entirely healed, and simultaneous with the roseola.

It is commonly regarded that the severity of a syphilitic infection depends upon two essential factors—the impaired physical condition of the host, and the intensity of the infecting virus. Cases of so-called malignant syphilis, syphilis præcox, galloping syphilis, where the disease runs an unusually severe, rapid, and acute course, are strongly predisposed by general impairment from natural or intercurrent causes, and by an intense infection, as manifested by severe primary and early secondary manifestations. The latter is far more pronounced when derived from a case which is pursuing a rather severe course in a relatively early stage. It will be a matter of some interest to determine, in cases of dual infection, if the subsequent course of the disease is thereby in any way modified, and particularly if a postinitial infection from a more favorable case can exert in any manner an immunizing influence. If such would be the case, a great triumph could be readily secured in syphilitic therapy, as has already been attained by vaccination in incipient smallpox.

The interesting features of the case under consideration are: (1) Genital and extragenital infection in a female; (2) the exquisite clinical type of both primary lesions; (3) the remote disposition of the lesions on the surface of the body; (4) the long period of interval—five weeks or more between the development of the initial and postinitial lesions.

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**The Local Treatment of Neuroses of the Upper Air Passages.**—Henry L. Swain in this article considers principally those diseases of the nose and nasopharynx which may be classed under the hay-fever type. He believes that a great deal may be accomplished by general care of the nose. There is nothing more helpful to facilitate healing after any simple operation in the nose, to cause diminution of the chronic hyperemia, and to restore the health of the membrane than daily cleansing. This may be done with simple decinormal saline solution. The nose should be cleansed twice a day and viscid secretions removed by use of sprays, douches, and simple stimulating powders, on the principle of pure boric acid. Many times under this régime the simple general hypertrophy, especially that of the edematous type, gradually subsides. The writer declares that simple measures, mild, continuous effects, are most essential in the treatment of these hyperesthetic conditions. Harsh measures should be used only when they are especially indicated. Care should be taken that the ciliated epithelium be not frequently destroyed, for it performs the important function of hastening the passage of the secretions from the membrane as they gather on the surface. The hay-fever patients' symptoms are due far more often to disturbances of the middle turbinate region, the anterior and upper part of the nasal septum, and in some cases the areas toward the posterior border of the latter, than all of the other parts of the nose put together. Examination will almost always reveal some pathological changes in one or more of these areas. These conditions require treatment. Anything that blocks the passage and interferes with easy breathing or easy cleansing of the nose should be removed. The cause of the particular form of irritation from which the patient suffers should also be sought for. It may be the emanation from some animal such as the cat or the horse. It may be that the occupation of the patient is irritating, like working in a tobacco shop or among the furs of animals. In certain cases if the occupation is changed the attention of the rhinologist is unnecessary. On the other hand, in certain cases, when, for example, a bent septum is straightened or hypertrophies are removed, the patient may continue his occupation with very little further trouble. It is generally best not to do radical operative work during the hay-fever period, but rather to soothe the nasal membrane by simple local treatment. Cleansing the nose several times a day with a mild alkaline solution, accompanied or followed by adrenalin chloride, for example, will tend to reduce the swelling and relieve the irritation. In bronchial asthma the nasal mucous membrane and cavities should be put into as good condition as possible.—*Yale Medical Journal.*

# MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, August 12, 1905.


## A NEW CHANNEL OF INFECTION.

In the Address in Surgery delivered before the British Medical Association on July 27, Mr. C. J. Bond made a welcome departure from the conventional lines usually followed in such formal addresses. Instead of reviewing the progress of surgery during the past year or the past century, and recounting to his hearers what they already knew, he introduced an entirely novel theme and told his auditors of a discovery he had made, of which they had no previous knowledge, the consequences of which may be far reaching and of the highest importance. The address is published in the present issue of the MEDICAL RECORD, some of the details of the individual experiments only being omitted for the sake of economy in space, and those interested are referred to it for the facts of Mr. Bond's discovery of an upward current in the mucous canals of the body. This "ascending current" is evidently not due to muscular contractions, analogous to antiperistalsis in the intestinal canal, for it exists—intermittently perhaps—in the urethra, male and female, the common bile ducts, and even the lacteal ducts; moreover, it was found to exist in the intestine during active peristaltic movements. What the mechanism may be—whether capillary attraction along folds in the mucous membrane lining the various channels in which Mr. Bond's experiments were made, irregular contractions of the muscular fibers in the walls of those canals, or, as the author is inclined to believe, a current in the mucus lining the tubes—one can only conjecture at present.

The existence of such an ascending current, strong enough to carry with it particles of indigo, will serve to explain many cases of infection hitherto most puzzling. As the orator says, "the rapid ascent of the urethra by the nonmotile gonococcus, and the colonization of deeper portions of the tube, apart from direct extension of growth, and the absence of instrumentation or injection are thus explained. The ascending infections of the kidney by way of the ureter can also be investigated from this point of view." If pigment particles of macroscopical size can be thus transported a variable distance upward from the external opening of a mucous canal, it is conceivable that pathogenic microorganisms might be carried any distance and it would be no longer necessary to invoke the blood current or the lymph stream as the channel of infection in many cases, such as mammary abscess, or a cystitis occurring before the use of the catheter. Indeed, the significance of an upward mucous current, should its existence be confirmed by other observers, can hardly be overestimated, and one will readily agree with Mr. Bond that the presence of such a current as he describes "points to the necessity for the active recognition of the importance of all communications between the efferent canals of the body and the external world, and thus accentuates the value of personal hygiene and true cleanliness."

## SCOPOLAMINE AS AN ANESTHETIC.

TERRIER of Paris, following Schneiderlin, describes what is claimed to be a new anesthetic, and which is said when used hypodermically to produce complete insensibility lasting from nine to ten hours. The patient is thrown into a profound sleep from which he awakens as from a natural sleep, refreshed and without any idea of having been operated upon. There is not the complete relaxed muscular condition which accompanies chloroform or ether narcosis, thus offering in a large measure, material assistance to the surgeon who is better able to judge of the effect of the loss of tissue. It is declared that a patient can be aroused by shaking or when spoken to in a sharp and loud voice, but that pinching or pricking has no effect. When aroused by shaking he awakens as from a natural sleep, only to relapse without the sensation of pain. In fact he will not believe, after recovering from the anesthetic, that an operation has been performed until evidence is shown him. There is no nausea, vomiting, or distressing headache following; on the contrary, the appetite is good, food being called for, and when taken producing no disturbance whatever. This anesthetic agent is scopolamine, an alkaloid obtained from *Scopola japonica* or *Scopola carniolica*, one of the family of solanaceæ, from which atropine and other familiar alkaloids are obtained. Scopolamine has been known and used for some years as a powerful mydriatic and as a sedative, but only recently has it been known to have anesthetic properties. It is used with morphine and given in three separate hypodermic injections, the patient passing with each into deeper sleep until, after the third, he is quite insensible. The remedy is used hypodermically only, one milligram (.001) of scopolamine and one centigram (.01) of morphine in a cubic centimeter of water being injected four hours before the operation, again in two hours, and after a further interval of one hour the third or final injection is given. There is at times profuse perspiration, this effect being exactly the reverse of that from atropine. In some instances patients have seemed to be fully awake throughout the operation, often speaking and sometimes insisting upon the use of another anesthetic.

Mandragora (also called mandrake, but different from our native mandrake, podophyllum or May apple) also a member of the solanaceæ, which has similar properties, was highly esteemed by the ancients as a narcotic and hypnotic as well as an aphrodisiac and anesthetic. An alkaloid has been obtained from mandragora which is known as mandragorine; it has the formula $C_{17}H_{23}NO_3$, while that for the scopolamine is $C_{17}H_{21}NO_4$.

Frequent mention of mandragora is made by the classic writers. It was esteemed as possessing other than medicinal or toxic properties, because of the superstition that it grew best and possessed greatest worth over the buried remains of an executed criminal. The peculiar shape of the root—forked and divergent—gives it a somewhat human appearance.

The gods were supposed to make frequent use of this plant and its roots, and to place restrictions upon its use by mortals. When the plant was pulled from above the dead, groans and shrieks were heard, and those who were unfortunate enough to hear these either died or at once became insane. The great peril involved in securing so valuable a plant caused those wishing it to resort to measures that would prevent the person from hearing the fatal noises. One method was to entice a dog into the burial ground, fasten him by cords to the plant, and after sealing the ears with some substance intended to prevent the hearing of the perilous sounds, run for dear life; the dog would struggle to follow and thus tear the plant from the ground and bring it to his master, who happily escaped a miserable end. The dog, however, was a sacrifice as he was sure to perish. Shakespeare makes Juliet refer to the superstition regarding these evil sounds in "Romeo and Juliet," Act IV, Scene 3.

"So early waking—what with loathsome smells,
And shrieks like mandrakes torn out of the earth,
That living mortals, hearing them, run mad."

The similarity of mandragora to scopola is noted in that mandragora was esteemed a local anesthetic and was given in wine to those to be crucified to prevent their mental distress and pain. It is found by modern investigators to possess narcotic properties—in some instances producing hysterical excitability—in fact similar in action to our belladonna. Mandragorine, the alkaloid, resembles the mydriatics, atropine and hyoscyamine. Mandragora was also used by the ancients as an aphrodisiac.

Concerning the hypnotic or anesthetic effect of mandragora, we note in "Antony and Cleopatra," Act I, Scene 3, the following:

*Cleopatra*—Give me to drink mandragora.
*Charman*—Why, madam?
*Cleopatra*—That I might sleep out this great gap of time
My Antony is away.

This is just what is being claimed for scopolamine, an hypnotic action to last for hours.

Now note again in "Romeo and Juliet," Act IV, Scene 1, where Friar Lawrence describes the action of the contents of the vial which he gives to Juliet:

Take thou this phial, being then in bed,
And this distilled liquor drink thou off;
When presently, through all thy veins shall run
A cold and drowsy humour, for no pulse
Shall keep his native progress, but surcease;
No warmth, no breath, shall testify thou livest.
The roses in thy lips and cheeks shall fade
To paly ashes; thy eyes' windows fall,
Like death, when he shuts up the day of life;
Each part, depriv'd of supple government,
Shall, stiff and stark and cold, appear like death.
And in this borrowed likeness of shrunk death
Thou shalt continue two and forty hours,
And then wake as from a pleasant sleep.

It is impossible to say what, if any, drug or combination of drugs was used by Friar Lawrence to produce the semblance of death in Juliet. There are numerous ones which will produce prolonged sleep, but in all such cases the pulse is in evidence. There are also bodily warmth and breathing which can be determined. Opium, which was largely used in Shakespeare's time, and in fact for centuries before, could not have been alone the drug here described, for while opium pushed to complete narcosis will produce apparent death and a number of the symptoms described by the friar, there would surely be death or recovery short of two-and-forty hours. Besides, there would have been the stertorous breathing, alone sufficient to disclose life to Paris. Mandragora or possibly the plant *Scopola japonica*, from which scopolamine is procured, might have the drug used or referred to.

It is possible that scopola was used by the ancients as well as mandragora—their effects seem to be identical—and that we are rediscovering a remedy which was used centuries ago. Similar experiences are recorded, and much that we to-day believe to be modern can be traced back to ages long forgotten and unknown but for the classic writings which have been preserved.

## THE MECHANISM OF JAUNDICE.

It is not always easy—in fact it is at times very difficult—to discern the condition upon which an existing jaundice depends. Most often this consists in a catarrhal state of the mucous membrane of the biliary passages. Next in frequency as a causative factor is the presence of gallstones in the ducts, while other less common underlying states are obstruction by worms, cicatrices, or new-growths, compression by tumors or displaced organs, toxic processes, and infectious diseases, circulatory disorders and emotion. The subject is discussed in an interesting manner by Professor Gerhardt (*Münchener medizinische Wochenschrift*, May 9, 1905), in a communication presented recently before one of the German medical societies. He points out that, according to one view, bile is absorbed from the capillary biliary passages between the hepatic lobules, but histological investigation has shown that the process takes place in the intralobular bile-capillaries. There is further a difference of opinion as to whether absorption takes place through the blood-vessels or through the lymphatics.

In some cases the cause of the jaundice will be found to consist in an obvious obstruction to the flow of bile, for example by a calculus, but in a considerable number of other cases no such factor can be discovered. It has been thought by some that jaundice may result from urobilin as well as from bilirubin and biliverdin, but adequate support for such a view is wanting. In cases in which no disorder of the biliary passages can be demonstrated it seems most likely that the pigment is derived directly from the hemoglobin of the blood. Accordingly, a distinction has been attempted between hepatogenous and hematogenous jaundice. It has not, however, been shown that transformation of sufficient hemoglobin can take place in this way to result in discoloration of the entire body. In the case of jaundice of toxic origin, also, it has been found that the biliary pigment is derived from the liver, appearing together with biliary acids in the urine. Besides, this form of jaundice does not develop if the liver be excluded, and it has been attributed to polycholia or pleochromia resulting from disintegration of red blood corpuscles and the setting free of hemoglobin in the circulation. Under these circumstances also, the jaundice is in reality of hepatogenous origin. An analogous explanation is applicable to the jaundice attending hemorrhage, pneumonia, and diseases of the heart, and occurring in the newborn.

The distinction as to the origin of the condition is not without practical significance. Often there is in addition a catarrhal state of the biliary passages, and it has been thought that at times the liver cells themselves are the seat of disease. In this connection it

is probable that bacteria—and especially the bacillus coli communis—play a most important part. The utility of intestinal disinfection and elimination must therefore be obvious.

### A Filter Plant for New York.

The letter which Health Commissioner Darlington recently sent to the Mayor, urging upon him the necessity of having the water supply of New York filtered before it is distributed through the city, has excited little comment in the daily press—much less, indeed, than the exceedingly great importance of the subject would call for. The question of expense offers a fatal objection to the measure in the minds of the unthinking, and we admit that a proper filtration plant would cost money. Dr. Darlington estimates that it could be built in two years at a cost of $17,000,000, and that thereafter its maintenance would cost the city $900,000 a year, including interest on the original expenditure. In presenting this estimate he says: "This may be a large sum to pay for pure water, but a careful computation of the yearly loss in wages of those who become ill, and those who die from drinking impure water, the private and public expense of caring for the sick and burying the dead would, I believe, more than maintain a filtration plant and pay for the interest on the investment." We have not far to go for arguments in support of this contention. The situation in Philadelphia is ideal so far as the furnishing of comparative statistics goes. Part of the city is supplied with filtered water, part with untreated river water, and another part with a mixture of the two. In the entire city the average weekly morbidity from typhoid fever during the past ten weeks was 7.48 for each 100,000 population, while in wards supplied by direct pumpage from the Delaware River, the weekly average has been 26.34 for each 100,000; in wards supplied almost wholly with filtered water the average has been 2.37, and in wards supplied exclusively with filtered water 0.49. In New York City during the past six weeks, there have been 519 cases of typhoid fever reported to the Board of Mealth, and during the next six months the number will be proportionately very largely in excess of this. It needs little figuring and less imagination to convince oneself that the saving of even half of this morbidity from typhoid fever alone would be cheap at an annual expenditure of less than one million dollars.

### Asia's Possible Danger from Yellow Fever.

Sir Patrick Manson, the Director of the London School of Tropical Medicine and Medical Adviser to the British Colonial Office, passed through New York last week on his way to San Francisco, to deliver the Lane lectures before the Cooper Medical College. In a reported interview while here, he called attention to a point in connection with the Panama Canal which has been spoken of a number of times, but has received slight consideration as yet, and that is the possibility, when the canal is completed, of the introduction of yellow fever into Asia. Yellow fever is still unknown in Asia, but should it be introduced there Sir Patrick Manson said, the prevailing habits of life of the natives would make the consequences terrible. The question of the sanitation of the canal zone is, therefore, not merely a temporary problem during the building of the canal, but the welfare of the world demands that the region be rendered permanently safe and healthful. This, of course, is very true, but the danger would be comparatively slight, even if the American sanitarians neglected their duty, for the voyage of two weeks from Panama to any Asiatic port, would suffice to bring into evidence any infection contracted on the Isthmus, since the extreme period of incubation of yellow fever in five days. It is, furthermore, not likely that any ship would harbor infected mosquitos for a fortnight without their presence making itself known by new cases of fever occurring after the lapse of five days from port. In that case the ship would be known to be infected, and precautions could be taken.

## News of the Week.

**The Yellow Fever Situation in New Orleans** presents little change. The health officers seem to have the epidemic fairly well in hand, though there has been no marked falling off in the number of new cases. At the request of the city and State authorities the U. S. Public Health and Marine Hospital Service has taken charge of the situation, Dr. J. H. White being in command. The work will be prosecuted along the same general lines as before, but instead of having only one organization, the city will be divided into fifteen or twenty districts, over each of which a Marine Hospital surgeon will be placed in charge. Under him will be a force of workers for fumigation, mosquito destruction, and general sanitation work, All these men will be commissioned by Mayor Behrman as police officers, with full power to enforce the sanitary ordinances. Forty surgeons will be detailed for the work, and they will be assisted as far as possible by the men already in the employ of the Citizens' Sanitary Association. Without disparagement to the work already accomplished by the local authorities, it is a matter of congratulation that the management of the epidemic has been placed under national control. The officers of the Public Health and Marine Hospital Service are trained men, familiar with the means of fighting epidemics, and they will compel the respect and confidence of the neighboring communities which are now given over to panicky distruct of the New Orleans officials. The latter, we doubt not, would have succeeded in arresting the progress of the epidemic in time, even without the help of the Marine Hospital Service, but under Federal control the process of sanitation will be more rapid and thorough. The communities which have been enforcing a strict shotgun quarantine may have to relax a little, for they are threatened with famine, all communication with the outside world having been absolutely cut off, and the local food supplies being nearly exhausted.

**A Commission from the Liverpool School to Study Yellow Fever.**—Sir Alfred Jones, President of the Liverpool School of Tropical Medicine, has requested that Major Ronald Ross and Dr. Rupert Boyce, professor in the school, be allowed to go to New Orleans to study the disease and the measures employed in overcoming the epidemic. The two professors sail for New York on Saturday of this week.

**Steamer from Colon Quarantined.**—The British steamship *Barnton,* from Port De Paix, Hayti, for Chester, Pa., has arrived at the Delaware breakwater with fiftcen of her crew ill with what is believed to be malarial fever. The vessel was remanded to the government quarantine station at Reedy Island, Del., for fumigation and observation. The vessel had been at Colon before touching at the Haytian port and shortly after leaving the latter place the illness among the crew developed. None of the crew have been allowed to leave the vessel, and the development of the disease is being watched by the United States Marine Hospital authorities.

**Efforts at Mosquito Extermination Successful.**—Reports from various points in New Jersey and Long Island that in previous years have suffered severely from mosquitos, show that the determined campaign waged against the pests this season has been very successful. Many localities that have hitherto been extremely undesirable as summer resorts have been rendered thoroughly comfortable by the energetic drainage operations and oiling of pools that have been carried out. Still, it is said that mosquitos are few this year also in regions in which no efforts at extermination have been in force, and possibly the dryness of the summer has aided the work of the sanitarians.

**Measles in a Chicago Suburb.**—Evanston, Illinois, has an outbreak of the measles, 200 cases having been reported to the health department. More deaths have occurred from the disease, it is stated, than from scarlet fever and diphtheria. The spread of the contagion has led the health department to order a strict quarantine of all cases and all persons in the families where the cases exist are included in the order. Persons who never have had the measles are forbidden to enter any house where the disease has been found, and all such houses are placarded. Every physician in Evanston has been asked by Health Commissioner W. R. Parkes, to assist in the effort to stamp out the disease by promptly notifying the health department and taking such preventive measures as he may see fit. The Evanston branch of the Chicago Medical Society has taken the matter up, and appointed a committee consisting of Dr. Sarah Brayton, Dr. H. B. Hemenway and Dr. S. V. Balderston to assist the health department.

**The Irish Medical Graduates' Association** held its nineteenth annual meeting at Leicester on July 26, the senior foundation member present, Dr. Freer of Stonebridge, taking the chair. The principal subject of discussion was the continuance of the alleged monopoly of honorary hospital appointments in England to those holding the diplomas of two favored colleges, viz., the College of Surgeons of England and the College of Physicians of London. It was agreed to make an endeavor to get such a monopoly brought to an end, as being contrary to the principles which guided Englishmen in all their actions. One of the speakers said it was an absurd anomaly that England should proudly boast of free trade in regard to commerce while denying it with respect to medical appointments. The open door was the method of the day, but in the case of a large number of English public hospitals the door was shut to Irishmen and Scotsmen.

**Music Treatment for the Insane.**—A concert given for the inmates of the Dunning, Illinois, asylum recently demonstrated the effect of music upon these patients. Four hundred insane men and women listened quietly from the first number on the program until the conclusion. Patients who, in the wards are continuously restless, sat quiet and subdued. In the words of Dr. Podstate, general superintendent, the music was "better than barrels of medicine, and much more effective than straps or strait-jackets."

**Cholera in India.**—A despatch from Madras, dated July 31, states that a serious epidemic of cholera prevails among the refugees from the famine-stricken districts who have been crowding into the city for weeks past. Numbers of victims have been found dead or dying on the streets. The death rate is 89.7 per thousand.

**The Consumption of Tobacco** in this country is increasing, according to the internal revenue statistics for the fiscal year ending June 30. During that year tax was paid on 7,589,337,200 cigars—more than 185,000,000 in excess of the year before, and on 3,376,633,973 cigarettes—nearly 142,000,000 more than during the preceding year.

**Tuberculosis Sanatorium Not Wanted.**—Permission was recently asked of the Board of Councillors in a town in this State, for the establishment of a sanatorium for tuberculosis. Statistics were quoted to demonstrate that hospitals for the treatment of tuberculosis are not a menace to the public health. Despite the figures, when the matter was put to a vote, there was only one affirmative ballot cast, and the enlightened citizen who cast that ballot was an undertaker.

**Increase in Immigration.**—The immigration statistics for the past fiscal year have been completed and show an increase of nearly twenty per cent. over the figures of previous years. The total number of aliens admitted during the year ending June 30 was 1,027,421. In 1904 there were 812,800, and in the preceding year 857,046. The largest percentage of increase from any one country has been from Russia. The Rusisan immigration in 1903 was 136,093; in 1904 it was 145,141, to be swelled this year to 184,894. The number of deportations has also largely increased, the figure of 11,566 for the past year being about a third larger than that for 1903.

**Smallpox in Harlem.**—The first cases of smallpox to originate in New York in a number of months were discovered last week in Harlem. The patients are two colored men, brothers, who lived together, and the one who was first affected suffered so little that he continued about his work for over a week, cleaning windows and doing odd jobs in many places. Then it was discovered that his brother had smallpox and both were sent to the Kingston Avenue Hospital in Brooklyn. Daily inspections of the tenants in the block in which the men lived are being made, and will be continued for twenty-one days.

**Medical Director John C. Wise, U. S. N.,** has been given command of the naval medical school at Washington. He succeeds Medical Director Robert A. Marmion, who has been assigned to other duties.

**Homeopathic Medical Society of South Eastern Ohio.**—At the recent meeting in Zanesville, O., the following officers were elected: *President,* Dr. E. P. Cook, of Granville; *Vice-President,* Dr. Martha N. McBride, of Zanesville; *Secretary and Treasurer,* Dr. Harry E. Hunt, of Newark. Newark was selected as the place for the next meeting to be held in January.

**Willamette University** in Oregon is to have a medical school and plans have been drawn up for a building to be used for this department. It is hoped to have the exterior work finished before the beginning of winter.

**Typhoid Fever in Brooklyn.**—Within the past six weeks there have been nearly sixty cases of typhoid fever reported from one district in Brooklyn, twelve of these cases occurring in one week. In the entire city the number of cases is increasing rapidly, having risen from 47 cases and 0 deaths for the week ending July 8, to 122 cases and 13 deaths for the week ending August 5.

**The International Anatomical Congress,** which has been in session in Geneva during the past week, has accepted an invitation to meet in Boston in 1906.

**Obituary Notes.**—Dr. Robert Maitland Petrie died suddenly at his home in Jersey City, on August 3, from heart disease. Dr. Petrie was born at Libert , N. Y., in 1850. He was educated at Princeton and afterwards studied medicine at the Univer-

sity of Pennsylvania, taking his degree from that institution in 1871.

Dr. Robert F. Beattie, a Brookline physician, died in the surf at Phillipsbeach, Swampscott, on August 6. He had been in poor health for several months and in the opinion of the medical examiner death was due to disease of the heart.

Dr. Henry Hatch of Quincy, Ill., died July 24 at the age of fifty-seven years. He was a graduate of the Louisville Medical College in 1872, and of the Long Island College Hospital, Brooklyn, in 1880. He was ex-president of the Tristate Medical Society, and a member of the Mississippi Valley Medical Society, the International Academy of Railway Surgeons, the Adams County Medical Society, and the American Medical Association.

Dr. O. Wellington Archibald of St. Paul, Minn., died suddenly on July 27, at the age of sixty years. He was a native of Nova Scotia and was a graduate of the College of Physicians and Surgeons, Keokuk, Iowa, in 1871, and of the Missouri Medical College in 1873. He was formerly superintendent of the Iowa Institute for Feeble Minded and of the North Dakota Hospital for the Insane.

Dr. Isaiah White of Salt Lake City died July 23 at the age of seventy-seven years. He was a graduate of the New York University Medical College in 1855 and had practised in Salt Lake City for thirty-one years.

Dr. Louis Lynn McCabe of St. Louis died July 27 at the age of fifty-five years. He was a native of St. Louis and was graduated from the Medical Department of Washington University in that city in 1872. He was on the attending staff of Mullanphy Hospital for twenty-five years.

Dr. George Ayers Hewitt died at Cape May, N. J., on August 1, at the age of fifty-seven years. He was born at Philadelphia, and was graduated from Jefferson Medical College in the class of 1877. He engaged in the practice of his profession at Minneapolis for a time, but later returned to Philadelphia. He was a noted linguist and he did a considerable amount of literary work.

Dr. E. B. Hutcheson of Buchanan, Ga., died suddenly, July 27, at the age of eighty years. He received his degree from the Atlanta Medical College.

Dr. Francis Marion Setzler of Whitmire, S. C., died July 29, after an illness of several months' duration. He was a graduate of the Medical College of the State of South Carolina in the class of 1862.

Dr. E. G. Martin, Jr., of Glasgow, Ky., died July 21 at the age of twenty-seven years. He was a graduate of the Louisville Medical College in 1904.

Dr. John M. Edwards of Bevier, Mo., died July 31, at the age of fifty-one years. He was a graduate of the Medical Department of the University of the State of Missouri, in the class of 1883.

Dr. J. Francis Ross, sixty-two years old, died at his residence in Clarion, Pa., on July 28. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1868. In 1876 he was vice-president of the State Medical Society and later of the American Medical Association. For years Dr. Ross was assistant medical director of the Pittsburg and Western Railroad and a member of the board of pension examiners.

Dr. Robert Walter Pearce of Louisville died on July 28. He was born near Shelbyville, Ky., in 1830, and was graduated from the Medical Department of the University of Louisville in 1852. He practised for a time in Jefferson County and then returned to Louisville. He retired from active practice several years ago.

## Correspondence.

### NEW ORLEANS AND HER NEIGHBORS.

To the Editor of the Medical Record:

Sir: I was very much pleased to see the reference to yellow fever having prevailed in the past in Philadelphia and other Northern cities in your most excellent editorial headed "The New Orleans Experiment," in your issue of August 5. I have seen yellow fever transmitted to people residing in districts where the stegomyia fasciata mosquito was unknown. Hence I believe that while this variety of mosquito will transmit the disease by carrying the infection from a yellow fever patient to another person, it is only an incident, not a necessary factor, in transmitting the disease. Experience is the best teacher and the facts justify my conclusions.

During the time that I was secretary and executive officer of the Tennessee State Board of Health, it became necessary for the Mississippi Valley States to force New Orleans to observe certain rules and regulations to prevent the infection going up the river. It was forced to adopt the suggestion agreed upon by a conference of these States, and it is therefore inexcusable to find at this late day these well established rules overlooked by the Louisiana authorities, to say nothing of carelessness in not having already attempted to do the reasonable thing in reference to getting rid of mosquitos. I therefore rather approve of the action of Mississippi's strenuous governor because, if New Orleans will not keep her promises, if she continues to violate well established rules, if she lazily sleeps through the quiet times and only wakes up when forced to do so by her neighbors, I would say now in all seriousness that the surrounding States and the national government should make it so hot for Louisiana that she will not go asleep again for a half century at least. What is the use of finding the truth and then not being guided by its teaching? Why should the other States take such great risks simply because New Orleans does not keep her promises made years ago?

As to New York City and other Northern cities I would urge our health officers not to feel too secure—not to play with fate. Let them keep in mind epidemics of the past which depopulated various Northern centers, and allow no person who has not passed the limit of time to enter our ports.

C. C. Fite, M.D.

New York.

### OUR LONDON LETTER.

NEW RED CROSS—THE HEALTH CONGRESS—A FOURTH CENTENARY OF A MEDICAL BODY—FEEBLE MINDED—CONFERENCE ON EPIDEMIC SMALLPOX.

London, July 21, 1905.

A new Red Cross Society has been inaugurated under the most favorable circumstances. The step has been taken under the auspices and indeed at the instigation of their Majesties the King and Queen, who recently came to the conclusion that such a new organization was desirable. The idea is to coordinate all existing societies which are concerned with the succor of the sick and wounded in war. A council has been appointed by their Majesties under the presidency of the Queen, with Lord Rothschild as chairman.

The first meeting of this council was held on Monday at Buckingham Palace. The Queen presided and opened the proceedings with a speech. Her Majesty said it had been on her mind ever since the South African War and she became president of the Red Cross Society to try and reorganize it on a more practical basis. It was a great pleasure to her to find that the council consented to join hands with the National Aid Society founded by that distinguished soldier, the late Lord Wantage. The new society is to be based on membership and association, to be entirely voluntary and recruited from all classes throughout the Empire. It will be in touch with the War Office and Admiralty, but act wholly independent of them in time of peace, but naturally in time of war must be under military and naval control. "I therefore now appeal," said the Queen, "to all the women of the Empire to assist me in carrying out this great scheme, which is essentially a woman's work, and which is the one and only way in which we can assist our brave and gallant army and navy to perform their arduous duties in time of war."

Lord Rothschild then gave some particulars of what had been accomplished by the several societies who will now be amalgamated and the advantages that may be expected from this step. The inestimable value of the Queen's presi-

dency was naturally the first, but as his Lordship also pointed out, the new society will have the advantage that on its council will be those who have the most intimate knowledge of what soldiers and sailors require in time of war and who know to what extent and in what way the society can work in harmony with the military and naval authorities. There will also be on the council eminent physicians and surgeons who were present in the South African War and some civilians who were there also. I notice, too, there are ladies to support their Queen.

It was agreed to appoint an executive council, probably in September. Mr. Vokes, Secretary of the National Aid Society, was appointed Secretary to the new Red Cross, and the meeting closed with expressions of thanks and gratitude to the Queen for presiding.

The Fourteenth Congress of the Royal Institute of Public Health is being held this week in London. It began on Wednesday with a meeting of the delegates, numbering over a thousand, who came from all parts of the United Kingdom and from several colonies and India. The institute was founded nineteen years ago with the object of associating those engaged in teaching the various branches of preventive medicine and all others engaged or interested in the promotion of public health or the development and settlement of questions affecting the health of the community.

The representatives of municipalities appeared in their robes of office and many graduates of universities in their academic costume, so the scene presented a lively appearance.

Professor W. R. Smith, president, welcomed the delegates and thanked the London health authorities who had all joined in the preparations for the congress. The Marquis of Londonderry was then invested with the chain of office, as president for the year, and delivered his address. In it he dealt largely with the subject of education in its relations to sanitation, as was natural in the minister of the department. He could not support some of the proposals which have obtained the approval of a certain number of sanitariums, but which would import new principles into our legislation. The matter of underfed children and care of the degenerate were examples. There were parts of these problems that could not possibly be touched by legislation. The task before us is to spread that social education which taught people how to live; not merely to provide immediate necessities, but to make provident provision for the future. We could not go armed with the power of the law to impose wholesome living on everyone. In schools it was useless to lay down rules for preserving health. The fundamental instruction is rather how to put such rules in practice. His Lordship then mentioned what was being done by the education department respecting both pupils and teachers, and held that there was great hope of reducing the numbers of those who by physical and hygienic defects menaced the welfare of the nation.

A vote of thanks was accorded to the president. During the day many of the delegates visited the Health Exhibition at the Polytechnic, where some of the sections are held, the others being at King's College.

In the evening there was a fête in the Botanic Gardens, which were beautifully illuminated, and a military band provided music.

Yesterday and to-day sectional meetings occupied the time from 10 A. M. to 1 P. M. and 2 to 4 P. M. They will be resumed on Monday. The rest of the day was given to garden parties, dinner and so on. There are eight sections, viz.: Preventive medicine, municipal administration, school hygiene, engineering and building, bacteriology and chemistry, veterinary hygiene, naval and military hygiene and tropical hygiene. In all these presidential addresses are announced and papers will be read. What a plethora of hygienic instruction!

This week also the Edinburgh Royal College of Surgeons is celebrating its fourth centenary, as it traces its history back to July, 1505. Yesterday the Fellows assembled in the old Parliament House and then proceeded to St. Giles's Cathedral, where a special service was conducted. After this they were entertained at luncheon by the municipality. Then they had a commemorative meeting in the McEwan Hall of the University, Sir Patrick Heron Watson, president of the college, in the chair, supported by Lord Provosts of Edinburgh and Glasgow, Principal Turner and other members of the universities of Scotland, the Lord Justice General and other judges as well as a number of public bodies. A reception in the evening concluded a busy day.

The Edinburgh College is the oldest of our medical authorities. It was originally incorporated as a burgh craft by the Town Council, but in its long history has received various charters. By 1778 it had become a royal college, but it was not until 1851 that it attained all the privileges it enjoys and which were confirmed by the Medical Act of 1858. With sufficient time and space at one's disposal many interesting points of medical history might be given in connection with this ancient corporation.

Dr. Clifford Allbutt, giving evidence before the Commission on the Feeble-minded, said if there is any increase in the number of such persons it was only because we are doing our best to breed them. Their lives are spared, their physical condition improved and their freedom enlarged, while little or nothing is done to prevent their propagating their kind. Yet the influence of heredity is well known to physicians.

A conference on the prevention of epidemic smallpox was held at the Mansion House on Tuesday, the Lord Mayor in the chair, under the auspices of the Imperial Vaccination League. The Lord Mayor of York moved a resolution pointing out the needless suffering and waste of public money incurred, and declared he had no sympathy with the "conscientious objector." The Lord Provost of Glasgow seconded, adducing figures from that city proving the value of vaccination. Sir W. Church followed and showed that the mortality from smallpox in this country was ten times that of Germany. The Duke of Northumberland, the Mayors of Preston and Birkenhead, Mr. Brudenell Carter and Dr. Armstrong, M. O. H. of Newcastle, also spoke, and a memorial was extensively signed urging the government to adopt such legislation as had been so successful in Germany.

## Progress of Medical Science.

*Boston Medical and Surgical Journal, August* 3, 1905.

**A Case Illustrating the Local Conditions after a Suprapubic Enucleation of the Prostate.**—Arthur L. Chute reports a case interesting because it shows the conditions of the bladder and surrounding structures in a patient dying twenty-three days after the operation. The patient was 72 years old. When he came under the observation there was absolute retention due to a valve-like mass that arose from the intravesical portion of the left lobe which shut over the internal meatus. There was also lateral pressure exerted upon the prostatic urethra by a relatively small fibrous prostate. The placing of too much importance upon the obstruction of the bladder outlet and the ignoring of this element of lateral pressure, was undoubtedly a factor in making the partial suprapubic prostatectomy, the precursor of the transvesical enucleation, an unsatisfactory operation. The condition of the left ureter and kidney illustrated very strikingly the harm that may follow upon chronic retention when the bladder is infected. The rupture of a cyst in the cortex of the left kidney into the pelvis and the consequent hemorrhage showed a complication that was unique and impossible to foresee This ruptured cyst was brought about probably by a wave of extra congestion. In his paper he does not attempt to take up the whole subject of the suprapubic enucleation of the prostate, but he tries rather to call attention to the immunity which it enjoys from certain complications and to show the reasons for this immunity as illustrated by the conditions found in the patient.

**Some Observations on the Treatment of Epilepsy.**—Daniel H. Brower does not think that sufficient attention is paid to prevention of epilepsy, which he regards as a symptom, and not a disease. Neurotic children that have convulsions in infancy should receive the kind of education and medication that will insure a vigorous physical development and a well regulated mentality. Before laying the foundation for therapy every case demands the most thorough investigation, and we should bear in mind that in the pathogenesis of epilepsy we have autointoxication, increased irritability of the nervous system, deficiency of vasomotor tonus and circulatory capacity and cerebral sclerosis. These four factors must be considered with care, and the treatment applied will depend upon our findings. No epileptic can be regarded as cured until there has been at least five years' intermission in the epileptic manifestations.

*New York Medical Journal, August* 5, 1905.

**The Premature Infant.**—Dewitt H. Sherman reports the results of efforts at the Children's Hospital, Buffalo, showing what can be done with premature or weak children. He discusses the care of the premature child under the following different heads: (1) Maintenance of normal temperature. Twenty-nine premature infants were received, and of these thirteen had subnormal rectal temperatures upon admission. Of ten babies having a rectal temperature of 96° or less, all but two died. On admission, if the rectal temperature is low, and especially if there is cyanosis present, the child is placed in a warm mustard bath, with the least possible amount of handling and the gentlest artificial respiration, and remains there until the temperature is 99°. They are then treated as those entering with normal

temperatures. As they can tolerate it, the temperature of the incubator is lowered to 90°, where it remains till the child is showing steady improvement and a gain in weight. Ten babies were in such bad condition as to require hot baths and artificial respiration; nine died, five on the first day and four later. Seven babies were remarkably cyanosed, and all died. (2) Judicious feeding. They commence feeding with breast milk almost immediately, diluted with an equal part of water, to which has been added sometimes one or two per cent. of sugar of milk. In from four to eight days plain breast milk is used. They had not resorted to gavage in a single instance. The age of the child of the wet nurse should correspond to that of the infant who takes her milk. They had not used the white of egg mixture. (3) General care, including medication. Emphasis was laid upon the importance of fresh air and the proper amount of moisture. They medicated with great caution with small doses of brandy and strychnine as stimulants, and gastric antacids and digestants, and iron in the form of fresh expressed beef juice. To prevent hypostatic congestion and head deformities, the position of the child is frequently changed. No general baths are given until the child is ten to twelve weeks old, and the nutrition and general condition good. Interesting statistics were appended.

**The Significance of Sudden Severe Abdominal Pain.**—Charles S. White refers to only a few of the more common lesions requiring prompt surgical intervention. Perhaps the most frequent cause of abdominal pain is an infected appendix. It is first noted in the epigastric or umbilical region, is quite diffuse, and later becomes localized in the appendical region, associated with muscular rigidity, point tenderness, and vomiting, with or without fever. Sometimes sudden severe pain of an intense, agonizing character in the right inguinal region will be the very first symptom. Severe pain in this region may be due to an infected gall-bladder, a floating kidney, an occluded intestine, a ruptured extrauterine sac, a specific prostatitis, a pleurisy, or a specific salpingitis. In perforative appendicitis the pain is agonizing, and is followed by shock. In gangrenous appendicitis the pain is agonizing and accompanied by muscular rigidity, point tenderness, fever, rapid pulse, and anxiety. When a tubal gestation sac ruptures, sudden, agonizing pain follows, which may be diffuse, but soon becomes localized low down in the pelvis, and is persistent; there is muscular rigidity, tenderness and an anxious expression. Vomiting may be absent. If hemorrhage is severe, syncope and extreme anemia result. The severity and frequency of the paroxysms of pain in intestinal obstruction depends to a great degree upon the completeness and the suddenness of the obstruction. In intussusception the child is suddenly awakened with intermittent, colicky pains in the abdomen, the pain surpassing in severity almost every other abdominal pain to which children are subject. When a coil of intestine becomes strangulated, pain of a very severe paroxysmal character is a prominent symptom. The danger of trying to reduce a strangulated hernia by taxis is more real than apparent, and the possibility of reducing it *en masse* must never be forgotten. At best, taxis is a very dangerous and deceiving method, and should rarely, if ever, be employed. Volvulus of the small intestine causes severe, sudden and acute pain. When the sigmoid is involved the initial pain is paroxysmal, and not specially severe; gradually the pain becomes localized, persistent and distressing. When strangulation is due to bands, the onset of the pain is sudden, severe, and quickly becomes agonizing. Severe, persistent paroxysms of pain in the hypochondriac or epigastric region may be due to an incarcerated diaphragmatic hernia. In obstruction due to an enterolith, the pain is gradual, but becomes severe, and is usually associated with prostration. When a duodenojejunal hernia becomes strangulated there is sudden colicky pain in the epigastrium, which becomes agonizing In mechanical ileus the pain is at first slight, and the paroxysms not frequent; gradually the picture of complete obstruction becomes distinct. Mesenteric embolism and thrombosis do not always cause intense pain, but in by far the greater proportion of cases the onset is sudden and severe, the pain being almost always sudden, severe, and, at times, agonizing. It may be continuous or intermittent. This article is to be concluded.

*Medical News, August* 5, 1905.

**Galvanism as a Curative Agent in Nervous Diseases; the Importance of Equipment and Technique.**—William Broaddus Pritchard believes that galvanism is an agent of demonstrable value, though by no means to be indiscriminately applied. Organic lesions, with destruction of tissue, hemiplegia, destructive myelitis, and necrotic softening from any cause are seldom benefited by galvanism, and personally he has never seen any benefit in tabes from this or any other current. In active inflammatory or actively irritative central diseases it is positively contraindicated. In the nuclear palsies he had never seen any benefit from its use. It is, however, in a field of peripheral nerve diseases that galvanism occupies a field of positive and indispensable importance. To this group he adds, from experience, the fatigue psychosis, the headaches and the cerebral conditions underlying the abscessions of neurasthenia, and of simple affective melancholia. Even in this field galvanism is rarely a specific; in fact he knows of no nervous affection for which electricity, or for that matter, any other single agent is a specific. To get the best results requires a good workman and good tools. The quantity of electricity should not be guessed at. A satisfactory and complete outfit, simple in construction and management, with ample current, equipped with all necessary accessories, can be obtained at a nominal cost. The accessories mentioned are absolutely essential; the meter for accurate dosage, the rheostat for perfect control of the current and proper electrodes to localize properly your current where needed. He describes half a dozen electrodes, for the forehead, the neck, spinal, intercostal, the foot plate and for the hand, all being modifications of Erb's, and which he believes to be of distinct advantage.

**An Attempt to Adapt for Clinical Purposes, the Tests for Electric Conductivity of Urine.**—L. E. Schmidt asks how are we going to determine previous to an operation whether one kidney will suffice to attend to the necessary eliminative process after its mate is removed. All the methods so far described meet with many objections and they, therefore, tried to construct a method which was independent of the fallacious assumption of a general standard and which will permit the important discrimination between a permanently diseased kidney and a normal kidney only temporarily reduced in its elimination. They argued that the best way to test an organ would be to test its reaction and resistance toward the extraneous influences; they therefore endeavored to find out whether running a stain through the kidney might not influence the functional capacity of a normal and an abnormal kidney in a different way. The stain they selected was indigo-carmine, and as method of testing they selected for electric conductivity on account of its extreme sensibility. The order of the experiments were outlined in the following manner: First, it was necessary to find out in what way, if at all, in normal kidneys, the passage of a stain would influence the electric conductivity of the urine produced. Second, it was necessary to find out whether it would be possible to classify diseased kidneys according to the surgical question, "Can one kidney be relied upon to attend to the necessary elimination after its mate is removed?" The collection of the specimens before and after staining has to be done inside of such a short period of time that the general condition of the patient to be examined remains the same during the collection. In this way they made each kidney a standard unto itself. In order to get the basis for classifying the kidneys in a surgical sense, they discriminated between diseased kidneys that had produced heart and general symptoms and those that had so far not produced such symptoms. The first class they considered as still safe in a surgical sense; while the latter were looked upon as absolutely unreliable.

**Stricture of the Urethra; Preliminary Note on a Tunneled and Grooved Sound and a Tunneled and Grooved Catheter for Dilatation.**—Victor Cox Pedersen gives the following features of this sound: The curve is of the same radius as the standard urethral sound, but one inch shorter. This makes less leverage upon the face of the stricture and decreases the danger of injuring the filiform and of making false passages. The taper of the curve is uniform from its base to its tip and regularly includes six sizes from No. 12 F. upward. The tunnel of the sound is one-third larger in diameter than the diameter of a small filiform and is five-eights of an inch long. The groove of the sound passes along the shank three-quarters of the length thereof, thus insuring ease of testing the freedom of the filiform. The tunneled and grooved catheter alluded to in the title are designed in the same manner, namely, with a short surve of uniform taper of six sizes, a shank one inch longer than the standard, tunnels of uniform diameter, five-eights of an inch long, and grooves of uniform length, depth and width throughout the series.

*American Medicine, Aug.* 5, 1905.

**The Normal Malay and the Criminal Responsibility of Insane Malays.**—Major Charles E. Woodruff says the Malay is found to resemble some of the North American Indians, and all the cruelty so well known in our dealings with Indians has been duplicated in the Philippine wars. The intelligence of the Malays is also quite limited, and their brains are much smaller than those of Northern Europeans. As a consequence, the Malay is like a cruel child, delighting in the sufferings of others, and is naturally bloodthirsty. An epileptic murderer is described, whose sanity was questioned by reason of the cold-blooded manner

of the crime, but comparing the deed with the actions of normal Malays, the conclusion was inevitable that there was no evidence of insanity whatever. Incidentally, it is shown that the ordinary means of eliciting testimony under oath in our courts do not succeed with Malays, who have no conception of the necessity of telling the truth. Indeed, false swearing is a fine art whenever it is to the interest of the witness to conceal the truth. The jury system cannot be used because of the false conclusions at which the Malay arrives even should he have facts on which to reason. It is shown that a mistake has been made by providing no means for the trial of white men by white judges, as experience in other tropical countries has proved it to be unsafe to trust a European to native judges. Though the Malay cannot be trusted with political power, he must be compelled to obey civilized law and cease his savagery, because life and property must be made safe in every part of the world where the white man's needs take him. The Americans have already made great progress in the Philippines in restoring order, and there should be no unjust or ignorant criticism nor any clamor to give the Malay a freedom he cannot sustain nor a part in the government he cannot understand. He is to be helped and not abandoned as was the negro.

**Why Surgical Fixation of a Movable Kidney Will Not Relieve Dyspeptic and Nervous Symptoms.**—Charles D. Aaron says the study of several hundred cases in his own practice has led him to the belief that movable kidney in itself cannot produce all the dyspeptic and nervous symptoms of which patients complain, unless there is a displacement of some other organ in the abdomen. Cases in which the kidney alone is movable, are those in which there are few or no symptoms. The author's results in over 600 cases, with a properly fitting band, have proved eminently satisfactory. Before fitting a band to patients with movable kidney, the location of all the abdominal organs must be accurately made out. This is done by palpation, ausculatory percussion, transillumination, inflation, Röentgen ray, etc. A movable kidney is only pathological when it is palpable. We can therefore readily see the irrationality of producing a pathological condition by fixing a kidney that ought to be mobile. When a patient is in the dorsal decubitus position, gravity carries the kidney back to its normal position. This cannot take place when a kidney is surgically fixed, and under these circumstances there is always an abnormal condition. In cases of movable kidney, surgeons irrationally endeavor to bring about an ahnormal adhesion, and in this way induce a condition that may aggravate the symptoms they are endeavoring to relieve.

**Management of Transmissible Diseases.**—D. H. Bergey says the general prevalence of some of the transmissible diseases may be attributed to two important causes: (1) The infection of large numbers of individuals through mild and often unrecognized cases; and (2) the failure to enforce the sanitary precautions that would prevent the dissemination of infectious materials. The difficulty experienced in the satisfactory isolation of cases of transmissible disease in private houses calls for the more general treatment of these diseases in proper isolation hospitals. There is still considerable apprehension on the part of physicians and laymen with regard to the possibility of conducting hospitals for the treatment of the transmissible diseases in urban communities without danger to those living in the near vicinity. There are at least four important sources of danger from such hospitals, yet, with proper equipment and management, all of these dangers may be eliminated. They are (1) the danger of the dissemination of infectious materials through the drainage; (2) the danger of the dissemination of infectious materials by means of air currents; (3) the danger of the dissemination of infectious materials by insects or vermin; (4) the danger of the dissemination of infectious materials by the physicians, nurses, attendants, visitors, or the convalescents. Each of these dangers can be reduced to a minimum in a well-regulated isolation hospital. No one who comes in contact with the patients should be allowed to leave the hospital before taking a full antiseptic bath and making a complete change of wearing apparel.

**Hypnotic Cumulative Action as a Therapeutic Guide.**—George F. Butler discusses the principle of aggravation of symptoms from the standpoint of therapeutic indication, so far as hypnotics are concerned. Hypnotics may be roughly divided into those having cumulative action, and those destitute of this. Almost all the synthetics have cumulative action, while vegetable hypnotics, as a rule, have none. Almost all hypnotics are more or less alterative and antipyretic. The factors underlying insomnia are disturbances of metabolism, causing the circulation of toxic products which interfere with proper blood supply, and with the sleep habit by introducing an irritating factor on the monarchical vasomotor center at a time when this requires most regular rhythmic action. The cumulative effects of the hypnotics, as shown by their extreme effect hours after their first administration, indicate that this can be secured by broken doses given at intervals, so as to secure the acme of their influence during the hours after midnight, when this influence is most needed. The various alterative effects of the hypnotics serve as an indication that they will counteract the effects occasioned by the products of altered metabolism which are irritating to the monarchical vasomotor center of the medulla. The synthetics, which are more potent in these particulars, can be aided, and their injurious effects removed by the addition of vegetable hypnotics, like conium, and those derived from the solanaceæ blend, as well as certain opium derivatives.

*Journal of the American Medical Association, Aug.* 5, 1905.

**Suppurative Affections of the Head and Neck.**—According to M. I. Schamberg, the larger proportion of pyogenic affections of the face and neck, save those that occur through the skin, arise from the teeth. The throat and nose are only occasionally the seats of original infection, and persons without teeth are seldom troubled with extensive suppurative processes. Many of the tooth affections at fault are not readily detected until swelling or fistula occurs. Another class includes cases in which infection takes place in distant parts through the lymphatics, and only careful examination of the mouth reveals the source. Schamberg mentions cases in which edema of the glottis, embarrassing respiration and suppuration of the neck suggesting Ludwig's angina occurred. He thinks that in most cases of Ludwig's angina the source of infection, if sought for, would be found in the mouth. The preventive treatment of these conditions, therefore, consists in proper care of the mouth and teeth and attention to every abscess and infected focus, extracting teeth if necessary. When there is but little suppuration, abortive treatment may be tried, such as intermittent cold applications, and if the lymphatic glands of the neck are enlarged the use of the *x*-ray, which he has found a valuable adjunct in the treatment not only of this, but of other suppurative conditions, such as alveolar pyorrhea. The curative treatment consists primarily in evacuating the pus when its locality is detected. If found early enough, this can generally be done by incision within the mouth. Extraction of a tooth is justifiable when the patient's health suffers, or to avoid draining an abscess externally. It is not, however, always sufficient, and other openings may have to be made. He cautions against making large external openings, and prefers the trocar and canula to the knife. This, with curettement and the use of a small drainage tube, properly secured, and a large wet bichlorid of mercury dressing, changed daily, with syringing through the tube, will generally obliterate the cavity in a week or two, and the wound may be allowed to heal, leaving an insignificant scar.

**Tooth and Nail Corrugations.**—Excepting Hutchinson's notches, the corrugations of the teeth and nails are not much mentioned in medical literature, and G. Lenox Curtis remarks that this neglect is a mistake, and that they have a decided pathological significance. From the study of many cases, he is satisfied that the transverse lines on nails and teeth are caused by autointoxication resulting in rheumatism, and that the severer the attack the more prominent are they. Children whose mothers suffered from rheumatism during pregnancy and those that have rheumatism themselves during the period in which the enamel of the permanent teeth is developing show these corrugations. The longitudinal indentations on teeth and nails, Curtis thinks due to autointoxication from intestinal indigestion, and that white spots on the nails also indicate autointoxications. When these markings are absent, a corresponding absence of the diseases may be assumed. The nail markings have importance, owing to the fact that they are temporary, being obliterated in a month or two by the natural growth of the nail. They are, therefore, indications of recent disease.

**Eye Injuries.**—F. C. Heath reports cases of eye injuries falling under three groups, and illustrating special points in the management of these lesions. The first three cases reported are of foreign bodies in the crystalline lens, and show that, while these may remain quiet for years, they may become dangerous, and need to be kept under observation. The second group includes three cases of foreign bodies in the iris. In the first a particle of steel had remained imbedded twenty-two years without giving trouble. It then began to produce symptoms, and at last had to be removed on account of signs of sympathetic irritation, twenty-seven years after the first injury. The iris is evidently very tolerant of foreign bodies, but these, nevertheless, are possible sources of irritation, and should be kept under close observation. The third group of cases involved wounds in or near the ciliary region. They illustrate the fact that danger lies more in the position than the size of the wound. In two of the cases the wounds were extensive, but the ciliary body escaped injury, though very closely approached, while

in the remaining case the wound, though very minute, involved the ciliary region and necessitated the ultimate enucleation of the eye. It showed the great danger of prolapse of the iris, however small, in this region, and the author thinks that it is only in exceptional cases of prolapse and in those seen rather late, that he would be inclined to resort to prompt operation, whether near the ciliary region or well within the corneal margin.

**The Matas Operation for Aneurysm.**—J. A. Danna reports two cases of fusiform aneurysm rupturing into the surrounding tissue, and treated by him by Matas' method of suturing the leading openings within the aneurysmal sac. In neither case was the sac obliterated, but drainage was employed, and the results were satisfactory. In one of his cases to have sutured together the walls of the cavity would have required a fourteen-inch incision. He thinks it is better in such cases to close the incision partly and to drain, allowing the cavity to fill up by granulation, instead of closing it by suture, as is done in the unruptured cases.

**Inhalation of Nitric Acid Fumes.**—J. N. Hall and C. E. Cooper report the disablement of eighteen firemen, four of whom died, caused by the inhalation of nitric acid fumes. Two of the deaths occurred on the second day as the direct results of the inhalation, the other two after several weeks as the result of relapse. Eleven of the survivors still have symptoms referable to the accident. The pathology, in the opinion of the authors of the paper, was as follows: The irritating fumes of the nitric acid and the combinations formed with the chemicals employed in putting out the fire, which were deeply inhaled during the violent respiratory efforts of the physical exertion, caused a mild coagulation necrosis of the mucous membrane of the air passages and the alveoli, and in the two patients who died early there was produced promptly a severe bronchopneumonia. In those dying later the partially healed and susceptible areas were readily excited, by exposure to cold, into an especially severe bronchopneumonia which rapidly proved fatal. The excessive cyanosis observed in the severer cases is credited largely to changes produced in the hemoglobin of the blood, interfering with its oxygen-carrying capacity. The treatment generally adopted was, they believe, that of an ordinary severe bronchopneumonia. The authors think that, at present, stimulation, the use of oxygen when indicated, atropia for the edematous exudation, vigorous counter irritation, with eliminative and supportive measures, offer the most hope in the primary attack. After recovery from this, they urge stoppage of work, avoidance of all exposure, and residence for some months in a warm, equable climate suited for feeble cases suffering from chronic bronchitis. The most important thing of all is the avoidance of anything that may bring about a relapse. In view of the lessened pulmonary resistance, it is advisable to keep clear of any possible infection of tuberculosis.

*The Lancet, July 29, 1905.*

**Temporary Fixation of Testis to Thigh.**—A series of 25 cases operated on for undescended testicle is reported by C. B. Keetley. The first step is to free the cord and testis. The main incision he makes over the inguinal canal and the external ring, two other incisions being made, in the majority of the cases, one about 1¼ inches long at the bottom of the scrotum and the other of the same size in the upper and inner part of the thigh adjacent to the scrotal incision. The testicle and cord having been thoroughly freed from everything but the fibrous and muscular bands forming the gubernaculum, this then is divided as far away as possible from the testicle. A pair of forceps is passed through the hole in the scrotum and the gubernaculum is seized and pulled right through the scrotum till it can be seen through the hole in the skin of the scrotum. The tunica vaginalis should also be pulled down into the scrotum. The posterior borders of the apertures in the skin of the scrotum and thigh are then united with sutures left long. The gubernaculum testis is sutured with strong catgut to the fascia lata; then the original suture is used to complete the union of the skin opening in the scrotum and thigh to one another. The hernia usually present is treated as the surgeon thinks best. The testis is left attached to the thigh for five months as a rule. Do not fasten the testis too close to the fascia lata. The testis usually remains permanently in the scrotum but near its root. Some of these testes grow when brought down in the scrotum. The presence of hernia was noticed in ten out of the twenty-five cases.

**Treatment of Acute Summer Diarrhea in Infants.**—J. A. Coutts says that when these cases are seen early a purgative should be given and all milk withheld. He prefers calomel to castor oil. There is no remedy which has any influence over the disease as an entity and the main treatment is that of the symptoms with careful regulation of the diet when food is resumed. He treats the vomiting by washing out the stomach with warm water or a weak solution of bicarbonate of sodium. After this he administers a tenth of a grain of cocaine or less in a teaspoonful of iced water. These measures may be supplemented with safety by a mustard poultice over the epigastrium and the administration of a mixture of carbonate of bismuth and bicarbonate of sodium, along with a quarter of a minim of dilute hydrocyanic acid. During the time of abstention from food the vomiting is relieved by frequent teaspoonfuls of hot water. The number of drugs that have been advocated for the treatment of diarrhea is legion and their very number is proof of their general inadequacy. When the motions are particularly offensive he found benefit in giving a mixture containing a minim each of glycerin, carbolic acid, and tincture of iodine. For the ordinary run of cases he found nothing more useful than half grains each of gray powder and Dover's powder, given every four hours, alternately with bismuth mixture mentioned above. When the infant is in a state of collapse when first seen a mustard bath is of value. The return of sweating is a valuable sign. Any irritating or infectious material should be washed from the bowel; otherwise this might increase the existing toxemia. In states of extreme exhaustion from any cause a large warm injection will act as a sedative and often induce sleep when other means have failed. The milk should be withheld for twelve hours and on its resumption it should be sterilised or pasteurised. Pancreatised or peptonised milk are apt to cause looseness of the bowels. The commonest forms of substitution for cow's milk in the early stages are veal or mutton broth, albumin water, and raw meat juice. They should not be continued for more than twenty-four or forty-eight hours. A castor oil purge and the withholding of food for a few hours will promptly cure most cases and prove a safeguard against the acute diseases.

**A Case of Pulmonary Embolus with some Peculiar Features, Occurring Shortly After Normal Labor.**—A woman, aged 25 years, a healthy multipara, pregnant at full term, with second stage well advanced, is reported by R. J. Waugh. A healthy, full term male baby, weighing 8 pounds, was born. He immediately expressed the placenta and left the patient in a comfortable condition. One hour later he was called and then found the patient sitting propped up in bed gasping for breath. The dyspnea was extreme. The pulse was rapid, compressible and extremely irregular. Cardiac dulness had extended an inch beyond the right sternal margin. No breath sounds were audible in the upper lobe of the left lung, but in their place many fine moist râles could be heard. From the commencement of the attack a colorless frothy liquid, at times stained with hemoglobin, was coughed up in considerable quantities. As the more alarming symptoms seemed to be due to an acute engorgement of the right ventricle a small venesection was made, ten ounces of blood being withdrawn, and five minims of solution of strychnine, together with twenty-minims of pure ether, were given hypodermically, weak brandy and water being ordered by the mouth. The next morning she was quietly resting, and she seemed to be none the worse for her experience. From this time on the puerperium was uneventful. He believes that the condition was caused by an embolus which had been carried away and arrested in the pulmonary circulation, and this embolus must have been composed of air rather than dislodged blood clots.

**Iodoform and Mercury in the Treatment of Tuberculous Peritonitis.**—David Sandler records a case of successful treatment of tuberculous peritonitis with iodoform and mercury. The patient was a female child about 6 years of age who had been bedridden for several months. The parents regarded the case as hopeless. The patient appeared to be as a skeleton, both upper and lower limbs being merely skin and bones. Her face had the monkey-like expression. The lips were covered with sordes. The head was studded with large boils. The abdomen was much distended, hard to touch, and pigmented. Foul bedsores were encountered. The morning temperature was subnormal. The case was evidently one of chronic tuberculous peritonitis. He prescribed powders consisting each of half a grain of mercury with chalk and half a grain of iodoform, one powder to be taken in milk three times daily. He also directed equal parts of ointment of mercury and ointment of iodoform to be rubbed over the whole abdomen. Under this treatment the child gradually improved.

*Berliner klinische Wochenschrift, July 17, 1905.*

**The Bactericidal Properties of Typhoid Serum.**—Elischer and Kentzler, as the result of an extensive series of experiments, have come to the conclusion that attempts to treat typhoid fever by the introduction into the patient's body of the serum of immunized animals or of convalescent patients is not likely to be productive of satisfactory results. It appears that bacteriolysis in the body of the typhoid fever patient is hindered by the organism itself in two ways. There is in the first place an over-production of amboceptors through which the complements are held back from the bacteria, and in the second place the serum develops an activity

similar to that of anticomplementation, and distinguishable from this only by the fact that its active agent is destroyed by a temperature of 56° C. The damaging effect of the bacteria is due to their endotoxins, but these become active only after they have been liberated and enabled to attack the body through the lysis of the bacterial bodies. Bactericidal serum therapy therefore offers a prospect of satisfactory results only when the number of bacteria is so small that the amount of endotoxin their destruction would set free would be too minute to be dangerous. Under the opposite conditions the endotoxin liberated would bring on the disease and if present in considerable amount would cause death. As long as the patient's body is protecting the bacteria it is also guarding itself against the action of the endotoxins, against which it is unable to produce antitoxins; therefore every measure intended to hasten the slow destruction of the bacteria by the body would be detrimental instead of beneficial.

*Münchener medizinische Wochenschrift, July* 18, 1905.

**New Observations on the Etiology of Syphilis.**—Siegel continues his report on the nature of syphilis in a communication describing the results obtained by inoculating rabbits and monkeys. He has succeeded in securing a large number of positive inoculations both on rabbits and guinea pigs, the primary lesions being followed by secondary eruptions. Although similar results have been obtained in some instances by former experimenters, the author's observations are distinctive on account of their extent, almost fifty rabbits having been used, and owing to the fact that in all the animals after a certain period of incubation had elapsed flagellated organisms could be demonstrated in the blood and tissue juices. These are regarded by Siegel as the causative agents of the disease. In order to prove the syphilitic nature of the disease induced in the rabbits reinoculations were made on twelve monkeys. These all exhibited both primary and secondary lesions, the former appearing from ten to thirty days after the infection. That these manifestations are not due to the effect of the introduction of foreign albumin is shown by the fact that inoculations from one monkey to another were equally successful. Inasmuch as in every animal at the height of the disease the cytorrhyctes flagellates described by the author could be found in large numbers as the only parasites both in the blood of the living subjects and in the tissues and smears at autopsies, he concludes that it is justifiable to assume that the cytorrhyctes luis is the cause of syphilis.

**The Treatment of Hypertrophy of the Prostate with Roentgen Rays.**—Moszkowicz and Stegman report very gratifying results in the treatment of prostatic hypertrophy by means of the Röntgen rays. Apparently the prostate is especially susceptible to the action of the rays and the authors suggest that the parenchyma may easily be destroyed in this way, owing to the large amount of lecithin it contains. Six cases are reported, all of the patients having suffered for some time from urinary obstruction sufficiently great to make spontaneous micturition impossible. The rays were applied by introducing a Kelly proctoscope up to the gland and covering the buttocks and perineum with a protective screen of lead. The reflector of the tube was then placed so as to throw the rays against the desired part. In no instance were more than three treatments given, as the response of the gland was so remarkably prompt that in several instances the power of voluntary urination was restored after only two radiations. The objective changes in the organ are very striking, as it diminishes markedly in size and becomes much softer to the touch. Nearly all the patients at first complain of increased desire to urinate and of a feeling of fulness in the perineum. In some cases an existing cystitis was temporarily aggravated, and in one case an epididymitis of short duration was excited, but all of these symptoms promptly subsided. As soon as it is obtainable the authors propose to treat the intravesical portion of the gland with a tube of radium introduced on a suitable instrument.

**A Test for Diacetic Acid in the Urine.**—Lindemann has devised an improvement on Riegler's test for diacetic acid in the urine which he believes is also superior to the older tests, such as Gerhardt's. Riegler's test is performed by adding to 15 c.c. of urine 2 c.c. of ten per cent iodic acid solution, and then shaking with 2 3 c.c. of chloroform. If diacetic acid is present the iodine is not liberated and the chloroform remains colorless, but if this constituent is absent the chloroform takes up the iodine and is colored red. Lindermann has modified the test as follows: 10 c.c. of the urine are acidified with five drops of thirty per cent. acetic acid and five drops of Lugol's solution are added. After shaking, 2 c.c. of chloroform are added. The chloroform remains colorless only in the presence of diacetic acid. The amount of the latter if present may be estimated by noting the quantity of Lugol's solution that may be added before the excess of iodine begins to color the chloroform. The test is more sensitive than the Gerhardt reaction and is not interfered with by such substances as the salicylates, or by the addition of small amounts of formalin to the urine as a preservative.

*Deutsche medizinische Wochenschrift, July* 20, 1905.

**The Treatment of Hypertrophy of the Prostate.**—Oberländer, in discussing this subject, says that of the operative methods prostatectomy is the one that will probably hold the field in the future. The sexual operations have been practically discarded and Bottini's operation is uncertain and dangerous. Radical surgical intervention is, however, rarely necessary and the practitioner will usually succeed in controlling his cases by the judicious use of the catheter and of vesical irrigations. In the earlier stages of the condition it is very important to counteract the tendency to constipation that is always present by the constant use of different laxatives, and to reduce the amount of fluid taken. Rectal medication with iodoform or ichthyol may be of service if the gland is tender, as well as prolonged warm sitz baths, one to three times a day followed by rest in bed. Massage of the prostrate and cold rectal irrigations are also to be recommended. Sooner or later catheterization must be begun to remove the residual urine, and for this purpose the author advises especially the elastic instruments with the Mercier curve. It is a mistake to catheterize too infrequently, and bladder irrigations should also be begun both to cure any existing cystitis and as a prophylactic. In cases of retention in which catheterization is difficult injections of eucain and adrenalin facilitate the operation. The patient can soon be educated to catheterize and wash out his own bladder, but the greatest pains are necessary in order to impress him with the necessity for asepsis. The irrigator is not suitable for the patient to use in washing out the bladder, as the tendency is to admit more than 60-80 grams of fluid at a time, which may prove injurious, and only the syringe should be employed.

**A Primary, Non-gonorrheal Urethritis With Influenza Bacilli.**—Cohn believes that many of the cases of so-called primary urethritis of unknown etiology may be due to the influenza bacillus and describes an illustrative instance. The patient was a man who, several days after coitus, developed a urethral discharge in which no gonococci could be found though numerous other bacteria were present. On making cultures two organisms were obtained, one a plump capsulated bacillus and the other the influenza bacillus; later on a slight epididymitis and cystitis developed. The patient remained under observation seven weeks without any apparent improvement in spite of constant treatment. Although the presence of the other capsulated bacillus complicates the problem somewhat, the author believes that the affection was a true influenzal urethritis, basing his conclusion on the fact that the influenza bacilli were so numerous and that an epidemic of the disease broke out shortly afterward.

**A Simple and Rapid Method for Staining the Spirochæta Pallida.**—Oppenheim and Sachs describe their technique as follows: The smears are dried in the air and then without previous fixation are flooded with an alcoholic solution of carbol-gentian violet. This is made by adding 10 c.c. of concentrated alcoholic gentian violet solution to 100 c.c. of five per cent watery carbolic acid solution. The preparation is warmed until it steams and then is carefully washed with water and dried with blotting paper. If there are many red cells in the smear these may be partially decolorized or washed away, but this does not affect the staining of the spirochetae. These appear distinctly and are blue in color, and correspond in morphology to Schaudinn's description, though they are somewhat wider, owing to the fact that as alcohol is not used the protoplasm has not been contracted by fixation. If the smears are first fixed with alcohol, fairly good but less clear preparations are obtained. The method offers the advantages of rendering it easily possible to find the plainly stained organisms and of being rapid and simple. No special training is necessary either to make the preparations or to find the organisms, so that the method may be used for diagnostic purposes.

*French and Italian Journals.*

**Apyretic Fatal Puerperal Infection.**—Paul Guéniot reports his observation of a woman suffering from puerperal infection of the most severe type following placental retention after abortion. The patient died without showing any elevation of temperature and with scarcely any increase in the frequency of the pulse rate. The case was so unusual that it was suggested that death might not be due to infection but possibly to mercurial poisoning. Chemical analysis of the viscera, however, did not reveal a trace of mercury, hence the case is considered one of infection of abnormal type.—*La Presse Médicale*, July 12, 1905.

**Pneumonia with Relapse.**—Antony recently had the opportunity of observing a case of recurrent pneumonia. The patient was a man twenty-nine years old, who, after a chill developed pneumonia at the base of the right lung. The lesions which at first were accentuated in the posterior region of the lung, about the seventh day extended to the anterior region. On the next day the first crisis occurred, accompanied by distinct polyuria. Eight days later there occurred a fresh attack of the disease at the base of the left lung with a slight elevation of temperature. On the fourth day a crisis accompanied by polyuria took place. During three days the patient voided two and a half liters of urine. The temperature became normal, and convalescence was established on the twenty-first day from the onset of the disease.—*La Tribune Médicale*, July 8, 1905.

**The Administration of Chloroform by Means of a Flannel Compress.**—G. Cochet states that for twenty years he has administered chloroform by means of a simple flannel compress. He calls attention to the necessity of using flannel of medium thickness. Material too thin will fall over the mouth and nose of the patient at each respiration. A "swallow's nest" mask is useful to support thin flannel. Material too thick will not allow a sufficient quantity of air and will retain too much of the chloroform vapor. If the mask is not used the compress may be formed into a sort of dome which is held over the mouth and nose of the patient by means of the hand. With the palm of the hand the patient's eyes are kept closed while the nostrils are closed by means of the thumb and index finger in order to make the patient breathe through the mouth. It has been said that the nasal mucosa is especially sensitive to chloroform vapor and that the vapor should not be allowed to come in contact with it until narcosis has been attained. At this stage, the mucosa having lost either all or nearly all sensitiveness does not further react to chloroform. The writer then emphasizes the importance of gaining the confidence of the patient. He should be told that a docile patient will lose consciousness very quickly and easily. The compress should then be quietly applied. After closing the nostrils, the patient should be told to breathe through the mouth. From ten to fifteen inspirations should be made through the flannel without dropping on any more chloroform. The patient should be told that the odor of chloroform is not unpleasant. The anesthetist should make use of suggestion as far as he is able to do so.—*Le Nord Médical*, July 15, 1905.

**Congenital Amputation of the Fore-Arm.**—M. Hirigoyen reports this interesting case. The mother was a young primipara twenty-one years old. She had worked as a chambermaid. There was absolutely nothing of importance in either family or personal history. The pregnancy had been normal and the labor spotaneous and normal. There was rather a larger quantity of amniotic liquid than usual. The only malformation was that of the left fore-arm; this member was about one-quarter of the normal length. The stump had a conical ending in which was found a rudiment of the radius and ulna tipped by a rounded eminence consisting of cartilage. There was no trace of amniotic adhesions. The patient denied having had any maternal impression during pregnancy which could have had any relation to the deformity. The writer believes that this is a case of true amputation, but he searched in vain for the amputated part of the arm.—*Journal de Médecine de Bordeaux*, July 16, 1905.

**Resistance to Dislocation of the Atlas and Axis.**—Arrigo Tamassia contends that a dislocation of the atlas upon the axis is a very rare occurrence from violence other than that of hanging. To support this view he has conducted experiments upon the human skeleton, from which muscles and ligaments had not been removed, exerting great violence in the directions from which they could come from various accidents, in order to determine whether luxation could be artificially produced. Dislocation can occur by flexion forward, or to one side of the head or upper cervical vertebræ, or by rotation more or less transversely. The ligaments are immensely strong and will resist almost any amount of force that can be exerted. At the same time the compact muscles aid in this resistance. The author concludes that though dislocation may sometimes occur between the atlas and axis, there are grave doubts whether it can occur from head injuries, unless there exist pathological conditions of the ligaments that lessen their normal strength. Fracture of these upper vertebræ is as difficult to produce as dislocation, but supposing this to take place, death must inevitably result as a consequence of the injuries sustained by the brain and cord.—*Gazzetta Medica Lombarda*, July 10, 1905.

**Passage of Agglutinins and Antitoxins of Tuberculosis into Milk and their Absorption by the Gastrointestinal Tube.**—F. Figari has shown by experiments on rabbits that the agglutinins and antitoxins developed by animals inoculated with tuberculosis appear in the milk of nursing animals, and that these are absorbed by the gastrointestinal canal of animals fed on this milk. Such milk prevented the infection of the animals taking it by injection of tuberculous material, while control animals receiving the same injections, but not fed on immunized milk, succumbed to tuberculous lesions. He then extended his researches to two children, feeding them on immunized milk, and showed that the antitoxins were absorbed by their gastrointestinal canals, as was shown by the agglutinating power of their blood serum; at the same time the body weight was increased and the general condition was improved by the treatment.—*La Riforma Medica*, July 8, 1905.

**Treatment of Erysipelas with the Serum of Convalescents from the Disease.**—Luigi Fornaca took the opportunity afforded by a severe epidemic of erysipelas, occurring at Turin, to treat a number of patients by injections of the blood serum from patients of the epidemic who had already reached the stage of convalescence, with a view to utilizing the antitoxins developed in their blood to counteract the infection in new cases. The affection was on the face, with a tendency to spread beyond it. He gives us these conclusions: (1) The injection of such serum exerts a favorable effect on the patient, rather on the general symptoms, without lessening the local manifestations. The temperature is especially modified by it. (2) The serum does not possess bactericidal properties toward the streptococci, nor does it diminish their virulence. (3) The streptococcus can be isolated from the blood serum and from the urine when there is albuminuria. (4) Normal blood serum has no effect on the disease.—*Il Policlinico*, July, 1905.

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**The Causes and Treatment of Baldness.**—Henry Waldo declares that there is still some difference of opinion as to the cause of thinning of the hair. Unna, Sabouraud, and others would lead us to look on all forms of baldness as parasitic in origin. The writer thinks that there is no doubt that alopecix areata is sometimes contracted from domestic animals, especially the dog and cat. Parker declares that alopecia is due to autointoxication with some substance derived from the lungs owing to decomposition of organic material normally present in respired air when this air is retained in the air vesicles. Preventative measures are the most satisfactory. The seborrheic scalp may appear quite healthy to the ordinary observer, and yet there may be very marked funnel-shaped depressions around the hair follicles which are filled with fat. Ordinary soap is an effective disinfectant. If it is superfatted it causes very little dryness of the hair. If seborrhea is well marked, black soap is better, and if combined with spirits of wine and a little thymol it is an excellent remedy. The writer believes that the scalp of both men and women should be washed with soap and water at least once a week, and especially after each visit to the barber. It is well to induce an abundant blood supply to the scalp by moving it upon the skull in different directions with the towel every morning. The linings of the hat should be clean, and the hat should not interfere with the circulation or innervation of the scalp. When there is any tendency to seborrhea it should be treated with a microbicide. Hair is nearly always ready to grow if the microbe and its immediate consequences are removed.—*Bristol Medico-Chirurgical Journal.*

**Treatment of Ulcers of the Cornea.**—S. B. Muncaster thinks that most ulcers of the cornea treated at the beginning can be cured with only a slight cicatrix. Treatment varies with the stage of the ulcer. The cause of ulcers must also be considered; if they result from a foreign body or growth on the lids, this should be removed at once. In cases of corneal ulcers of the conjunctiva resulting from inflammation, caustics should be used. While the ulcer is in progress zinc solutions, on account of the irritation which they cause, do more harm than good. In cases in which there is secretion, the writer uses argyrol, applying it from half an hour to three hours. With most patients he uses 25 per cent., 120 grains to the ounce. This has no irritating effect. In some cases boracic acid, from ten to fifteen grains to the ounce, is all that is needed, if the ulcers are not infected. Sulphate of atropin and homatropin are important drugs in the treatment of progressive ulcers. Bandages applied in a light and firm manner are important in most ulcers. Dark glasses may be used instead on young children. As a rule, hot applications to the eyes are beneficial in the case of corneal ulcers. If destruction of the cornea is threatened, the writer uses tincture of iodine; it acts as an antiseptic and germicide, and does not generally leave a scar. Preventive treatment of the mother is most important when opthalmia neonatorum is feared. The writer advocates the use of argyrol in the child's eyes when this disease is suspected. In the case of traumatic ulcers great care should be taken to remove all foreign matter. Early treatment of an infected eye is most important.—*Washington Medical Annals.*

# Book Reviews.

Atonia Gastrica. (Abdominal Relaxation.) By Achilles Rose, M.D., and Robert Coleman Kemp, M.D. New York and London: Funk & Wagnalls Company, 1905.

In this volume are considered the diagnosis, symptomatology, treatment and etiology of abdominal relaxation. Dr. Kemp writes a special chapter on the methods of examination and their relative values, and gives many helpful points in mapping out the stomach. The main portion of the work deals with the adhesive plaster abdominal belt which Dr. Rose originated, and which he clearly proves to be a distinct advance in the means of supporting the abdominal viscera. Plates illustrate the simple and effective method and his selected histories prove its manifold usefulness. There is also a chapter on floating kidney as a closely allied condition.

Not only can the reader obtain new knowledge on medical subjects, but also many points on the nomenclature of diseases to which the profession gives but too scant attention.

Practical Problems of Diet and Nutrition. By Max Einhorn, M.D., Professor of Medicine in the New York Postgraduate Medical School and Hospital, and Visiting Physician to the German Hospital, New York. New York: William Wood and Company, 1905.

The author has collected several papers, and now issues them in the more permanent form of a monograph. In them he discusses the proper methods of eating, the different methods applicable to various disorders, and last, but not least, points out the error of over-dieting and the distinct advantage of a sufficient nutrition. In the final chapter he gives valuable hints about increasing and diminishing bodily weight.

Les Médecins au Théatre de l'antiquité au dix-septième siècle. Par le Dr. Witkowski. Paris: A. Maloine, 1905.

The French excel in preparing the sort of literary dessert exemplified by the present volume. Written by a German, a volume on this subject would perhaps gain in thoroughness, but it would certainly lose in sprightliness of presentation; while coming from an English pen it would probably be deficient in both characteristics. The period covered was not one in which the possibilities for broad allusions afforded by the work of the medical man were likely to be overlooked by the playwright, and accordingly the doctor or apothecary was usually introduced as a welcome variant on the conventional buffoon and made to exhibit himself in a more undignified light for the vulgar delectation of the herd. The author's running commentary on the astonishingly large number of excerpts from plays he has collected is both amusing and interesting from a critical standpoint.

Dermatologische Heilmittel. Zweite verbesserte Auflage. Würzburg: A. Stuber's Verlag (C. Kabitzsch), 1905.

In this second edition the formulæ and new drugs have been added to, while the text in general has been amplified. Many useful skin therapy hints can be found.

Les Moustiques. Histoire Naturelle et Médicale. Par Raphael Blanchard, Professeur a la Faculté de Médecine de Paris; Membre de l'Académie de Médecine. Paris: F. R. de Rudeval, 1905.

At the outset Dr. Blanchard declares that his work is primarily intended for the medical man, and that he does not offer any original classification. Nevertheless, almost half the book is taken up by descriptions of species, genera, and other details of classification, mostly from Theobald or other authors, and with many of the illustrations borrowed from Howard. As to this part of the book, it is compilation pure and simple and, while the author is unquestionably correct in his statement that a knowledge of species is necessary for satisfactory scientific work, it is perhaps doubtful whether so heavy a burden of systematic matter does not discourage the physician the more, as not over one or two per cent. of the species are in the least interesting from the medical standpoint.

The chapters on life history are up to the date of the writing, and are also mostly compilation. It is a commentary on the rapid advances made during the year or two last past, that some of the facts most important in the practical control of mosquitos are not included, and are, apparently, unknown to the author.

Chapter V, "The Mosquito as a Pathogenic Agent," and Chapter VI, "General Prophylaxis," are the most interesting and important parts of the work, and an excellent summary is given of what is known on the subject. All the known pathogenic organisms found in mosquitos are figured, and the life cycle of each is fully described, so far as known. A very useful feature is the description of methods of preparing the suspicious blood for study, and of dissecting mosquitos believed to contain malarial or other noxious organisms.

Altogether we have a useful, if not strikingly original work, which can be profitably consulted by the student and, on some points, by the general practitioner as well.

Les Processus Généraux. Tome II. Hypertrophies, Régénérations, Tumeurs, Pathologie de la Circulation sanguine, Pathologie du Sang, Pathologie de la Lymphe et de la Circulation lymphatique, Inflammation, Hyperthermie, Fièvre. Par A. Chantemesse, Professor à la Faculté de Médecine de l'Université de Paris, Membre de l'Académie de Médicine; et W. W. Podwyssotsky, Doyen de la Faculté Impériale de Médecine d'Odessa, Professeur de Pathologie générale à la même Faculté. Paris: Masson et Cie., 1905.

The first volume of this work appeared in 1901, and was duly noticed in the Medical Record of September 28, of that year. Now the second (and final) installment is at hand, and students of pathology are to be congratulated on having in a complete form this valuable work of Chantemesse and Podwyssotsky. This second volume is on the same general plan as the first, and consists of six parts; the first part deals with the general subject of hypertrophy, including hyperplasia and tumors, with a special section on the parasitic theory of the origin of tumors. The pathology of the circulation of the blood is next taken up, with chapters on hyperemia, ischemia, hemorrhage, thrombosis, embolism, and infarction. The next part is on the pathology of the blood, and contains chapters on plethora, anemia, oligemia, toxicity of serum, cytotoxins, antibodies, etc., and pathological changes occurring in both the red and white cells. The fourth part is concerned with the pathology of the lymph and the lymphatic circulation. Part five deals exhaustively with the important subject of inflammation; and the volume concludes with a discussion on the pathology and etiology of fevers and other disturbances involving the body temperature. The illustrations are very fine, and many of them are printed in colors. At the end of each section is a copious bibliography, which adds to the value of the work; but we regret that so useful a book should be issued without an index.

A Treatise on Plague. Dealing with the historical, epidemiological, clinical, therapeutic, and preventive aspects of the disease. By W. J. Simpson, M.D., Aberd., F.R.C.P. Lond., D.P.H. Camb. Professor of Hygiene, King's College, London; Lecturer on Tropical Hygiene, London School of Tropical Medicine; formerly Health Officer, Calcutta; Medical Adviser to the Government of Cape Colony, during the outbreak of plague in 1901; Commissioner for the Colonial Office to inquire into the causes of the continuance of plague in Hong-Kong. Cambridge: The University Press; New York, The Macmillan Company, 1905.

This comprehensive treatise on the plague is divided into four parts. The first, consisting of three chapters, deals with the history and distribution of plague. The second, in eight chapters, discusses the epidemiology of plague, the nature of the infection, the different views regarding the etiology of pandemics and epidemics of plague, the variations in the virulence of plague epidemics, conditions fostering the endemicity and epidemicity, diffusion and modes of dissemination. Part three treats of plague in the individual, and its five chapters go thoroughly into questions of morbid anatomy and pathology, channels of infection, clinical features, diagnosis, prognosis, and treatment. The fourth part is concerned with measures for the prevention and suppression of plague, the method which the author considers the most efficacious being the Clayton method of fumigation with the oxides of sulphur. The last chapter of the book recapitulates the facts regarding plague that are known and established; the author also enumerates the main lines on which further inquiry is needed. This separation of the known and acknowledged from that which is unknown or only conjectured is one of the characteristics of the book. The work throughout bears the mark of a master hand, and to all who are interested in the subject of plague, whether practitioners, bacteriologists, sanitarians, health officers, or students of the history of medicine, the book will be welcome as an authoritative exposition of an important subject.

Maternitas. A Book Concerning the Care of the Prospective Mother and Her Child. By Charles E. Paddock, M.D., Professor of Obstetrics, Chicago Post-Graduate Medical School; Assistant Clinical Professor of Obstetrics, Rush Medical College. Chicago: Cloyd J. Head & Co., 1905.

This is a most practical little book. Every subject touched upon is presented in a very simple and helpful manner. The first five chapters are devoted to the care of the "Mother," while the "Baby" is the text for the second part. The hygiene of pregnancy, convalescence from confinement, care of the baby and diseases and injuries are some of the topics treated. The book has a good index.

# Society Reports.

## BRITISH MEDICAL ASSOCIATION.

*Seventy-third Annual Meeting, Held at Leicester, July 25, 26, 27, and 28, 1905.*

(Special Report to the MEDICAL RECORD.)

GENERAL SESSIONS.

*First Day—Monday, July 24.*

The first general meeting was opened on Monday, when Dr. William Collier, F. R. C. P., occupied the chair. Only the adoption of the minutes was carried and the meeting adjourned till Tuesday.

*Second Day—Tuesday, July 25.*

**Address of the Retiring President.**—Dr. William Collier, the retiring president, in his farewell address briefly reviewed the principal events which had taken place in connection with the association during the past year. First he remarked that he would like to call attention to the fact that the help of the association had been asked through the branches and the divisions in aid of a very excellent association which had recently been started under the most favorable auspices, viz., The National League for the Physical Education and Improvement of the People of Great Britain. He was perfectly certain of the fact that they would be in agreement in stating that the physique of many classes of the nation was such as to leave a wide margin for improvement. Therefore he was sure when this league put forward its scheme and asked the British Medical Association to help it that help would be very readily given. He might remind them that the general health of the nation owed vastly more to the medical profession than to any other section of the community. There was another point he wished to refer to and that was the future of the society. During the year the work of the council had been increased to an enormous extent, so much so that of the four quarterly meetings three had had to be adjourned and further meetings held. Under these circumstances he appealed to the various branches and divisions and to the representative meeting to take care that only questions of first rate importance were sent to the council for discussion.

Perhaps his most pleasant duty during his year of office was to inform the chairman of the council that it was unanimously decided to award him the gold medal of the association. He thanked the members and officials of the association for their courtesy, and introduced to them—if an introduction were needed—the new president, Mr. Franklin, senior surgeon of the Leicester Infirmary. Mr. Franklin was well known throughout the midland counties, and before the week was out it was certain he would be well known in all parts of Great Britain. To his mind, Mr. Franklin had attained that period of age where all the qualities which went to the making of a good president had reached their high water level. He trusted that when Mr. Franklin's year of office closed he would be able to look upon it as one of the most pleasant years in his existence, and receive, as he (the speaker) had, expressions of good will from all parts of the Empire.

Dr. Collier then retired, and Mr. Franklin on taking the chair was warmly applauded. He thanked the association for the honor they had done him.

Dr. ANDREW CLARK moved a vote of thanks to Dr. Collier for his past services, and his election as vice-president of the association for life.

Dr. LATIMER seconded, and the proposal was carried with acclamation.

Dr. E. MARKHAM SKERRITT moved that the statement of account be received and adopted. The total excess of assets over liabilities, he said, amounted to £101,397. Their income had increased by £2,283 during the past year, but at the same time their expenditure had increased by a greater amount, viz., £2,778. If they made allowance for the amount that was charged to alterations last year, the increase of expenditure was £3,397, so that they had to recognize that, although there had been a great increase in income, there had also been a serious increase in expenditure.

Mr. KINSEY of Bedford seconded, and the proposition was carried.

Dr. MCMANUS of London moved that Dr. H. Radcliffe Crocker be elected honorary treasurer of the association.

Dr. VALANCE of Norwich seconded, and this was agreed to unanimously.

Dr. MACDONALD of Taunton moved a vote of thanks to Dr. Edward Markham Skerritt for his services as treasurer, and also that he be elected vice-president of the association for life.

This was agreed to, and Dr. Skerritt replied, saying that he would always do what he could to serve the interests of the association.

The meeting subsequently voted £300 to the office staff superannuation fund.

There was a brilliant scene in the Royal Opera House on Tuesday night when the meeting was resumed. The house was full, and the president was accompanied on the stage by a large number of distinguished medical men and others.

The Mayor of Leicester, Mr. HILTON, gave a very hearty welcome, on behalf of the inhabitants of the town, to the British Medical Association. It was their first visit to Leicester, but that was not Leicester's fault; and he thought, with others, that the visit had been too long delayed. The community rejoiced in the rapid and continuous advance in the science of surgery and medicine, and sincerely hoped that the deliberations of the association would be conducive to their best interests and usefulness.

Dr. ASHLEY V. CLARKE, senior local secretary, on behalf of the Midland branch, presented the president with a badge of office, consisting of the arms of Leicester on a golden star, with the inscription, "President B. M. A., 1905."

The guests and colonial visitors were then received by the president. Among them were Drs. Charles O'Reilly, Brefney R. O'Reilly and J. H. Cameron of Toronto, and C. N. Camac and E. A. Boyne of New York.

Then followed the presentation of two gold medals of the association—one to Sir Constantine Holman and another to Dr. Andrew Clark. The president, in making the presentation, spoke highly of Sir Constantine Holman's work at Epsom College, and of Dr. Clark's valuable services to the association.

Both gentlemen briefly returned thanks.

The president said he regretted that Mr. W. H. Power, chief medical officer of the local Government Board, was not present, as it deprived him (the president) of the pleasure of presenting to him the Stewart prize.

**President's Address.**—Mr. GEORGE COOPER FRANKLIN of Leicester then delivered his presidential address. After welcoming the members of the association to the ancient town of Leicester, the president went on to give a short history of this most interesting English town. The earliest story connected with Leicester was that of King Lear, who reigned over the land for sixty years, eight centuries before the Christian era, and was buried there with his daughter Cordelia. A village of the ancient Britons existed here before the time of the Roman occupation, and was called by them Camp Ratæ, from the ancient name of Rath, signifying a clear space. The invasion of the Saxons followed the departure of the Romans, about the middle of the fifth century, and the town now became Legraceastre, or camp on the river Ligger or Leir, now Soar. In 658 a bishop's palace and cathedral stood there, and the town was important enough to have a mint. Then came the Norman conquest, when the town was utterly destroyed. It was, however, rebuilt, and when the Assembly of Barons took place in 1201 the name of Simon de Montfort, Earl

of Leicester, was closely connected with this beginning of the English parliament. Several religious houses and hospitals were later founded here, among them Trinity Hospital in 1330, which was rebuilt in 1902. The Leicester Infirmary was opened in 1766, Dr. Watts urging the public to further the interests of the people in this much-needed charity. He told them that the poor were neglected, and that, as a natural result, their offspring were unhealthy and weak, to the great detriment of the nation. Leicester had had several distinguished physicians. Gulston was a learned man, a good classic, and had considerable practice. He endowed a lecture course, the lectures of which have been delivered yearly since 1639. Chesiden was a noted surgeon and anatomist. He invented a high and later a low operation for stone in the bladder, which he brought to so great perfection that it had hardly been improved upon up to the present day. He executed it with great rapidity and skill, first performing it in 1727. He was beyond dispute one of the greatest of British surgeons. Halford was physician to a succession of kings and queens of England, and was a practical physician of the highest order. Richardson was a sanitary reformer; spent much time in investigating drugs capable of producing anesthesia, and was an advocate of total abstinence from alcohol, which he regarded as a powerful drug. Thomas Paget also came from Leicester.

The president then passed to the regulation of medical education by the State. The Apothecaries Act of 1722 was the first act to legalize medical practice, medical men being then called apothecaries. It permitted the inspection of all drugs in shops, and the destruction of those unfit for use. It also appointed a board of ten examiners to license persons to dispense medicines. The act of 1815 prevented all persons not properly qualified from practicing as apothecaries, and empowered the Court of Examiners to grant certificates to persons twenty-one years of age who had served an apprenticeship of five years. There was a penalty for practicing without a certificate attached. The Medical Act of 1858 established a Council of Medical Education and Registration of the United Kingdom, which had since established preliminary education. The great defect was the separate registration of medical and surgical men, so that some practiced who were not thoroughly qualified in all branches. The Government bill of 1878 was a great improvement, as it included both classes of attainments, and the celebrated Medical Act of 1886 made it necessary for every man to qualify completely. This act also conferred representation in the Council on the great body of the profession. In instruction in medicine and surgery good work was done, but obstetrics, gynecology, and clinical instruction were very slightly represented. The president believed that medical education was still weak in preliminary education, in obstetric practice, and in the administration of anesthetics. To-day a student must be sixteen years of age, and must pass the matriculation examination of the London University. He then spends some three years on biology, chemistry, physics, and practical pharmacy, and has only three years in which to study all the purely medical subjects; and the number of lectures and other work he must pass through is perfectly appalling. The orator was a firm advocate of a classical preliminary training, if possible a university course, for the medical student. The discipline as well as the knowledge of classical languages was invaluable. The student should also have more practical instruction in obstetrics. Another department of medicine in which he should be thoroughly instructed was the administration of anesthetics. The medical education of the future should go less into minute histology and physiology. There should be more specialism of the right kind, as in insanity, sanitary science, etc., and less in some other lines. Specialism should not be such as to produce a narrower type of man. The last suggestion offered by the president was that all medical men should strengthen the cause of the profession by becoming members of the British Medical Association, so rendering that body more powerful to secure the best legislation for the maintenance of the public health.

*Third Day—Wednesday, July 26.*

**Next Meeting in Toronto.**—The first business of this session was to settle the place of meeting for 1906. The president announced that the council had received a deputation from Toronto, Canada, that morning, who, on behalf of the Toronto Branch, had given a hearty invitation to the association, and the council had decided to accept it. The meeting confirmed the acceptance. Subject to the nomination of the Toronto branch, the appointment of the president-elect was left in the hands of the council.

**Address in Medicine.**—Dr. Henry Maudsley of London then delivered the Address in Medicine, taking as his subject, "Medicine, Present and Prospective." He desired, he said, to indicate in a general way how the horizon of the medical profession widened day by day, and how its expectations of usefulness to mankind increased. The right of present glorification belonged rather to surgery, with its asepsis and its many improved operations, than to medicine. One phase that the author deplored was the tendency to invent long hybrid words to represent simple operations and symptoms, which concealed rather than revealed the real meaning. The future work of medicine would be to prevent and to stop the beginnings of disease, and to prevent functional disorder from lapsing into fixed disease. The first end of preventive medicine, and one that was being pursued with enthusiasm was the prevention of attacks from without; the second, which was being neglected, was to obviate the predispositions to disease which lay within the body itself. For the adoption of measures to ward off disease, the medical man was not given fair opportunities by the public, who summoned him after they became sick, instead of calling him beforehand to instruct them how to avoid sickness. What was needed was a full and exact study of radically different types of constitution and of their respective qualities and disease tendencies. Such inquiries would further the contraction of healthy marriages, or obviate the danger from such inheritances as insanity and epilepsy, perhaps teaching us how to modify them so as to produce a healthy variation of type, thus neutralizing their bad effects. The manner of the infection by cancer, its settling into the tissues without producing fever, indicated that it was the result rather of awakening to activity of the silent memories of ancestral germinal growth, than of the presence of a microbe. The question was here suggested, whether in the marriage of those having certain disease tendencies a new disease ever arose. The orator thought that probably there were no new diseases, but that we learned better to recognize old ones.

In the work of fortifying the body to resist inroads of disease, the simplest means were the best—pure air, clean and proper food, regular and adapted exercise were the measures to give inward strength and to keep the body sound and supple. To this we must add the culture of a well-disciplined mind. Its healthful exercise must be beneficial, while corroding passions and unruly affections hurt body as well as mind. A clear conception of the body as a complex reflex mechanism and an exact knowledge of its reflexes, or the sympathies of its parts, would be profitable. The present position of medicine regarding tuberculosis showed a wise recognition of the necessity of fortifying the body inwardly to resist outward enemies. The bacillus we should have always with us; nor could we prevent its entrance with our food; no true protective serum had been found to prevent its depredations. The true method of prevention was to fortify the body so that we could defy the ravages of the pathogenic agent. The bacillus must perish from inanition for want of a suitable human soil for its growth.

Another question for future medicine was whether we might not be able to eliminate the predisposing influence of heredity, by heredity meaning the poor constitutional soil which invited the inroads of the bacillus. One who had recovered from tuberculosis might still transmit to the off-

spring a constitutional delicacy, and we might question whether it was really best for the race at large to save the patient to transmit a poor heredity to his descendants. To the conception of the body as a complex reflex mechanism we must add the other conception of the body as a vital laboratory within which the most complex chemical changes took place in the organs and tissues. Concentrated within the cell body were subtle and intense forces, continuously and quietly working, which might elaborate a whole series of poisons. The excreted bodies were all poisonous; the toxic products of waste of muscle all passed into the circulation; the proteid molecule suffered decomposition, producing other poisons; the enzymes and ferments were liable to toxic mischances; in its normal state, the intestinal canal contained many possibilities of poison production; more good could be done by regulating life so as to prevent the formation of all these poisons than by attempts at chemical antidotes in the form of medicines.

Besides all these, it was imperative to consider the special poisons produced by all the pathogenic microbes. The virus of syphilis, years after the infection, produced tabes or general paralysis as a result probably of its injurious effect on the stability of the nerve molecule, which became apparent when the system was weakened by abuse of function of various kinds. The discoveries of microbial toxins promised us scientific therapeutics which should bring about scientific precision in the administration of medicines. The rapid progress of chemical research had reached the very confines of life, forecasting the ultimate analysis of the subtle physicochemical processes which represented the vital force. Advances in physics and chemistry tended to prove that vital processes rested on physical and chemical processes as a basis. We had learned that the atom was not a simple thing. Full and exact knowledge of radial energy might lead to undreamed-of success in the way of radiotherapy.

All divisions of science might gradually be effaced, even that which metaphysics had fixed between bodily and mental life. Between material energy and consciousness there was a gulf, yet the mind worked in every function of the body; there were other means of expression than mere words; subtle motions of look and gesture, gait and attitude, might play the same part as speech; no purposive movement could ever be made but as the outward discharge of mind incorporate in a fit structure. There was a subtle transfer of energy between minds, which led us to believe that two brains might be so attuned in sympathy as to transmit and receive impressions without the mediation of the senses, as the wireless telegraph receives messages over space. There should be a more advanced and methodical use of the resources of mind to cure bodily disease. This should not be left to charlatans and scientists so called; few drugs were more helpful than hope, few more deadly than despair. In conclusion, the speaker said it was a sobering second thought that the mischief done through mental bad breeding did not end with the individual life. In the moral, as well as in the physical, world the present was the product of the past and the determinant of the future. Moral deterioration was surely transmitted to the children. If mankind was to be perfected, according to Descartes, the means of perfection were to be sought in the medical sciences. Dr. Maudsley said that he could not doubt that a positive science of human nature, as it gradually emerged into form, would make it ever more and more plain that, by operation of natural law in the process of organic evolution, sound thought, good moral feeling, and devotion to a high ideal were the solid foundation of health and wealth of mind in individuals, in families, and through families in nations; that there was, indeed, a measure of scientific truth in the saying of the Hebrew seer, who, looking on the generations of old, declared that those who sowed upon the furrows of unrighteousness should reap them sevenfold.

*Fourth Day—Thursday, July 27.*

**The Temperance League Breakfast.**—Thursday's proceedings began with the thirty-sixth annual breakfast given by the National Temperance League to the association. The Dean of Hereford (Dr. Leigh) presided, and said he hoped that before long the inculcation of temperance in their schools would be universal. Dr. Harry Campbell said there was no body of men so capable of helping the cause of temperance as the doctors.

**Address on Surgery.**—Mr. C. J. Bond, F.R.C.S., of Leicester, delivered this address at the general meeting on Thursday, taking as his subject, "Ascending Currents in Mucous Canals and Gland Ducts, and Their Influence on Infection; a Study in Surgical Pathology." (See page 246.)

**The Annual Dinner** was held in the evening, when the president occupied the chair, and there was a large attendance. The Bishop of Nottingham proposed the toast, "The Imperial Forces," and Fleet-Surgeon Thomas and Surgeon-General Spencer responded. Mr. M. C. Buszard, K.C., proposed "The British Medical Association," and Dr. Langley Browne, chairman of the Council, responded. Dr. F. M. Pope of Leicester proposed "The Mayor and Corporation of Leicester." The Mayor responded. The Archdeacon of Leicester proposed "The President and Members of the Local Committee," and the last toast was "The Guests."

*Fifth Day—Friday, July 28.*

**The Popular Lecture.**—Dr. William Stirling, professor of physiology and dean of the faculty of medicine in the Victoria University of Manchester, addressed a large audience at the Opera House on the subject of "Fatigue and Repose." He said that the organs of the body acted and reacted one upon the other. Mental fatigue caused bodily fatigue, and vice versa. After a hard day's work one was not only tired in body, but in spirit as well; while overwork of the brain, especially in children, made itself evident in bodily fatigue, listlessness, and, it might be, headache. Doctors were continually warning the public about the dangers of eye strain; the senses of touch and taste and smell became affected by fatigue. Memory was also affected, and after much strain the brain required not only prolonged rest to restore vigorous mental activity, but something more, such as change and recreation. In children insufficient sleep was practically overwork. Much depended on the condition of the nerve cells. These were most active between 10 and 11 o'clock in the morning, and therefore these hours should be set apart for the study of the lessons which caused most brain fatigue. The Germans had a proverb that the morning hours had gold in the mouth. In schools much could be done by change of study. Mathematics should be followed by a quite different subject, such as drawing, while drawing and writing, which both put a strain on the eyes, should never follow one another.

The orator continued that we might take a little wider view. What did the quick lunch of the age mean? It meant over-stimulation of the digestive organs, and the business man who took this hurried meal day after day would soon begin to feel dyspeptic. He called it indigestion, and said he had a touch of liver, but would soon be well. So he would if he would act rationally and gave his digestive organs some rest. Glands, like muscles, required rest; even the tear glands of some lachrymose persons ought to be given a rest occasionally. Many people gave the kidneys far too much work to do.

Proceeding, the lecturer asked how it was that the wonderful mechanism of the body, "the harp of a thousand strings," was kept in tune so long. The secret was to be found in rhythm. The heart and the diaphragm beat and contracted rhythmically. The heart rested, or, rather, was not in action three-fifths of the time. The act of expiration was chiefly a mechanical action; the act of inspiration was a muscular act, and so the diaphragm rested, too. What was sleep but a quiescent period so far as outward manifestation was concerned, when the nerve cells rested and gained fresh energy? The brain cells should have a spring cleaning every twenty-four hours. It had been found that the homing pigeon could fly enormous distances without

fatigue—or, at least, with only that fatigue which could be overcome by twenty-four hours' rest. The pigeon had thus overcome the question of fatigue, probably not only by removing so much waste matter, but by the production of some antibody which neutralized fatigue. Plutarch said that rest was the sweet source of labor. But in addition to sleep the true rest of many a weary brain was change of occupation. For many, something approaching manual labor in the open air was best. Change of scene was beneficial; the magic of change had an effect in many cases that could not be found in the panacea of the alchemist. Change was indeed the essence of life—change and rest together. There was great wisdom in Solomon's words: "Be not righteous over much, nor make thyself over wise; why shouldst thou destroy thyself?"

**The Entertainments** this year were very numerous and very successful. One or two may be specified:

By invitation of Alderman Wood, J.P., chairman of the Leicester Infirmary board of governors, and Mrs. Wood, about 1,500 of the visitors were entertained on the grounds of the Leicester Infirmary on Wednesday.

In the evening Dr. Pope and the members of the Midland Branch gave a reception at the Museum buildings.

On Thursday afternoon Mr. and Mrs. Maurice Levy entertained about 500 guests at a garden party at Humberstone Hall, and later Mrs. Franklin and the ladies' committee gave an entertainment in the Grand Hotel.

**The Church Service** in connection with the association was held at St. Martin's Church on Tuesday, when there was a large attendance. Dr. Gore, Bishop of Birmingham, was the preacher, and said that if a minister of the Gospel of Christ was still summoned to speak to a congress of the medical profession it must be because they still recognized that man's nature was compounded of body and of spirit to serve a spiritual purpose; and that his nature required to be healed morally and spiritually as well as physically. Man's nature was created to co-operate with the divine will and law, and they had no mandate from biology or science to deny the reality of moral freedom. The church had been said to be a failure; the cause of that was found in the social and physical condition of the vast majority of the nation. He wanted the church to develop sanitation and social science, and he urged that there should be co-operation between the clergy and the medical profession.

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SECTION OF MEDICINE.

*First Day—Wednesday, July 26.*

**Discussion on the Treatment of Sleeplessness and Pain.**—Sir T. LANDER BRUNTON, in opening this discussion, first referred to the physiology of the living cell, and the living nerve cell in particular, with special allusion to sleep. In sleep there was probably a break in the continuity of the pseudopodia of the cells of the cerebrum and those of the cells by which the organism was brought into relation with the outer world—cells situated possibly in the basal ganglia. The means by which this interruption was brought about was probably the accumulation of waste products in the sphere of the individual cells. Reference was made to the probable formation of stimulating alkaloids during sleep. The influence of the cerebral circulation on sleep was also discussed, particularly in regard to the natural contraction of the arteries during sleep, and the influence of rigid arteries or excessive cardiac action, in tending to prevent sleep. The rôle of irritants applied to the periphery in preventing sleep was also referred to. In the treatment of insomnia it was necessary to consider remedies bearing on the circulation when rigid arteries were present massage and potassium iodide were of much benefit; if high tension, aperients like blue pill and magnesium sulphate with nitrites, and other substances lowering blood pressure. If cold feet caused sleeplessness, putting them in cold water, followed by dry rubbing, gave relief; dryness of the skin as a cause was relieved by warm bath or sponging; if due to indigestion alkalies for the acidity or diluents in the form of hot water with light meal before going to bed were indicated. Sometimes an empty stomach was the cause of sleeplessness by indirectly causing plethora of the cerebral vessels; in such a case, moderately warm food was the best remedy. Cooling the patient by wet pack, a cold sponging or affusion when the heart's action was accelerated by pyrexia, was often of great value. The action of drugs on the nerve cells, such as tea, coffee, etc., was discussed in relation to the production of sleeplessness. Such substances belonged to the group of derivatives of nitrogenous waste; lactic acid was probably the substance derived from normal muscular waste which acted as a hypnotic. Urea had no hypnotic action because it could not attach itself to the nerve cell. Alcohol could probably not only attach itself to the nerve cell, but had probably also the power of linking on other substances. The action of urethanes—an alcohol in combination with urea—was referred to. Chloral was mentioned as the first pure hypnotic to be used, and its depressing action on the heart was referred to; but in gouty people, with high tension, this was in itself an advantage. The use of sulphonal, tetronal, and trional, of which the second was probably less useful than the other two, as hypnotics, and of valerian as a sedative, was alluded to. The value of opium, both as a direct hypnotic and as an analgesic, was emphasized; the advantage of its subcutaneous and rectal injection was pointed out. In regard to pain, there was considerable difference of sensibility in different persons, also in the same person at different times. The influence of alkalies in relieving pain was probably usually by raising the alkalinity of the blood. For the pain of gallstones a small dose of chloroform to produce unconsciousness, combined with the injection of opium to maintain it, was good. In angina pectoris, opium was sometimes indicated, but nitrites were more generally useful. For periodic headaches, sodium salicylate in combination with bromide given the night before the headache was expected, was advantageous.

Prof. CUSHING limited his remarks to the hypnotics. He combated the idea that hypnotics should be avoided because they tended to reduce the bodily resistance to disease; when given in moderate doses this was slight, and sleeplessness itself had this depressing influence. By giving hypnotics not only might sleep be induced, but a vicious circle might be broken. The idea hypnotic was still to be found; it should act solely on the central nervous system and chiefly on the brain; it should not act on other organs; it should have a large margin between its hypnotic and tonic effect, and it should not produce tolerance, requiring the dose to be increased to produce similar effect. Their ill effect in producing early excitement, their uncertainty in action, their prolonged action, especially, were some of the difficulties alluded to in exhibiting the usual hypnotics. More than twenty years elapsed between the first anesthetic and the first hypnotic. Hypnotics might be divided into two groups—those which contained chlorine in their molecule and those which did not. Chloral not only depressed the heart but acted deleteriously on the tissues of the body generally, but this depressing action on the heart had been overestimated in importance and degree. All the chlorine hypnotics had a similar depressing action. Chloral still stood as the best of the chlorine-containing hypnotics. Alcohol, he considered, was one of the less dangerous hypnotics; its action in this relation was due to its depressing action on the brain; paraldehyde and amylene hydrate had a similar effect. Of the sulphur compounds, sulphonal was uncertain in its action and caused tissue changes, as indicated by the occurrence of hematoporphyrin in the urine; sulphonal and trional he believed the most dangerous of the hypnotics at present in use. The urea compound, urethane, was an excellent hypnotic when it acted, but it had to be used in very large quantities, as it was weak. Veronal had the advantage of acting with comparative certainty in small doses, and without deleterious effects, as a rule—acting, moreover, only on the brain. It seemed to

be the best of the non-chlorine hypnotics, and, along with chloral, one of the best of all the hypnotics. Of the older vegetable hypnotics, morphin hypodermically was of great convenience; it had seemed to him that the slight pain of the injection had had an attraction for neurotic patients. Hyoscyamus and hyoscine were of use, but hyoscyamine had no hypnotic action. They were, however, very uncertain in their action, and tended to produce delirium and other untoward effects, dilatation of the pupil, dryness of the throat, etc. The racemic form of hyoscine was much less liable to act on the peripheral organs, and had an equal hypnotic effect. Cannabis indica failed to act in many cases, and often produced excitement before it produced sleep; many of its bad effects were due to the impurity of the preparation. Its active principle might prove of more value, particularly in combination with bromide. When acute pain was present opium had to be employed, but the antipyrin group might be substituted, especially when the pain arose from the nervous system itself, but not from acute inflammation.

Sir William Broadbent held that before recourse was had to hypnotics an effort should be made to identify and remove the cause of the sleeplessness. Reference was made to indigestion as a frequent cause of sleeplessness which came on in the middle of the night. If the sleeplessness were from anxiety, when the patient got to sleep he usually remained asleep. In the former case the cause was largely mechanical, and anything such as a drink of water, by displacing a few cubic inches of gas, might be effective. Coldness of the feet was not, he considered, in itself the cause of sleeplessness, being merely a part of a general arterial contraction; for such the local use of cold water was the best. It was most important to be on the look out for digestive disturbances. High arterial tension was another prevalent cause of insomnia, and a calomel pill was the best hypnotic in such a case, acting long before it influenced the bowels. Extreme low tension was also a cause, sleep in the horizontal position being impossible; yet such a person might fall asleep in his chair after a sleepless night. There was no ideal and certain hypnotic. The effect of all depended as much on the condition of the patient as on the activity of the drug. In employing hypnotics the greatest care should be taken to guard against their habitual use. The injurious influence of chloral on the heart was very evident in such pulmonary conditions as emphysema and bronchitis.

Dr. Hale White believed that the first point to make out in investigating a case of sleeplessness was whether it was real; sometimes insomnia was imagined, and sometimes it was dreamed. The phenomena of sleep might be causal or associational. People who had sleeplessness from worry, the commonest cause, should not, he thought, be called in the morning. The second commonest form was that associated with indigestion; a little water or food given to such patients who woke in the early morning might send them off to sleep again. Such insomnia was especially prevalent when the indigestion was associated with diarrhea, a flatulence, but not with constipation. Excessive exhaustion was often a cause of sleeplessness, and it might be a sequel of acute fevers. As caused by disease, there were two groups in which hypnotics should be given—one in which the disease was incurable and speedily fatal, as in cancer, and in the other, in which the disease was limited, as pneumonia. He argued for the use of Dover's powder in pneumonia, and opium in heart disease, in certain cases. In both these groups of cases it was cruel to withhold morphia, but if the disease were incurable and long lasting, as in neuralgia and tabes, it was cruel to give it. Warmth, fresh air, quietness, position, darkness as factors in inducing sleep were mentioned. The value of alcohol as a hypnotic was, he considered, much exaggerated, so much had to be taken to get its depressing effect; a little warm food, such as warm milk was, he considered, preferable. Drugs for sleeplessness should never be given in the form of compressed tablets, for absorption was so slow and incomplete. Chloral had the advantage of being soluble, and had no markedly ill effects when given in small doses; but it was bad in the presence of nausea and sickness. Chloral amid he believed to be of great use in cases of heart disease; given in brandy and water, it was very soluble. Trional he had thought the best of the three sulphur hypnotics. They should not, however, be given in kidney disease, in view of the tendency to hematoporphyrinuria. Paraldehyde was a good hypnotic; it did not depress the heart, and was soluble; its disagreeable taste was probably an advantage. It was especially valuable in insomnia in cases of delirium or in abnormal mental states. Hyoscine should probably be rarely given; it, too, was especially indicated in the presence of mental aberration.

Dr. W. Collier asked why more sleep was wanted in winter than summer. Sleeplessness did not occur unless there was an irritable condition of the brain cells. School pressure he believed to be a fertile cause of insomnia, especially that involved in the competition for preparatory school scholarships. He had only in one case seen harm from chloral in the way of establishing a drug habit, but often from opium. Hypnotics in general he believed to be better than alcohol.

Dr. A. Foxwell emphasized the importance of circulatory insomnia. The vasomotor system in the brain did not appear to have any active function, thus an increase of general blood pressure meant an increase of sleeplessness. It was temporary elevation of blood pressure that had the worst effect in producing insomnia. Calomel might act in virtue of its stimulating action on excretory cells, and might with advantage be combined with rhubarb. In cases of sleeplessness from low blood pressure a full dose of strychnine was of value. In both cases the use of hypnotics might be combined, and a smaller dose would be effective.

Dr. Bertrand Dawson, in discussing the treatment of pain, said the great need was a peripheral anodyne to be applied locally; the mere assuagement of pain, in fact, facilitated the processes of healing. Central anodynes for local ulceration were not desirable. Of such, cocaine, eucaine and edrenalin were effective, but too transitory in their effect. Orthoform and anesthesia were of more value. Both were, however, insoluble, but they could be used as insufflations or ointments. The relief of pain, as in ulcerative stomatitis, he had found, might last ten hours. Given internally, they might relieve the pain of gastric ulcer or cancer. The combination of anodynes and hypnotics was advocated.

The President, Dr. F. M. Pope, thought that paraldehyde was especially valuable for chronic drunkards.

**Diagnosis of Pleural Effusions.**—Dr. W. Hadley then read a paper on the diagnosis of the varieties of pleural effusion, with especial reference to the recognition of tuberculous effusion. Cultural and inoculation methods gave 40 per cent. of positive results; the tuberculin method 70 per cent. of positive results. He also dismissed the method of artificially digesting the clot of the effusion, centrifugalizing the result and making cover-glass preparations for the bacilli, the method of cytodiagnosis, and that of serum-diagnosis on the agglutination principle.

**Influence of Posture on Breath Sounds.**—Dr. W. B. Ransom read a paper on the influence of posture on breath sounds, particularly in bronchitis and emphysema, but also in capillary bronchitis and in localized pulmonary tuberculosis—adventitious sounds being absent in the erect posture and becoming audible when recumbent. Possible explanations were advanced.

*Second Day—Thursday, July 27.*

**Discussion on the Pathology, Diagnosis, and Treatment of Various Forms of Meningitis.**—Dr. Howard Tooth opened a discussion on this subject, basing his remarks on 45 cases of meningitis of various forms that had been under observation at St. Bartholomew's Hospital. Of these 22 were tuberculous, 11 post-basic, 2 pneumococcic, 3 streptococcic, and 3 purulent, but of undetermined nature. Cer-

tain factors which were considered of importance in differential diagnosis were considered, including the earliest symptoms of onset, the duration of the cases, mental symptoms, optic neuritis (which was common in the tuberculous form, but less so in the others), amaurosis without fundus changes being met with in only one of the cases; retraction of the upper eyelids, which was taken as evidence of muscular rigidity, and squint, which was mostly internal and was very common but often transitory, and occurred almost invariably in the posteria basic cases. Tonic muscular spasm occurred in 74 per cent. of the cases, and included head retraction, opisthotonos, Kernig's sign, etc. This sign was almost invariable in the posterior basic form, but less so in the others. The cause of the spasm was considered to be cerebellar irritation. The reflexes were very variable in the cases, but in twelve the knee jerks were absent. General broad features in relation to the temperature curve were pointed out; in fatal cases the pulse and respiration rate fell whether the temperature fell or not. In the meningococcic form the curve was characteristically oscillating—a pseudohectic type differing from that of phthisis, however, in there not being any special time for the rise. In the epidemic form of meningococcus meningitis the course was shorter; in the pneumococcus form it was shortest of all, and most invariably fatal. In the tuberculous form the duration was, on an average, about 14 days, and it was almost invariably fatal. In the pneumococcus form the duration varied from 21 to about 100 days. In convexity cases the duration was shorter. In the epidemic form the duration was about 11 days. As to prognosis, in the meningococcic cases there were only 8 deaths in 17 cases, suggesting that an antitoxic treatment might be found to be useful. The most speedily fatal cases were the pneumococcic. Of 65 patients, seven recovered and one was recovering; four of these were meningococcus infections, and two were in perfect health one year later; of two others, one was blind and had mental deficiency, and a second was mentally deficient and had ataxy. As to treatment, there were no drugs that had any specification. When a meningoencephalitis was fully established, no conceivable operation could be of any avail. Removal of fluid by lumbar puncture in milder cases might aid a strong tendency to recovery, but that was all. It was in the direction of an antitoxin treatment, especially for the meningococcus cases, that the greatest hopefulness lay.

Dr. T. J. Horder described the pathological features of the cases described, based chiefly on an examination of the cerebrospinal fluid obtained by lumbar puncture, the method being given in detail: In 65 cases, 30 lumbar punctures were made; these included 10 meningococcus cases, 1 streptococcus, 15 sterile cases, and 2 contaminated. Of the 15 sterile 12 were shown to be tubercular. In 2 cases rapid improvement followed lumbar puncture. Meningococcus cases showed high leucocytosis, the pneumococcus lower, and the streptococcus cases lower still, due probably to the virulence of infection. Tuberculous cases showed a definite leucocytosis. The meningococcus cases could not be regarded as cases of a general blood infection. Pneumococci and streptococci were obtained from the blood. The probable avenue of infection seemed to be in some cases from the nasal mucous membrane. The commonest organism was the bacillus tuberculosis, occurring in 50 per cent. of the cases; the focus of dissemination being most often in children a tuberculous gland, in adults some longer bone lesion. In 15 per cent. of cases the meningococcus was the causal organism. Its morphological and cultural characters were described, and its relations to the micrococcus cattarhalis were hinted at. The probability of an active serum being obtained by injection of cultures into the horse did not seem from recent experience to be great. The streptococcus causing meningitis was sometimes streptococcus pyogenes and sometimes other forms. A mixed infection seemed to indicate old ear disease as the source. Pneumococcus cases suppurated with great rapidity, and streptococcus cases fairly constantly; it was unlikely that the streptococcus cases that had recovered had ever gone on to suppuration. All cases of acute meningitis tended to become cerebrospinal.

Professor Osler discussed the recent outbreaks of cerebrospinal fever in America and elsewhere. Cases of posterior basic meningitis were doubtless sporadic cases of this disease. In epidemic peculiarities it most closely resembled pneumonia, the similarities and differences between the two being pointed out. Infection of the meninges probably took place from the nasal and nasopharyngeal regions. There was evidence to indicate the contagiousness of the disease. The infectivity was probably similar to that of pneumonia. Of ninety-three cases of meningitis, thirty-five were tuberculous, and thirty-two cerebrospinal fever.

The diagnosis was rarely in doubt—evidence of meningitis with purpura, etc., the spinal overshadowing the cerebral symptoms, the meningococcus being found in the cerebrospinal fluid and recovery occurring, being strong warrant that the disease was due to the diplococcus intracellularis. The ultimate prognosis in these cases was more favorable than in the others. Where pressure was high repeated lumbar puncture had been followed by good results. In a few cases there was a meningococcus septicæmia. The cases that recovered completely might not have had so much exudate.

Dr. Montague Murray referred to the constancy of the rigidity in meningococcus cases of meningitis, but it had seemed to him to be variable in individual cases. He referred to a probable case in which consciousness was abolished for nine months and recovery occurred with only slight mental enfeeblement.

The President, Dr. F. M. Pope, referred to two cases of pneumococcal meningitis and to one case of pachymeningitis hæmorrhagica.

Dr. C. N. B. Camac referred to the nasal mucous secretions in relation to meningitis.

Dr. S. West alluded to the occurrence of periodic respiration in meningitis. When the Cheyne-Stokes type occurred death in his experience always occurred, while in the cases with merely grouped respiration recovery was not uncommon.

Dr. St. Clair Thomson also referred to the nasal mucous membrane as a source of infection, alluding to four of his own cases of meningitis associated with nasal disease.

Dr. W. B. Warrington discussed the question of the value of lumbar puncture in the differential diagnosis of meningitis, from the so-called pseudo type.

Dr. T. F. S. Caverhill described an instance of recurring epidemic meningitis in an institution, in which sudden death occurred in several instances.

Dr. Tooth in reply alluded to the after history of the cases and maintained that several years had to pass before an opinion could be given as to the completeness of recovery. Some cases of epilepsy, for example, might have been sequels of meningitis.

**Human and Bovine Tuberculosis.**—Dr. Nathan Raw then read a paper on human and bovine tuberculosis with special reference to bovine infection in children, arguing that the two were distinct, so that either might occur in the human subject and that there was evidence to show that the two might be mutually antagonistic. The paper was discussed by Dr. R. Pratt, Dr. F. H. Jacob, Sir W. Broadbent, and Dr. S. West.

Dr. F. J. Poynton read a paper on the employment of citrate of sodium in infant feeding, used to make the clot less dense, in the strength of one grain to the ounce.

*Third Day, Friday, July 28.*

**Discussion on the Diagnosis and Treatment of Cardiac Degeneration Apart from Valvular Disease.**—Dr. J. Dreschfeld opened this discussion, first dealing with acute myocarditis, particularly that associated with typhoid fever, diphtheria, pneumonia and influenza. The clinical signs were enumerated and the course of each described. In such cases digitalis was not indicated, but ether, camphor,

strychnine, etc., and alcohol should be given with caution. besides this, methods of depletion by leeching, venesection, etc., were often useful. Chronic myocarditis developing from the acute form or more insidiously, was then described with its signs and course. Myocardial affections in connection with chronic infectious diseases were next taken, as in syphilis, malaria and tuberculosis, the syphilitic form being especially discussed. Persons who had had or might have had syphilis should certainly be subjected to antisyphilitic treatment. The next group of cases to be discussed were those of cardiac insufficiency due to chronic intoxications which might be exogenous, as alcohol tobacco and lead, or endogenous, as in Bright's disease, diabetes, gout, Graves's disease, cancer and cachexia in general. The alcoholic and tobacco hearts were especially considered. The treatment of the alcoholic form was mainly rest and attention to diet, but in some cases considerable quantities of alcohol seemed to be indicated.

Heart degeneration due to arteriosclerosis was next referred to. It was sometimes associated with a true angina and sometimes with a false angina. In its treatment especial attention was needed to diet, with little alcohol, rest, if hypertrophy and high tension were present potassium iodides and nitrites should be given; if low, strychnine. Any distressing symptoms were to be relieved. Heart muscle failure in chronic lung affections, especially emphysema and chronic bronchitis, was the next group. Where there was no great œdema or ascites digitaline was of value; if these were present then aperients were first to be given and venesection practised if there were much dilatation of the right side; food should be given in small quantities and alcohol only in measured quantities. For the heart strain due to excessive muscular exercise the treatment was that of general cardiac insufficiency. For fatty heart, the symptoms of which were ennumerated, in mild cases the body weight should be cautiously reduced, potassium iodide given if there were high tension, and if signs of dilatation were present first digitalis should be given and then effort should be made to reduce the weight of the patient. The senile heart was lastly discussed.

Dr. W. P. Herringham considered that the largest class of cases of heart muscle failure were in elderly people and among them those in whom the heart hypertrophied lived a few years longer than those in which it did not. In the former the heart reacted to the stimulus of increased peripheral resistance, in the latter it did not. This increased resistance was principally due to endarteritis depending it might be on blood impurities due to errors in diet of middle life, especially in the matter of excess, or to acute fevers, as typhoid, rheumatism, or syphilis. Reference was made to cases of heart failure in adolescents and to those in which the cause was overstrain.

Dr. A. Foxwell limited his remarks to the chronic types of cardiac degeneration. Syphilitic disease of the myocardium rarely occurred alone, there was nearly always some degenerative disease of the valves, dilatation of the aorta and degeneration of the larger branches of the pulmonary artery. The occurrence of pulmonary atheroma in chronic indurative lung diseases was referred to. The influence of such in producing hypertrophy of the right heart depended largely on the amount of exertion required to be made by the patient. Allusion was made to the tendency to heart failure occurring in families. The importance of such patients living down to their strength was insisted on. A fatty heart was hardly ever a large heart. The treatment of the chronic conditions of myocardiac disease was a question of the careful balancing of one part of the organism against the other. The heart was never alone affected.

Dr. J. Hay confined his remarks to the condition of the venous pulse in the neck in cases of cardiac degeneration, maintaining that in them the auricular contraction was not before but simultaneous with the ventricular contraction.

Dr. S. West referred to the cardiac dilatation that occurred in pyrexia, with a toxic factor superadded in the case of such infective fevers as typhoid, rheumatic fever and influenza.

In the course of infective diseases heart failure might be quite sudden in onset and speedily fatal. The effect of even moderate strain in causing dilatation was very obvious in chlorosis, in valvular disease, and in pericarditis. Allusion was made to the effect of failure of the heart on the heart itself, the first veins to feel the influence of back pressure were the coronary veins, and venous congestion of the heart muscle favored cardiac dilatation. Allusion was made to the extraordinary susceptibility of degenerate heart muscle to the action of digitalis from accumulation.

Sir James Grant emphasized the fact that patients might live a comparatively vigorous life for many years with serious cardiac changes and insisted on the importance of maintaining a healthy action of the skin in myocardial diseases.

Dr. N. Ewart referred to the importance of regulated exertion in maintaining cardiac health, the importance of time being given for heart treatment, and the use of the adrenalin group of substances in heart affections.

The President, Dr. F. M. Pope, had never seen instances of acute heart strain during the winter, suggesting that blood temperature might have influence in its causation.

**Diagnosis of Ulcer of the Stomach.**—Dr. Bertrand Dawson then read a paper on the diagnosis of gastric ulcer, largely by microscopic chemical method, in the course of which he argued that an attack of hæmatemesis should not be treated surgically by an emergency operation.

Dr. Mackenzie Davidson read a paper on the diagnostic value of the *x*-rays.

(To be continued.)

## AMERICAN SURGICAL ASSOCIATION.

*Twenty-sixth Annual Meeting, Held at San Francisco, July 5, 6, and 7, 1905.*

President, Dr. Geo. Ben Johnson, of Richmond, Va.

(*Concluded from page 240.*)

**Tuberculous Conditions of the Spine Requiring Surgical and Mechanical Relief.**—Dr. De Forrest Willard of Philadelphia stated that the principal surgical measures employed for the relief of spinal caries were laminectomy for paraplegia; forcible immediate straightening of the kyphosis; forcible gradual straightening; erasion of carious bone; wiring of spinal processes; evacuation of pus accumulations; long-continued fixation of the column, and hygienic measures to prevent the necessity for operative interference. Complete, methodical, and long-continued fixation of the spine in the position of hyperextension, with healthful surroundings in the sunlight, were the prime factors in securing new ossific deposit necessary to replace the carious bone. Laminectomy for paraplegia was advisable only after long-continued and patient treatment along the above-named lines from one to two years, since the prognosis, especially in children, under these conditions was favorable and good powers of locomotion might be confidently expected. The operation was justifiable in selected cases where loss of motion and sensation were progressively worse and the symptoms threatened life. If the tubular masses within the spine could be removed, and if extradural pachymeningitic deposits or pus could be taken away, improvement might be expected, and in many cases relief occurred. The operation had a mortality of about 25 per cent. from immediate shock, 36 per cent. within a month, while one-half the cases died within the next year, their lives being probably shortened by the operative procedures. Cases of non-improvement and death equaled nearly 65 per cent. Forcible immediate straightening of the kyphosis was an unsurgical and dangerous proceeding; it was liable to reawaken the tubercular disease and to weaken the column. Forcible gradual straightening by supporting the kyphotic area upon a pedestal was a valuable agent in relieving deformity. The weight of the shoulders and pelvis could thus be utilized as straightening forces.

and the weight of the column thrown upon the posterior arches. In this position it was permanently fixed by plaster of paris. Complete erasion of the carious bodies of the vertebræ was an uncertain operation, in the dorsal region requiring section of ribs, with danger of wounding the pleura. Wiring of the spinous processes had never been sufficiently tried to demonstrate its helpfulness. Spinal abscesses which contained only liquefaction of caseation should be aspirated. When true pus formed, asepsis through drainage was advisable.

**Tumors of the Spinal Cord.**—Dr. J. Collins Warren of Boston read a paper on this subject, in which he reported three cases of tumor of the spinal cord operated on with good results.

**Spina Bifida.**—Dr. James E. Moore of Minneapolis, Minn., read a paper on this subject, in which he presented an analysis of 385 cases treated by excision. A careful study of these reported cases illustrating the experience of many surgeons, justified him in drawing the following conclusions: "(1) Operation upon children of very tender age is scarcely worth while, because it is accompanied by so large a mortality rate, and because it does not stop the progress of progressing cases. (2) Patients five or more years old can be operated upon safely. (3) Patients with large or rapidly growing tumors, with hydrocephalus and with paralysis or deformities of the extremities are not cured. Finally, all we can hope to accomplish by operation for spina bifida is to relieve the patient of an unsightly and annoying tumor after he has survived the dangers of the affliction *per se*."

**Exophthalmic Goiter Treated Surgically.**—Dr. Thomas W. Huntington of San Francisco, Cal., said that during the past three years he had treated surgically nine patients suffering from exophthalmic goiter. In each instance partial ablation of one or both lobes of the thyroid was done, and one patient was subjected to three operations successively. Seven were females, and two were males. The ages ranged from 28 to 56, the average age being 42 years. In five patients the development of symptoms of Graves' disease was associated with preexisting enlargement of the thyroid. Two of these were cystical colloid. In four the development of characteristic symptoms were simultaneous with glandular hypertrophy. All of these were colloid. In the five cases where the exophthalmic condition developed secondarily, preexisting glandular hypertrophy was noted during a period of six, ten, thirty-four, thirty-five, and thirteen years respectively. In this series exophthalmic symptoms had been noted one, two, three, two, and two years prior to operation, the average being one and four-fifths years. Duration of symptoms in the primary or pure Basedow cases prior to operation was two years, three months, two months and one year, the average being seven and one-fourth months. In this series eight patients survived the operation and were now living. One patient died on the twelfth day. The eight living patients were carefully watched, and their status definitely recorded up to date. The author gave a detailed account of each case as it occurred. A wider experience in this particular field had increased his faith in the value of surgical interference in carefully selected cases, and in conclusion he repeated what he wrote in an earlier communication, namely, the argument for early operation in malignant disease applied here with equal force. Extirpation should be undertaken before destructive changes had occurred, before the function of important organs was seriously, perhaps permanently injured, and the patient's vitality lowered by chronic thyroid intoxication.

**A Review of Five Hundred Cases of Gastroenterostomy, Including Pyloroplasty, Gastroduodenostomy, and Gastrojejunostomy.**—Dr William J. Mayo of Rochester, Minn., stated that this included all the cases operated on by Dr. Charles H. Mayo and the writer during fourteen years in which an incision was made in both intestine and stomach, and plastic union established to increase gastric drainage. The death rate gave every case dying in the hospital without regard to the cause of death or the length of time after operation. Of pyloroplasty there were twenty-one cases with no deaths, and seven reoperations. Pyloroplasty had only a small field of usefulness. Finney's gastroduodenostomy, 58 cases, 4 deaths, 2 from other causes at a late date; only 1 death in the first 46. The author said that there was a large field of usefulness for this operation in narrow stricture following healing of ulcers, but it was less useful in unhealed ulcer. Of gastrojejunostomy there were 421 cases; benign, 307; death rate, 6 per cent. Last 140 cases, 4 deaths. Malignant, 114; death rate, 18 per cent. In the last 40, including radical operations for cure of cancer, 5 per cent. Murphy button, 157 operations—139 anterior, and 18 posterior. This was the operation of choice after pylorectomy and partial gastrectomy. McGraw ligature, 36 operations. This was the operation of choice by the anterior method in gastrojejunostomy for inoperable cancerous pyloric obstruction. Two hundred and twenty-eight posterior suture operations. Robson's bone bobbin, 16 operations, with 1 death. Mikulicz operation, transverse incision, 43 operations, with four deaths and four secondary operations. Moynihan operation on 9-inch loop, 53 operations, with 3 deaths; 7 reoperated for chronic bile regurgitation within 15 months. Roux-Doyen operation, 48 cases, 2 deaths, 2 secondary operations. Operation of choice was the Moynihan-Peterson without a loop, made by suture within 3 inches of the origin of the jejunum and obliquely on the posterior wall of the stomach with the inferior margin at the greater curvature near the junction of the pyloric end with the body of the stomach. In the last 80 gastrojejunostomies for benign disease there had been only 1 death.

**A Simple Aseptic Surgical Technique.**—Dr. Dudley P. Allen of Cleveland, Ohio, related observations which were based upon a series of 377 bacteriological examinations of the hands, made at the close of operation, and upon the clinical results obtained in 3,500 cases. The bacteriological investigations were conducted in five series. In series "A" the cleansing of the hands was with soap and water, scrub brush and nail cleaner. The hands were then sterilized in Harrington's solution. In operating the hands were encased in rubber gloves in which was sterile water. Twenty-six observations were made by taking cultures from the hands at the close of operation. In each case the cultures were negative. In series "B" the washing of the hands was as in series "A." Twenty-four observations showed that cultures were negative in each case. In series "C" the washing was as in series A," with the addition of thorough subsequent washing in 70 per cent. alcohol. In forty-two observations the staphylococcus pyogenes albus was found in eight cases, or in about 20 per cent. The conclusion reached was that alcohol was not efficient as a disinfectant, and did not prevent the development of bacteria within the rubber gloves containing no germicide but simply sterile water. From these observations it would seem probable that if bacteria developed upon the hands sterilized by alcohol, when in gloves containing simply sterile water, they would develop in the same manner upon the hands prepared in the same way if encased in dry gloves with powder, as the hands became moist with perspiration. In series "D" the hands were prepared as in series "C," and then washed in a solution of bichloride of mercury, 1-5,000, and encased in rubber gloves containing the same solution. Sixty-four observations were made. All were negative except one. In this were found the staphylococcus pyogenes albus. In series "E" the hands were washed as in series "A," and then thoroughly washed with a solution of bichloride of mercury, 1-5,000, and encased in rubber gloves containing the same solution. One hundred and two observations were made. The Hay bacillus was found in one case. In series "F" the hands were washed as in series "D," and then cleansed in a solution of bichloride of mercury, 1-3,000, and encased in gloves containing the same solution. Seventy-five observations were made. The staphylococcus pyogenes albus was found in a single case.

The clinical observations were made upon a series of 967 laparotomies. Of these 687 were clean and 288 were septic before operation. There were 2,533 operations other than laparotomies. This gave a total of 2,139 clean operations. For the purpose of study the clean cases only were taken, since the question of asepsis evidently could not be studied in cases septic before operation. Tables were presented by the author showing the results obtained in all of the various series of operations, as in hernia, varicocele, varicose veins, and laparotomies of all kinds, and other miscellaneous operations. The results showed from the whole series of 2,139 clean operations but two deaths from sepsis. Erysipelas developed but once. Stitch abscess occurred in fifty-eight cases, or in about 2.25 per cent. The method of cleansing the hands finally adopted was to wash them thoroughly with soap and water, using the scrub brush for the palms of the hands, but only slightly upon the backs of the hands, and never upon the arms, the object being to avoid irritation of the integument. The nail cleaner was used only beneath the nails, and not around the bases of the nails. The hands and arms were then washed in a solution of bichloride of mercury, 1-5,000, and encased in rubber gloves containing the same solution. The belief of the writer was that the continued action of the solution of bichloride of mercury in the gloves was a fundamental safeguard in preventing the developement of bacteria within the gloves during operation. That this was true in practice was shown by the results obtained in the large number of cultures taken at the close of operation. The conclusions reached from the various series of cultures and clinical cases were, first, that Harrington's solution, although efficient, was undesirable, since it caused marked irritation of the hands and arms. Second, that washing of the hands and arms should not be too violent, and that the use of the scrub brush should be confined to the hands. The arms should be washed by rubbing with gauze or a towel. The use of the nail cleaner about the base of the nails was unnecessary. Alcohol was not adequate as a germicide when used upon the hands. That a solution of 1-5,000 bichloride of mercury, used after washing to disinfect the hands and arms, and then used in the rubber gloves, was thoroughly satisfactory in protecting against the development of bacteria within the gloves during operation. That the rubber glove was a guarantee of safety, not only to the patient, but to the operator himself, when operating upon infected wounds. That a mask over the face was not necessary.

**Intussusception.**—Dr. Maurice H. Richardson of Boston, Mass., reported a case of intussusception in a boy of four. Vomiting and pain, with intestinal obstruction and a tumor in the left abdomen, suggested very strongly the diagnosis. The operation showed an invagination of the small into the large intestine, so firm that reduction seemed impossible. The child's condition was so bad that an enterostomy was performed, in the hope that a cure would be effected by spontaneous sloughing of the invaginated gut, life meanwhile being maintained through the enterostomy. Unfortunately, the child died at the end of eighteen days, the immediate cause of death being a purulent bronchitis. At the autopsy no trace of the intussusception could be found. A careful search through the literature showed no case of spontaneous reduction of an intussusception in which the chain of evidence was absolutely complete. In this ease the diagnosis made before operation, and demonstrated before the staff of the Massachusetts General Hospital and a large audience, was unassailable. The lesson taught by this case would seem to be that greater efforts should be made for reduction, either by hydraulic or air pressure through the rectum, or by manipulations after the abdomen had been opened. In the reader's experience, however, the results have been fatally compromised by just such efforts. It seemed, therefore, questionable whether, in view of the great rarity of spontaneous reduction and of the almost universal failure of the milder palliative measures, one will ever be justified in selecting any but those operative measures which, undertaken at the earliest possible moment, cannot fail to remedy completely and effectively the disease.

**Constriction of the Duodenum Below the Entrance of the Common Duct and Its Relation to Disease.**—Dr. A. J. Ochsner of Chicago read a paper with this title. In a series of cases operated upon for the relief of cholecystitis it was found that there was frequently present a constricted condition of the duodenum just below the entrance of the common duct. This was usually accomplished with dilatation of the duodenum above this point. The dissection of a number of cadavers demonstrated the fact that there was present a marked increase in the circular muscular fibers of the duodenum, beginning at a point from 1 to 3 cm. below the entrance of the common duct, and extending for a distance of 1 to 4 cm., forming a broad sphincter. It seemed likely that this sphincter had much to do with the physiological function of the duodenum, facilitating the mixing of chyme with bile. It also seemed likely that this sphincter served the purpose of establishing a condition of rest in this portion of the alimentary canal in case of irritation of the biliary or pancreatic ducts. The paper was fully illustrated, and the author gave a tabulated list of fourteen cases of dilatation of the duodenum which he had met with among his patients operated for the relief of gall-bladder disease.

**Perforation of the Gall-Bladder.**—Dr. Archibald Mac Laren of St. Paul, Minn., read a paper on this subject, in which he reported ten cases, and said that gall-bladder perforations were comparatively rare, especially if observations were confined to ruptures due to violence, ulceration, and gangrenous inflammations. But if we added to these the cases of cholecystitis in which inflammatory products had evidently escaped from or passed through the wall of an inflamed gall-bladder, even though we may not find the perforation itself, the number of cases was considerably increased. Such abscesses about the gall-bladder, either in the free peritoneal cavity or in the neighboring liver tissues, were rare as compared with appendiceal abscesses, but were not uncommon, and unquestionably should be included when studying perforations of the gall-bladder. Fistulous passages between the gall-bladder and duodenum, stomach, or colon were, of course, due to perforation of the gall-bladder. Most perforations of the gall-bladder occurred in neglected cases where gallstones had been known to exist for long periods of time, and where the patient had had ample warning through many attacks of biliary colic. Of Robson's 539 operations on the gall bladder and bile-ducts, twenty-five of these cases could be fairly said to be perforative in character. Dr. Mayo, in 328 cases, found sixteen perforative cases. Dr. Ochsner, in forty-eight cases operated upon, found one perforation. He had operated upon eighty gallstones cases, nine of which were perforative in character and one post-mortem, making a total of ten, which seemed a large proportion as compared with other lists of cases already on record. There were eight recoveries and one death. In this fatal case he believed that the result would have been the same even though the gall-bladder had been removed, because gangrene of the gall-bladder and neighboring liver tissue, and especially in the presence of a localized abscess, any operative work which disturbed the abscess wall would only have spread the infection and lessened the chance of recovery. He believed that in any perforative case which had gone on to the formation of a localized abscess, the wisest course was to open and drain the abscess, waiting until a later time to deal with the gallstones or the disease of the gall-bladder.

Dr. Emmet Rixford of San Francisco read a paper in which he discussed the subject of excision of portions of the chest wall for malignant tumors, and reported cases upon which he had operated.

**Officers.**—The following officers were elected for the ensuing year: *President*, Dr. Albert Vander Veer of Albany, N. Y.; *Vice-Presidents*, Dr. James E. Moore of Min-

neapolis and Dr. John C. Munro of Boston; *Secretary*, Dr. Dudley P. Allen of Cleveland, Ohio, reelected; *Treasurer*, Dr. Geo. R. Fowler of Brooklyn, N. Y., reelected; *Recorder*, Dr. Richard H. Harte of Philadelphia, Pa.

Cleveland, Ohio, was selected as the place for holding the next annual meeting, the time for which is to be fixed by the Committee on Annual Meeting.

## New Instruments.

### A LIGATURE-CARRYING NEEDLE.

By GEORGE FRANKLIN SHIELS, M.D., F.R.C.S.E.,

NEW YORK.

WHILE I do not claim any great originality for the ligature-carrying needle, which is herein described, still it has proven so useful to me in abdominal and pelvic work that I venture to make it known in the hope that it may be of practical benefit to others.

The instrument is simply a straight nickel-plated malleable steel needle with a blunt point and a large eye; in cross section it is oval in shape, *not round*. It is not too thick to be carried in any ordinary needle holder, and not sharp enough either in edge or point to injure tissues or vessels. The large eye is to permit of easy threading. Three of these needles will answer all purposes—one and one-half, two, and three inches long.

The points of advantage are:

1. While it is rigid enough to perforate omentum, broad ligaments, adhesions, muscle, mesentery, etc., still it can, by the surgeon's fingers, be immediately and easily bent to have any shape that he may wish—full curved, half curved, straight, angular, etc., etc.

2. It can be used with any ordinary needle holder.

3. It does away with the necessity for all other ligature carriers and aneurysm needles, since it can be passed either point or eye first.

4. It is inexpensive. The manufacturers tell me that they can produce it for fifty cents per needle—*i. e.* one dollar and fifty cents for the set.

39 WEST THIRTY-FIFTH STREET.

## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

THE CRUX OF PASTORAL MEDICINE. THE PERILS OF EMBRYONIC MAN: ABORTION, CRANIOTOMY, AND THE CESAREAN SECTION; MYOMA, AND THE PORRO SECTION. By REV. ANDREW KLARMANN. 12mo, 162 pages, muslin. Fr. Pustet & Co., New York.

MATERNITAS. A BOOK CONCERNING THE CARE OF THE PROSPECTIVE MOTHER AND HER CHILD. By CHARLES E. PADDOCK, M.D. 12mo, 189 pages, illustrated, muslin. Cloyd J. Head & Co., Chicago.

A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS. By LEWIS A. STIMSON, B.A., M.D., LL.D. Fourth Edition. 8vo, 844 pages, illustrated, muslin. Lea Brothers & Co., New York and Philadelphia. Price, $5.00 net.

A TEXT-BOOK OF DISEASES OF THE CHEST, PERICARDIUM, HEART, AORTA, BRONCHI, LUNGS, MEDIASTINUM, AND PLEURA. By EGBERT GUERNSEY RANKIN, A.M., M.D. 8vo, 744 pages, illustrated, muslin. Boericke & Tafel, Philadelphia. Price, $5.50.

A MANUAL OF MIDWIFERY FOR STUDENTS AND PRACTITIONERS. By HENRY JELLETT, B.A., M.D., F.R.C.P.I., L.M. 8vo, 1158 pages, illustrated, muslin. William Wood & Company, New York. Price, $5.50 net.

PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM IN CHILDHOOD AND EARLY LIFE. By JAMES TAYLOR, M.A., M.D., F.R.C.P. 8vo, 512 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia. Price, $4.00 net.

## Medical Items.

**Contagious Diseases—Weekly Statement.**— Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending August 5, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 223 | 8 |
| Diphtheria and Croup | 193 | 21 |
| Scarlet Fever | 47 | 1 |
| Smallpox | 3 | 1 |
| Chickenpox | 17 | ..... |
| Tuberculosis | 402 | 141 |
| Typhoid Fever | 122 | 13 |
| Cerebrospinal Meningitis | 24 | 12 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | ..... |
| Totals | 10,31 | 197 |

**Dog Sickness.**—Taussig says that this is the name under which a peculiar endemic gastric catarrh is known in Herzegovina. He observed 240 cases during the summer of 1904, and concludes that the malady is a distinct infectious disease, with the following characteristics: An incubation period of five to seven days, followed by a sudden rise of temperature, lasting two to three days, and ending by crisis. Other symptoms are severe headache, dizziness, and vomiting, slowing of the pulse, persisting constipation or diarrhea and anorexia, and muscular pains. The eyeball becomes red and tender, convalescence is prolonged, and there is great tendency to relapses. The disease, which occurs only during the summer months in certain regions of Herzegovina, appears to be transmitted by the bites of a certain species of gnat.—*Wiener klinische Wochenschrift.*

**Health Reports.—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, Public Health and Marine Hospital Service, during the week ending August 5, 1905:**

SMALLPOX—UNITED STATES.

| | | CASES. | DEATHS. |
|---|---|---|---|
| California, Los Angeles | July 15–22 | 2 | .. |
| Illinois, Chicago | July 22–27 | 6 | .. |
| Louisiana, New Orleans | July 15–29 | 1 | 4 |
| Michigan, Grand Rapids | July 22–29 | 5 | .. |
| Missouri, St. Joseph | July 15–22 | 1 | ..— |
| Montana, Butte | July 16–23 | 1 | .. |
| New Hampshire, Nashua | July 15–22 | 1 | .. |
| Ohio, Cincinnati | July 21–28 | 2 | .. |
| Toledo | July 15–22 | 6 | .. |
| Pennsylvania, York | July 22–29 | 1 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Argentine, Buenos Ayres | April 1–30 | .. | 43 |
| France, Paris | July 8–15 | 6 | 2 |
| St. Etienne | July 1–30 | 2 | .. |
| Great Britain, London | July 3–15 | 1 | .. |
| India, Bombay | June 27–July 4 | 7 | .. |
| Karachi | June 25–July 2 | 2 | .. |
| Madras | June 24–30 | 2 | .. |
| Russia, Moscow | July 1–8 | 11 | 20 |
| Odessa | June 17–July 15 | 26 | 3 |
| St. Petersburg | July 1–8 | 5 | 3 |
| Spain, Barcelona | July 10–20 | .. | 4 |
| Turkey, Constantinople | July 8–16 | .. | 5 |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Louisiana, Morgan City | July 3 | 1 | .. |
| Shreveport | Aug. 1 | 1 | .. |
| New Orleans | July 21–Aug. 3 | 308 | 50 |
| Mississippi, Gulf Quarantine | July 22–Aug. 3 | 14 | 1 |
| Lumberton | July 28 | 1 | . |
| Sumrall | Aug. 2 | 1 | .. |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Sao Paulo | June 15 | 1 | |
| Ecuador, Guayaquil | June 27–July 4 | . | 2 |
| Guatemala, Livingston | July 8–15 | 3 | . |
| Honduras, Puerto Cortez | June 14–21 | .. | 2 |
| Mexico, Tierra Blanca | July 16–22 | 1 | 1 |
| Vera Cruz | July 16–22 | 1 | .. |
| | July 29 | 1 | .. |
| Panama, Colon | July 10–17 | 1 | . |
| Panama | July 10–17 | 0 | 3 |

PLAGUE.

| | | | |
|---|---|---|---|
| China, Hongkong | May 13–20 | 20 | 18 |
| India, General | June 10–17 | 5413 | 4883 |
| Bombay | June 24–July 4 | .. | 58 |
| Karachi | June 25–July 2 | 34 | 34 |
| Madras | June 24–30 | .. | 1 |
| Japan, Formosa | June 20–30 | 30 | 40 |
| Peru, Callao | June 11–20 | 1 | 1 |
| Lima | June 11–20 | 3 | 1 |
| Mollendo | June 11–20 | 2 | 1 |
| Payta | June 11–20 | 2 | 1 |
| Straits Settlements, Singapore | June 10–17 | .. | 2 |

CHOLERA.

| | | | |
|---|---|---|---|
| India, Madras | June 24–30 | .. | 1 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 8.
Whole No. 1815.

New York, August 19, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### OPERATIONS FOR PROCIDENTIA UTERI.*

By W. M. POLK, M.D.,

NEW YORK.

One of the most trying defects which afflict women is procidentia uteri, and while much has been done to correct it, many women from the necessitites of their lives are doomed to carry the evil till life ends, even though it be long continued.

I am moved to call the attention of this Society to it, because it is sufficiently common to have come to the notice of all of you, and for the reason that its great cause, child bearing, and neglect in after life, are sufficiently common to come under the observation of every medical man, no matter in what direction his work may lie; it must, therefore, have something more than special interest. The numbers of devices for its cure, recommended by even high authorities, assures us that no one has yet hit upon the exact method to certainly remedy it, but this is all the more reason for agitation and suggestion. It is in this spirit that I present this paper.

I shall avoid allusion to any procedures save such as appeal to me as best meeting the difficulty, and proceed at once to the consideration of them. Roughly speaking, we may divide the lesion into partial and complete procidentia. The cervix closely followed by the uterine body reaching the ostium vaginæ in the first variety, while in the second these structures project more or less through this opening, and lie outside the pelvic cavity, carrying with them more or less of such adjacent organs as the bladder and rectum. Every operator agrees upon the fundamental importance of restoring, as far as surgical skill permits, the anatomical integrity of the outlet through which the protrusion occurs or is threatened, and to this end sets himself the task of bringing into normal relations, the levator ani, its subfascia, the perineal structures, and the lumen of the vagina. Could one disregard the functions of this canal, the task would perhaps be easier, but in the absence of such freedom of action it becomes one of the nicest and most complete in plastic surgery. Following the lines laid out by Emmet, however, a good operator can hope for great results in this field. In this paper, therefore, it is not necessary to say more concerning the pelvic floor and outlet than to emphasize the rule that all procedures looking to the correction of procidentia must be preceded or followed by an efficient repair of this floor and outlet as surgical skill will permit. This leaves us free to turn attention to two methods designed to supplement and perfect the work done upon the pelvic floor. The first considered is applicable to partial prolapse when retention of the uterus is desired, and has as its purpose the reduction of the size and weight of the uterus, and its removal from the posterior and lower parts of the pelvic cavity to the more advantageous one in the anterior and upper parts of this region. In the former position the organ is in the full current of all influences working towards procidentia, in the latter it is out of this current as far as circumstances permit. The second method is simply removal of the uterus and attachment of the vaginal stump to the anterior abdominal wall, and is applicable to complete prolapse. Attention is now asked as to the process by which these things may be done. As to the first—the cervix is amputated as high up as possible, that is as much beyond the vaginal junction as may be without entering the peritoneal cavity. This amputation is carefully conducted so as to avoid subsequent stenosis of the cervical canal, in other words, the lining of this canal is preserved well below the point of amputation, so as to give ample supply to be stitched to the lining membrane of the vagina, the cut edges of which are united lineally from side to side, the line of suture corresponding to about the base line of the broad ligaments, the cervical mucous membrane projecting and attached at about the center of this line.

Alexander's operation is the next step, and owing to the enlargement of the round ligaments always present in these cases, it may be relied upon to hold well forward the now lightened organ. Perineal repair closes the work.

Since suggested in 1883, this plan has been repeated a sufficient number of times to warrant a continuance of the confidence then expressed, a confidence fortified again and again by the inferior results obtained by the writer from the methods in more common use for partial procidentia. The second procedure was outlined as a remedy for complete procidentia at a meeting of the American Gynecological Society, in Philadelphia, in 1893 (see page 320-321, Volume 18, Transactions American Gynecological Society), when in a discussion of a paper by Edebohls upon the operative treatment of such cases, it was proposed to meet the condition by removing the uterus and stitching the stump of the vagina to the abdominal wall; it being stated that while certain cases might be treated by hysterorrhaphy as then proposed, it had been observed in certain cases of extreme prolapse with marked eversion of the vagina, that attaching the uterus to the anterior abdominal wall did not sufficiently take up the vaginal slack. It was proposed to meet such cases by removing the uterus and attaching the vaginal stump to the abdominal wall, experiments having been made to that end upon two patients with whom the process had been successful. This procedure, colporrhaphy, is a ready method of suspending not only the vagina but the bladder and rectum as well. I can add ten cases to the two already mentioned in all of whom good results are obtained, and so far as I know have been maintained. Two of these, however, have one year or less to their credit. In all of them a thorough operation for restoration of the pelvic floor preceded the colporrhaphy. In the later cases when there was unusual

*Read before the Practitioners' Society of New York, May 5, 1905.

elongation of the anterior vaginal wall with excessive prolapse of the bladder, Reynolds' operation for cystocele was combined with Emmet's operation upon the perineum and rectocele, but as this method

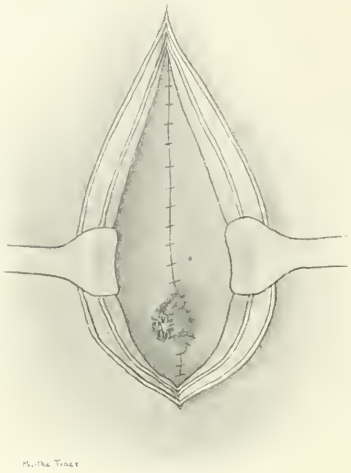
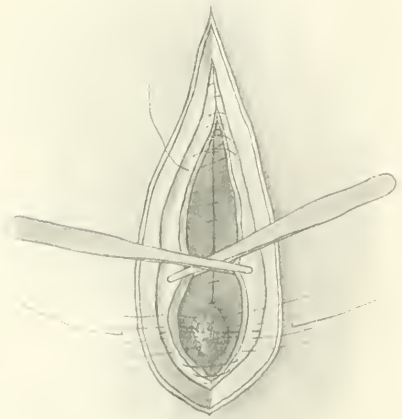


Fig. 1.

of treating cystocele shortens as well as narrows the vagina, one must be sure before using it that in so doing he does not so far shorten this canal as to deprive himself of vaginal tissue needed for fixation in



the abdominal wall, the fixation of the entire thickness of the vaginal wall in the abdominal wall being more efficient than mere fixation of its outer coat, that which is reflected upon the uterus, are the real

support of the base of the bladder in these cases. Therefore, every effort should be made to bring all the vaginal coats into the abdominal wall, and, if because of bulk, any part of this structure must be left out of the cut, it had better be the outer coat, this latter being brought no further than the peritoneum. If there be any doubt as to a sufficiency of vaginal tissue for this purpose, the operation for the cystocele must narrow but not shorten this canal, the Sims' or some similar operation being preferable.

*Colpo-orrhaphy.*—An opening about two inches long is made along side the linea alba, right or left as may be preferred, the lower end of the cut where it enters the abdominal cavity being about one and one-half inches from the inner face of the pubic symphysis. The condition of the uterus and appendages is next determined by direct palpation. When diseased these latter should first be removed, otherwise the ovaries should be left, but not the tubes. The uterus is next separated from the broad and round ligaments throughout, these structures being allowed to retract against the pelvic wall, ligation of them is

Fig. 3.

so conducted as to leave no raw surfaces exposed. In detaching the broad ligaments, care is taken to avoid injury to the uterine artery as it swings across the pelvic floor to the uterus, clamps alongside the uterus being used to check bleeding from that direction. This organ is now forcibly drawn upwards out of the abdominal cavity; it will be held back by the lines of fascia extending laterally beneath the broad ligaments, and by the uterosacral ligaments which approach each other at the surface of the uterus—the connections with the bladder are more yielding. If the chief resistance comes from the uterosacral ligaments, further traction should cease, and the line of attachment of the proposed stump be then and there determined, but if it comes from the line of fascia extending laterally, the uterus should be carefully separated therefrom by blunt dissection well down to the vagina. The main stems of the uterine vessels must be respected in this dissection, branches being freely ligated as one progresses. In women with the deep male pelvis, this separation will not infrequently be necessary, to get enough

of the vagina for our purpose, but as a good grip on the vagina is very advantageous, it should be done. If, in spite of this dissection we fail to approximate the vagina proper, we must be content with the cervix, or rather with its coverings. It is not necessary to directly disturb the peritoneal and fascial connections with the bladder for they come up readily; but why not free the stump from the uterosacral ligaments? because you wish to retain and even increase the support they give to the rectum and the bottom of Douglas' cul-de-sac. This is of the utmost importance in its relation to the subsequent and inevitable downward pressure upon the lower part of the posterior vaginal wall and the perineum. The uterosacral ligaments must, therefore, be preserved, and even their uterine ends included if necessary with the vagina in the abdominal incision. Your dissection will have left you a uterus free from all attachments, except to the vagina, the bladder, and the uterosacral ligaments. Drawing it upward to the lower angle of the wound, you fix the line at which traction is compatible with proper union and then amputate. Cut away flush with the outer abdominal surface and ligate the uterine vessels about midway between the skin and peritoneum, that is outside the peritoneal cavity. This insures the circulation in the stump till such time as good union is obtained. In making the amputation the connection of the uterosacral ligaments is to be avoided. As a rule, however, the line of amputation indicated, will carry us through the cervix above this connection. If there be cervical tissue in the stump this is trimmed out from within so as to lessen the size and give a wide opening into the vagina for drainage. Otherwise we proceed at once to fixation. All bleeding being checked, the stump is drawn to the lower angle of the wound, and the peritoneum being closed from above downwards, is carefully stitched about it with catgut. (Fig. 1.) The fascia and muscle are then closed and brought about the stump in the same way with the same material. (Fig. 2.) Two heavy silk-worm sutures are now passed through all the tissues of the abdominal wall, traversing the stump just at the peritoneal connection. (Fig. 3.) These serve as anchors and are essential aids to such other silk-worm sutures as are needed to properly coaptate other parts of the abdominal incision. Before closing the wound all excess of tissue in the stump is cut off flush with the abdominal fascia. Catgut sould be used throughout, reinforced by silk-worm gut in the abdominal wall as above stated. The sutures used as anchors should not be removed before the tenth day. Such patients should remain in bed four weeks, and be promptly fitted with an abdominal support on rising, the more pendulous the abdomen the greater need for this support.

Before closing, I wish to say a word against vaginal hysterectomy as a remedy for procidentia. It is too radical for partial prolapse and not sufficiently so for complete. In the latter deformity it removes the weight of the uterus but that is all, the attempt to utilize the round and broad ligaments as supports by transplanting them to the vaginal stump is fallacious, for they so soon atrophy, their efficiency is quickly annulled. Some have supposed that in addition to fastening the stumps of the round and broad ligaments to the stump of the vagina, were they to take a reef in the uterosacral ligaments, the requisite support would be obtained, but it is well to remember that owing to their relation to the rectum and proximity to the large uterovaginal plexus, they do not tolerate reefing well. Upon the whole the above operation is superior, and as soon as it is freed from the possibility of hernia, it will remain so far superior to every other device, having for its purpose the aiding and abetting of repair work at the pelvic floor, operators will make no mistake in employing it.

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## THE STUDY OF THE BLOOD IN RELATION TO THERAPEUTICS.

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*The future of medicine belongs to hematology*—this was the sincere warning given many years ago to the seekers of medical progress by one of the most eminent hematologists of our day. It has been this strong conviction that has guided Professor Hayem of the faculty of Paris in his serious attempts to shed light upon the fields of pathology and therapeutics by studying the blood, and I, myself, have for a long time considered that the solution of the most difficult problems of medicine belongs to-day to hematology.

Our organism, notwithstanding its complexity, is composed of a mass of small organisms, each one having a life of its own; and it is necessary to study the living protoplasm in its specific and nutritive properties, in order to acquire in part the knowledge of the function and in part the knowledge of the pathological process. But the elementary bodies constituting the organism are connected to form a physiological entity, *"le moi physiologique,"* in such a way that the conditions of life of each element reside in the preexistence of a constant relation between one element and the others.

Two great systems preside over the harmonization of all the individual lives in order to assure the life of the whole, the nervous system and the irrigatory system. The importance of the nervous system does not need demonstration; the regulation of general circulation, of local circulation, of thermogenesis; the trophic influence on the nutrition of the anatomical elements, the stimulation of secretions, etc., etc., are all functions of the nervous system. But we can say that while these facts are so important in physiology they are of little importance in pathology, because the nervous disturbances involve a very limited number of processes. The pathology of the nervous system is essentially descriptive and its affections though interesting through the character of their systematic expressions, have no more value in nosology than those of any other organic system. But the relations established between the different parts of the organism have a main importance from a pathogenic standpoint. The incessant flow of blood of a certain chemical and morphological composition is the essential condition of the life of cells; any element of the body deprived of blood dies, and changes in the chemical and morphological composition of the blood create a condition of *functio læsa* of the constituting elements of the body as single physiological entities, and of the body as a whole; conditions whose ultimate effects may give rise to death. The blood carries with itself the oxygen and the material for the renewal of the protoplasm and rids the cells of the waste products that they much eliminate in order to be able to live. This complexly organized liquid is then continually changing, not only because of its chemical principles, but because its morphological elements are incessantly destroyed and incessantly replaced with

new elements. This destruction and renovation are the consequences of the great rôle played by the blood in the intraorganic changes.

The blood contains then in itself the principles of life and the principles of death of the organism. If such is the case is it strange to think that the future of medicine belongs to hematology? What have we done in order to discover the physiological and pathological secrets constituting the life of this complex element? Do we know what is the relation existing between the condition of the blood and disease itself? *Is it rational to think that each pathological condition must reflex itself in the condition of the blood, or that, perhaps, it is the condition of the blood that determines the disease itself;* it is a pathological axiom that rationalism confirms, although science has not yet demonstrated it. In the blood, then, we may find causes and effects of diseases, but aside from such an idealistic conception of the blood regarding it as the principal element of etiology and diagnosis, why do we not consider the blood as any other organ of the body and study it as such? When we talk about cirrhosis of the liver our already scientifically trained minds think of the anatomical substrata creating such a condition; we almost unconsciously think of the condition of the interstitial tissue of the liver, of the condition of its cells, bile ducts, and vessels, and it is natural for us to do so. But do we ever think that the blood plasma is nothing else but interstitial tissue surrounding and keeping together the morphological blood elements or cells? Do we ever think of the anatomical condition of the blood plasma as interstitial tissue? We have not in it, of course, either connective-tissue cells, or elastic fibers, but we have an infinite number of chemical elements, whose increase and diminution constitutes an anatomical substratum much more important from the pathological standpoint, because the variation in this anatomical substratum will not reflect its consequences on a single organ, but on the entire organisms. Do we ever consider the variation in the density of plasma in different diseases, the amount of mineral salts, its alkalinity, its acidity, the amount of oxygen contained in it, and its relation to the pathological conditions of the organism? Our experiments on the plasma and the chemistry of blood remain so far physiological experiments, not applicable to pathology, and besides the physiologist generally does not consider it worth while to spend too much time on such researches. We have studied the morphological condition of the blood, its cells, etc., it is true, and we know a great deal about them. Since Virchow has explained to us the existence of phagocytosis we have considered the blood, we have discovered that leucocytosis is a reactive process; that poikilocytosis is a process of necrosis; that hemoglobin constitutes the vital element of the red corpuscles, and so on; but have we really applied all this knowledge so systematically to our diagnostic researches as to make it an integral part of our diagnostic methods? In a few diseases we have found the necessity of examining the blood, and we keep on doing so, because the macroscopical evidences of the disease are so simple as to make the examination a very easy task. But to me such an attainment has the same value that the examination of the urine would have in clinical chemistry, if we should limit our researches to the detection of albumin by the boiling test, and consider ourselves satisfied with the result as the best and most satisfactory. We have also studied some chemico-organic reactions of the blood in typhoid fever; the power of agglutination has been taken as an element of diagnostic value. I remember many years ago in an epidemic of typhoid fever, while assistant in a hospital, to have made about 200 Widal reactions, but it was a great surprise to me to notice that often in the most severe cases the reaction failed, while in mild cases it showed a remarkable activity. But what was more surprising to me, was the fact that in cases absolutely non-typhoid I could detect the same reaction! Does such an experience destroy the value of the Widal reaction? Is it useless because of its unreliability? No, such a reaction constitutes a symptom peculiar to certain diseases, and not to one alone and, if so, it is a very important factor in diagnosis because it constitutes one of the elements of nosology. Why should we think a piece of pathological evidence to be always specific of a disease when found in the blood, while we do not think so when found elsewhere? It is the number of symptoms put together and their reciprocal relation of cause and effect and genesis that constitute diagnosis. If diagnosis should prove such a simple matter, it would be very easy to be a good physician. Following the same principle, why do we not say that albumin in the urine is a sign of Bright's disease; that glycosuria is the evidence of diabetes: that amenorrhea means pregnancy; that an acute retrosternal pain means angina pectoris; that dyspnea is an evidence of pneumonia, and so forth?

If we do not consider rational such a clinical proceeding why should we consider a single isolated pathological fact noticeable in a complex organ as the blood is, as a sufficient element of diagnosis, and of indisputable value?

There is fresh in my mind a case to which I was called in Washington three months ago. The patient, a lady, had been under my care while practicing in Washington; she was taken suddenly ill, and a colleague, whom I respect and consider, took charge of the case, but her general condition getting very unsatisfactory and the family feeling very much worried, they decided to call in two more physicians. Her condition did not improve, and the family finally asked the physicians to make a decisive statement about the condition and the prognosis of the case. The statement was made and was: Cancer of the cecum, surgical intervention the only resort. After such a statement the family decided to send for me. I went to Washington. I saw the two physicians upon my arrival, and we discussed the case before seeing the patient, examining the charts accumulated during twenty days through the activity and zeal of my colleagues. To my great surprise the blood examination was considered by the physicians to be the confirming element in their diagnosis of malignant tumor. The blood examination had shown the existence of a leucocytosis ranging from 8,000 to 14,000 leucocytes per c.mm. at different times, and this fact, together with other clinical symptoms, had brought the physicians to the conclusion. In cancerous affections they teach us that leucocytosis is always present, it is true, still diagnosis, we must remember, is a process of synthesis whose conclusions we reach after having correlated the different symptoms detected. I took the temperature chart and the blood chart together, and it was strikingly evident that to the maximum of temperature corresponded the maximum of leucocytosis, and to the days of normal temperature the minimum of leucocytosis (8,000). Can we make diagnosis of cancer under such circumstances? In this case the leucocytosis was a reactive one, proof of an inflammatory process started in the organism. The patient had had an attack of acute cystitis, with fever and severe pains radiating from the pubis to the region of the cecum, and the so-

called tumor was caused by a marked fecal stasis. It is not the first time that a disconnected detection of symptoms leads to the most erroneous diagnostic conclusions. I remember one of the most eminent clinicians known to-day to have diagnosed a plain case of podagra as a tumor of the cerebellum simply because he had detected in the patient the movement of retropulsion "pathognomonic of tumor cerebelli." It is an every-day occurrence, and we must not for that reason so readily criticise the mistakes made by our colleagues. We too often hear physicians harshly criticising, in the presence of patients, what has been done by others, and I have noticed it in some consulting physicians. It is due, of course, to lack of everything, but principally to lack of sense.

Diagnosis is a work of synthesis. We all can detect symptoms; the real difficulty consists in correlating them as causes and effects. To me the blood itself, with its manifestations, is the connecting element of symptomatology, as it is physiologically the connecting element of all organic functions. But what we want to do in discussing the study of blood is not to convince anybody of the necessity of studying hematology, but to draw from the little knowledge we already have some useful applications for practice. As any American does, I believe in the practical application of knowledge, and all this display of theories would not mean anything if I did not come to some practical conclusions. I think that while at present we do not know enough hematology for diagnostic purposes, we do know enough to be able to make practical applications of our knowledge to therapeutics. I want to remain in the field of logic, setting aside all views of theoretical nature. I only want to repeat what two years ago, as a representative of my own government, I said at the twelfth annual meeting of the Association of Military Surgeons of the United States, that was held in Boston on the 19th, 20th, and 21st of May, 1903:

"As I have remarked before, blood and lymph are the bearers and transmitters of any infectious element, and the localization of the infectious element, in a special organ or region of the body, is a simple process of metastasis. The microbes, or toxins, are transported by the blood vessels into such regions of the body as offer conditions most suitable for the accomplishment of their reactive processes, just as in a similar manner cancer cells are transported to those parts of the body wherein may be reproduced the malignant growths from which they themselves originated. Now, if our therapeutic agent should follow the same route as that followed by the infective element, its action, general and local, would take effect at such points as presented a necessity for its action. Thus we may confide to the blood our curative agent, while the question to be understood is—what curative agent is preferable? . ."

As you see, my pathological views blend with the physiological ones, and my therapeutic views are a direct consequence and emanation of my convictions. The therapeutic element must be confided directly to the blood in order to be carried to the spot where the source of infection is, so to act as a general neutralizing agent to the heterogeneous toxic elements causing the disease and contained in the blood. Also for that reason I prefer to refer my views on the same subject to the lecture held in Boston:

"To my understanding, disease is a closed wound in which the colonization of microbes and the action of toxins accomplish their destructive work far from our control. The therapeutic equation to be resolved is the same as that resolved by surgery, with the difference that to the term local antisepsis must be substituted the term general antisepsis, and I regard it as a singular thing that we physicians, with the fact in evidence before us, will too often lose time in trusting to the effect of our prescriptions, while we already treat successfully by direct injections of therapeutic agents in the blood, syphilis, malaria, diphtheria, puerperal fever, and many other diseases.

"These facts demonstrate that internal antisepsis is the basis of therapeutics, and that the blood is the clinical excipient of therapeutic elements, and being the bearer and transmitter of all toxins, endogenous and exogenous, assimilated from the organism, it follows that we may confide to it curative agents whose therapeutic action will reach the most remote regions of the human system, regions beyond the reach of the knife, or any other remedial agent. Modern therapeutics must ask of its sister sciences, bacteriology and chemistry, a study of the chemical reaction of the blood in the different diseases, and in this way discover the therapeutic agent which, introduced into the blood, may neutralize the toxins in the circulation. Of course, in this respect the term antisepsis possesses a broader signification, and its meaning becomes defined as that of a neutralizing agent of the heterogeneous elements causing disease."

So my practical point notwithstanding the lack of knowledge of hematology, is to take as an axiom that *in the blood we find the causes or the effects of disease in general and in consequence we may be able to eliminate the cause or counterbalance the effect of diseases by treating the blood entirely.* The problem is one of chemistry and a very delicate one on account of the accuracy required for its application. My intention is to sketch in a future paper my views on intravenous and hypodermic therapeutics, in different diseases and their results. I believe, frankly, that hypodermic and intravenous treatment must gradually replace the internal one. The reasons are so many that only a discussion dedicated exclusively to the argument can show the main points of my assertion. Our therapeutics is still in its empirical state, and this is the reason why quackery exists.

Such a condition of things naturally brings discredit on the profession, and lack of confidence in the patients, who easily reason and think that, if medicine is a science the discrepancy in such a vital question as the one of treatment means ignorance in somebody. The day in which we shall make therapeutics a mathematical science, and use drugs with more rationalism in their application, the victory will be ours.

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## A FEW PRACTICAL POINTS IN PEDIATRICS FOR THE GENERAL PRACTITIONER.*

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What the requirements of the general practitioner should be along the line of pediatrics, is a question that is rather difficult to answer. But as the clientèle of the average practitioner of medicine contains of necessity many infants and young children, it may not be amiss to enumerate several points with which I deem it wise for the general practitioner to familiarize himself in order that he may be better prepared to treat his little patients skillfully and understandingly.

*Read before the Bridgeport Medical Society, Bridgeport, Conn., on June 6, 1905.

Some physicians do not like children. They object to their crying and noise, and claim that they are unable to think at all while the child is making such a rumpus. There are three classes of children that the physician is called upon to treat. 1. The good child, one that seems to enjoy being examined. He will play with you and will keep quiet while you are examining him, and will make absolutely no fuss at all. You are in luck when you have such a child for your patient. 2. The nervous child, the excitable child, a child possibly who has been operated upon for adenoids without anesthesia, with the promise that it would not hurt him; a child possibly who has been ill much of his life and whose nervous system is in an irritable state. With this class of children we must take our time in examining them; it will not do to take out our stethoscope and hold the child while auscultating his chest. We must proceed cautiously. Let him handle your stethoscope; let him see for himself that it will not hurt him. Gradually gain his confidence, and do not abuse it after he has given it to you. Why is it that nine out of ten children are afraid of a doctor? It is because the parents usually hold up the doctor to the child as the "bogie man"; if the child is cross, or cries, the mother or nurse tells him if he don't look out the doctor will catch him and cut off his ears! So that about as soon as an infant can use his brain at all, he is schooled into the abominable trait of fearing the family physician. On the other hand, we ourselves are possibly responsible for the fear exhibited by our little patients. How many times have we lied to these babies of our clientèle, gaining their confidence by all the alluring promises of "It won't hurt you," and story-telling, and then, when these babies have opened their little hearts to us, given us their confidence and believed us, we plunge a knife into an abscess, or vaccinate them. We have lied to them; they know it, and will never forget nor forgive. Fancy trying again to win their confidence! It can never be done. 3. The third class of child comprises the vicious child, the spoiled child, a child who has never been crossed in a single wish or desire during his entire life. He has ruled the family from the time his occiput first traversed the perineum. These children will kick, bite, and scratch anyone who tries to interfere with their wishes. They are bad—not from any fault of their own; they have their parents to thank for their nasty disposition. With these children the examining physician should waste no time. It is love's labor lost to argue, coax, or talk to them. We must simply do our work from the beginning and let them know that we intend to examine them, no matter how much fuss they are going to make about it. We do not consider them a moment, do not talk to them, nor have anything to do with them, except what it is our business to do. It is surprising to see the change that comes over these fondled, spoiled pets of the family after a few examinations by the family physician, when the child finds out that no harm is meant to him, and that although he can rule the entire family, he can gain nothing by acting badly toward you. So, then, you see that, given a child to examine, he must of necessity fall under one of these three heads and we must deal with him accordingly.

There are three points which must be carried when we train an animal, whether it be a horse or a baby, and these points are: 1. Respect. Our patient must respect us and our wishes. 2. Confidence. They must place themselves wholly in our hands and trust us. 3. Obedience. They must do as we tell them.

*History.*—A brief history of the case is always essential. It is my rule, before seeing the child at all, to get the history from the mother or nurse in her own words, for if she is in the presence of her crying offspring her thoughts as to antecedent events are anything but clear. A history of the parents as to heart disease, rheumatism, or consumption should be elicited. The food of the infant or young child should be inquired into at length.

Having your history, you are ready for the examination. If you do not know the child, ascertain his or her first name, as there is nothing that inspires confidence in a child more than entering the room and saying, "Hello, Tom!" or "Hello, Julia!" Proceed as though you had known them all your life. Children make snap diagnoses of their attending physicians, and, as soon as you enter a sick room the child either likes you or does not like you; so it depends upon how you carry yourself during the first two minutes whether he is your friend or your enemy. Treat a child as though he were a human being. Sympathize with him if necessary, play fair with him, use no deception. If you are going to hurt him, tell him so; win his confidence by straightforward methods. There is all the difference in the world between a man who loves children and a man whom children love; and the highest tribute to the character of a person is that it may be said of him "children and dogs are fond of him." So much for digression.

*Physical Examination.*—In the physical examination of an infant or young child, one thing is important, and that is to have the patient undressed, naked. Many a skin eruption is overlooked by the physician's not adhering to this rule. No matter what the complaint is, undress your patient. There are physicians who claim that they can auscultate an infant's chest satisfactorily through the clothing—I cannot. If your patient is crying when you first see him, it is wise to take the temperature—by rectum—first; if he is quiet when you first see him, his chest should be auscultated first. If you are called to a case where the parent informs you: "Doctor, my baby is asleep; shall I awaken him?" answer by all means, "No." Inspection of a sleeping child is often well worth hours of handling. Notice his respiration; is it rapid, quiet, or labored? Is he cyanotic? Do the alæ nasi dilate at each respiration? Is his respiration abdominal or thoracic? Does the child twitch? Is there any paralysis? Is the head retracted? Is there obstruction to inspiration or to both inspiration and expiration? Does he moan from exhaustion, or cry out sharply occasionally from pain, or is the cry continuous? All the above and many other points of interest to the examining physician may be ascertained by simply cultivating the power of observation.

The stethoscope is of paramount importance in the auscultation of an infant's chest. The one I show you is at present used by many pediatrists and has a small bell made of aluminum. Some physicians prefer the ear for auscultatory purposes in the examination of infants and young children—but for just one moment—what a fallacy this is! If in an infant's lungs there should be a spot of consolidation as large as a quarter of a dollar, how many, think you, would diagnose the case correctly of those who use the ear against the chest wall? Not one in ten, because the average adult ear would cover almost the entire lung of an infant. Then, again, the ear does not fit closely enough to the skin to exclude air and extraneous sounds. Do not make the mistake in a case of pneumonia in putting the mustard plaster on the wrong side, a mistake which may happen owing to the fact that more noise is made by the sound lung, which is doing all the work, and this loud, exaggerated breathing is often mistaken for bronchial breathing, while the affected side, showing diminished, high pitched, or bronchial breathing

escapes unnoticed. It is neither pleasant for the consultant, nor for the attending physician, when a case has been blistered and poulticed on the left side, to find the real cause of the trouble on the right side. When an entire chest, front and back, has bronchial breathing over it, it is almost pathognomonic of fluid in the chest. This is especially so after an illness has been going on for some time.

How are you going to obtain an infant's sputum in a suspected case of tuberculosis? The method employed for obtaining sputum from babies is to pass a catheter, 21 F., into the esophagus, as the act of gagging forces the sputum, which is in the esophagus, into or on the catheter. The catheter is withdrawn, sealed in a large test tube, or bottle, and sent to the pathologist for examination.

In examining a baby you must rid yourself of all adult anatomy, diagnosis, and landmarks, as they are usually a stumbling block to the student of the baby, who is an entirely different proposition. If you try to locate with your finger the apex beat of the heart of a baby in the usual place laid down for adult heart beats, you will not find it. It is impossible to locate the apex beat in an infant or young child, except by the use of the stethoscope. The apex beat is normally found in a child up to the fifth year to the left of the nipple line. In an infant the heart is almost in a horizontal position in the chest, and gradually swings over into a semi-upright position as the baby grows older.

Congenitally diseased hearts should be examined for in every infant a month after delivery, as it is a most unpleasant thing to be called in consultation and find a congenitally defective heart in a baby which the obstetrician pronounced perfect. These cases occur and act as boomerangs. The abdomen should be palpated in every case. The liver is normally slightly below the level of the ribs in babies, but a spleen that can be palpated at all is considered enlarged.

Tumors caused by impacted feces, intussusception, appendicitis, and enlarged retroperitoneal glands should be palpated for in examining the abdomen.

The throat should always be examined when you are called to see a sick baby. The diagnosis of scarlet fever may oftentimes be confirmed by an examination of the throat; given a child with a rash which resembles scarlet fever and a throat that is pale, it is pretty certain that the case is not one of scarlet fever.

In chronic coughs with negative chests always examine for adenoid growths. Never operate for adenoids without an anesthetic for three reasons: 1. You cannot do a thorough operation when a child is conscious. 2. You at once make that child your enemy for life, and future examinations are difficult. 3. The nervous shock to the system of a child who is suddenly and forcibly held by a nurse or physician who says he is not going to hurt him and then pries open his jaws, introduces a forceps or curette, scrapes his nasopharynx, causing blood to flow out of the nose and mouth; I repeat that the nervous shock to a child who is thus treated more than counterbalances the danger of a properly administered anesthetic. Never promise the parents, after you have done an adenectomy, that the growths will not return, because they may recur in the course of a year or so, and then discredit will be placed on you by the family. I have seen cases which are regularly operated on every two or three years, and at each operation a large mass of adenoid tissue comes away, after which, upon digital examination, the nasopharynx will be found to be clear. Always examine your adenoid cases a month after operation by placing your finger in the nasopharynx and breaking up any existing adhesions which might later cause all the symptoms of adenoids.

A set of ear specula and a head mirror should form a part of the general practitioner's daily armamentarium. The ears should be examined in nearly every case, especially where there is fever, with the same frequency and ease as one examines a throat. Many a case of continued fever in children is caused by a bulging ear drum. During the past two years I have had many cases of this class, and in the majority of them the attending physician had been doing his utmost to control the fever by the use of quinine, meanwhile having repeated negative examinations made for the Widal reaction and for the malarial parasite; an incision of the ear drum caused the symptoms of malaria, paratyphoid, and chronic grip to cease immediately.

We are now passing through an epidemic of cerebrospinal meningitis, and there are many cases of other diseases with cerebral symptoms diagnosed as true cases of cerebrospinal meningitis. Do not make a too favorable prognosis in your case of cerebrospinal meningitis, as notwithstanding the comparatively low mortality in this disease reported by some observers, I regard it, especially in this epidemic which we are now undergoing, as having a very high death-rate. Given a baby with symptoms of cerebrospinal meningitis, a brain and spinal cord thickly coated with pus, either from the meningococcus, pneumococcus, or other bacterial infection, it is with the greatest rarity—if ever—that such a case recovers. In severe grip infections, in pneumonia, and diarrhea, we often see cerebral symptoms which almost entirely mask the real diagnosis, and these cases are erroneously put down as cases of cerebrospinal meningitis.

In a child under two years of age always have your doubts when the parents inform you that the child has rheumatism. Examine his gums, and you will usually find it to be a case of scurvy. It is surprising to see these so-called cases of rheumatism get well in a day or so, when placed upon a proper diet and orange juice.

In cases of malnutrition in young children, when you have exhausted all your methods of treatment, such as hygiene, feeding, etc., always suspect syphilis. Place those children on a "tonic" of bichloride of mercury and idodide of potash, and see them respond to it at once.

The man has never lived who can look down a throat with an exudate in it, and pronounce positively that it is or is not a case of diphtheria. I therefore beg of you to use your antitoxin early and in large amounts. When in doubt, use antitoxin. Far better is it to use antitoxin in cases of tonsillitis and have a live baby, than not to use it in a case of diphtheria and have a dead baby. I have many times injected antitoxin in a suspicious case and afterwards, by bacteriological culture, have had it prove to be one of simple tonsillitis, but no harm was done by the injection. Use your antitoxin early and fearlessly, and your diphtheria mortality will be low. Any parent or physician who, in the face of the marvelously beneficial results attained by the use of antitoxin, refuses to allow the use of, or refuses to use, antitoxin, has no right to have children nor to practise medicine.

In every case of diarrhea stop all milk immediately, give a dose of castor oil, and feed the patient on plain boiled water, or some form of cereal water. Resume milk very gradually.

*Feeding.*—The successful feeding of infants and young childen comprises nearly one-half of the practice of the average pediatrician. The general practitioner should know more than he usually does about

the feeding of the rising generation entrusted to his care. True, a general practitioner cannot be a children's specialist and still keep up his general practice, but, nevertheless, he should have fixed in his mind (not his pocket) what a baby has a right to demand. An infant has a right to demand mother's milk, which contains fat, proteids, and sugar. If he cannot obtain this food, it is the physician's duty to see that he gets some kind of food that contains approximately the amount of fat, proteids, and sugar which mother's milk contains. This is the nutshell of successful infant-feeding. But even though this be a simple matter, how many physicians who are in general practice and who are feeding many babies can tell you how much fat, proteids, and sugar there is in the average woman's milk? How, then, can these same men successfully feed babies when mother's milk fails? Formulas in the pocket are a poor substitute for common sense in the brain. Formulas are for well babies, and supply a demand for a comparatively easy, though not always, correct way to feed them. No two babies can be fed by the same rule. Therefore, we see the fallacy in depending too much upon set formulas. Each baby should be fed as an individual and not as one of a certain class of individuals. The so-called scientific feeding of infants, where the student or general practitioner is confronted with page after page of algebraic characters, is enough to discourage the best of us, and after wading through "let x = the amount of proteids, and y = the total amount of cream removed by the second dipperful from the top of a quart bottle of milk," the seeker for knowledge is apt to close the book and exclaim: "If this be the scientific feeding of infants, it is too complicated for me."

The most simple and practical method for feeding babies is the one taught and practised by Dr. Charles Gilmore Kerley of New York City. It was first published in the MEDICAL RECORD of August 31, 1901, and is based upon the fact that cow's milk contains practically 4 per cent. of fat, 4 per cent. of proteids, and 4 per cent. of sugar. Therefore, the following dilutions, taking the pint as the unit of measure, are self-evident:

| | Fat. | Proteid. | Sugar. |
|---|---|---|---|
| 8 oz. milk, 8 oz. water | 2. | 2. | 2. |
| 4 oz. milk, 12 oz. water | 1. | 1. | 1. |
| 2 oz. milk, 14 oz. water | .5 | .5 | .5 |

Gravity cream contains

| | Fat 16. | Prot. 3.2. | Sugar 3.2. |
|---|---|---|---|
| Therefore— | | | |
| 1 oz. cream, 15 oz. water | 1. | .2 | .2 |
| 2 oz. cream, 14 oz. water | 2. | .4 | .4 |
| 1 oz. cream, 2 oz. milk, 13 oz. water | 1.5 | .7 | .7 |
| 2 oz. cream, 2 oz. milk, 12 oz. water | 2.5 | .9 | .9 |
| 2 oz. cream, 4 oz. milk, 10 oz. water | 3. | 1.4 | 1.4 |
| 3 oz. cream, 2 oz. milk, 11 oz. water | 3.5 | 1.1 | 1.1 |

Now, with these two facts in mind, namely, knowing what whole milk contains and what gravity cream contains, we can mentally make any strength of mixture we desire by simply diluting our milk with water until we get the percentage of proteid that we wish and then adding cream until we get the amount of fat that we wish. Milksugar or canesugar is added to supply the deficiency in sugar; in round numbers, an ounce of sugar to a pint of mixture adds 5 per cent. to that mixture. Two one-quart bottles of milk are necessary for the feeding of babies according to the above method. The cream is removed from one bottle and stirred to insure its uniformity of 16 per cent. fat. The other bottle is inverted several times thoroughly to mix the cream with the milk and to insure its uniformity of 4 per cent. fat, 4 per cent. proteid, and 4 per cent. sugar.

Absolute percentage accuracy is not claimed for the above method, but it is near enough for all practical purposes, and gives the general practitioner an idea of the nutritive values of various combinations of milk, cream, water, and sugar. It is always well to begin in a young infant by giving a low protcid, say, 0.5 per cent., and gradually increasing it to 1.5 per cent. when six months of age.

| | Fat. | Prot. | Sugar. |
|---|---|---|---|
| At birth | 1.50 | .5 | 6. |
| Gradual increase of all ingredients up to: | | | |
| At 6 months | 3. | 1.50 | 7. |
| At 12 months | 4. | 3.00 | 6. |

In keeping track of feding cases there is nothing so essential as a record of the correct weight, daily at first, then weekly. In all my feeding cases I supply the mothers and nurses with blank reports, such as the following:

Date.....19

Name. Age.

1. Weight...lbs..ounces. Loss / Gain } since last report

2 Stools: Frequency and general character.

3. Vomiting or Regurgitation: When? How much?

4. Flatulence or Colic. When?

5. Appetite. Is the baby satisfied? Does he leave any of his food?

6. How often is he fed? Quantity each feeding?

7. Is the baby comfortable and good natured?

8. How much does the baby sleep?

9. How long each day is the baby out of doors?

10. Other notes of interest:

Date of last report.....19..

Baby at present is fed on the following food:

These blank reports are filled out by the mother or nurse and returned to me weekly or monthly, so that, no matter where the baby is, I have him under observation and can tell at a glance whether he is progressing favorably. This method of reports is strongly advocated by Dr. L. Emmet Holt, and is certainly of great help to both mother and physician.

It is important that the infant should be fed proper food from birth until he is twelve months old, but just as important is it that he should receive proper nutrition from the first to the sixth year. For the benefit of parents and nurses I have had slips printed showing the foods which should be given an average healthy child from the second to the sixth year.

It is not my intention to prolong this paper into a book on pediatrics, but simply to enumerate a few practical points and suggestions that have been of great service to me during the past ten years of work among children.

165 WEST EIGHTY-FIFTH STREET.

## DEAF-MUTISM AND PTOMAIN POISONING.*

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THE causes of deaf-mutism are often obscure. Any elucidation of these difficult cases should be of general interest. These cases also suggest the possible origin of certain other obscure nervous and mental conditions.

CASE I. Our first patient was a girl, two years and seven months old at the time of the poisoning. Her previous history was given by her father and mother and confirmed by her doctor and others. She was well, lively, talkative, very bright, and played like other children. One year previously she had

*Read before the American Otological Society, 1905.

had an attack of doubtful measles. Her family history was negative. She was an only child. Her parents had been married five years. By a previous marriage the father had several other children who were grown up.

On March 23, 1903, the patient was taken sick after eating ice cream which was bought of a street vendor. She had high fever, and on the next day was taken to the German Hospital, Brooklyn. Her hospital record was as follows: pulse 124; respiration, 28; temperature, 101.2°; diagnosis, acute gastroenteritis, and later, ptomain poisoning; treatment, spirits of turpentine. On March 25, the urine was normal and the temperature 102.3°.

On her return home, after four days, she did not walk well. At first her legs seemed "partially paralyzed." For six weeks she staggered and grasped at objects to steady herself. She had difficulty in drinking, and had spasms of either one side or the other of the face. By signs she showed discomfort or pain in the head. Her father first noticed her deafness about one week after the poisoning; it was then total.

About one month before I saw the patient she was operated upon for adenoids. When examined May 5, she spoke no words, but made inarticulate sounds and signs. She was pale and sallow, and fairly well-nourished. All her teeth were present, and well-formed. There were no signs of rickets; no enlarged lymphnodes. The alæ nasi were slightly ecorciated. There was nasal breathing. She looked drowsy, and appeared fretful, timid, and suspicious. She walked unsteadily, with feet far apart. There was no atrophy of the muscles nor any evidence of paralysis.

The ear showed nothing peculiar about the auricle or external meatus. Both drum heads were slightly retracted. The light reflexes were small and bright. The color of the membrane was slightly darker than the normal color. The child appeared to hear no sounds and did not respond to any noise, but noticed quickly a loud knock on the floor, or a jar sufficient to shake the room.

On July 13, the condition of the ears was unimproved. The child was fretful. Her physical condition was not quite so good as before. Although her general condition was still poor on August 16, there was some improvement. The right drum head was dark. There was no light reflex. Nasal breathing. The pharynx was anemic, but otherwise normal. The treatment prescribed was four grains of iodide of potassium, three times daily. On April 10, 1905, the condition of the child was practically unchanged.

The association of the paretic symptoms with the gastroenteritis which preceded them indicates their toxic origin, and, together with the history of the street ice cream, furnishes evidence that the poison must have been some ptomain.

Case II. In the second case under consideration, the data are few, but suggestive. The patient was a boy, two and one-half years old. Seven weeks before I saw him, he had an attack which his parents described as "fever." No physician was called. For four weeks after this attack the child could not walk, and he did not hear for some time. He now hears only a very loud voice. Inspection of the ears showed no abnormality.

I find the literature on this subject very scarce, and have attempted to fill the gap by using the literature on eye affections which follow ptomain poisoning. It does not seem too far-fetched to draw an analogy between the affections of the visual and those of the auditory mechanism. It seems sufficiently reasonable that the changes in the two sensory nervous systems occurring from the same poison are practically identical in their pathology. For this reason I have taken the liberty of quoting from authors writing on the subject of ptomain poisoning with eye symptoms. I am especially indebted to Ritzke.[43]

In 1817 Justinnus Kerner described eye symptoms in botulismus, but mistook it first for trichinosis. Since this time many authors have written on disturbances of vision from ptomain poison. The cases described were produced by many varieties of food, meat, fish, fresh or preserved, and dairy products, etc. The symptoms referable to the eye begin some time after the onset of the symptoms of poisoning. The symptoms are both motor and sensory. The eye symptoms are mydriasis, decrease of vision, ptosis, and defective accommodation. Most of the patients with eye symptoms soon recover. The rest, a very small number, die.

The affections of the eye were bilateral. The eye symptoms were what caused the patient to seek medical assistance. They came on later than the other symptoms of poisoning, in from one, eight, nine, to ten days. They were usually troubles of accommodation. In one case only, the latter were not present. Paralysis of accommodation was often the only eye symptom. This is the earliest symptom, and next appears the paralysis of the external rectus. As a rule, the degree of the paralysis is in proportion to the severity of the poisoning. Pupilary paralysis is less noticeable except in severe poisoning. Ptosis is the most frequent paralysis of the extrinsic muscles. One case of decreased vision was noted. Cohn[9] noted amblyopia; Guttman[23] found the eye grounds changed with hyperemia of the papillæ. Around the optic disc, the retina was gray and altered. Ruge[41] and Pflüger[25] mention conjunctivitis, keratitis, panophthalmitis and phthisis of the bulb. Dr. C. S. Bull will report three cases of choroiditis before the American Ophthalmological Society. The prognosis is good for a complete cure, in from two days to eight weeks. The accommodation paralysis which appears first, disappears last.

The symptoms are considered very similar to those of atropine poisoning, but differ in this respect that atropine in small doses affects first the pupil, and in large doses, accommodation, whereas the sequence is reversed in ptomain poisoning.

*Bacteriology and Toxicology.*—Van Ermengen[31] discovered the *Bacillus botulinus* in the spleen of patients who had eaten ham. He also found it in the ham. It appears that a specific toxin is produced by this bacterium. When used experimentally on animals, this toxin produces blepharoptosis, mydriasis, diplopia, dysphagia even to aphagia, obstipation, and retention of urine. The other forms of ptomain poisoning is attributable to *Proteus* and *Coli bacilli* and *Bacillus enteritides* (Gartner). The occurrence of early symptoms indicates that the poison was present before ingestion. Marinesco[32] experimented on the action of *Bacillus botulinus* on the nervous system. It caused cellular degeneration, first of Nissler's cells which became fewer with an increase of neuroglia. Kempner and Pollack[33] found that degeneration seemed to attack individual cells at first.

Tschernyschew[37] found on autopsy following death from fish poisoning, changes in the ganglion cells most marked in the medulla and least so in the cerebellum.

Römer and Stein[42] studied the effect of ptomain poisoning on the brains of monkeys. They found changes in the oculomotor nuclei and the degeneration most marked in the cells which Bernheimer considered the accommodation center. Nuclei in the neighborhood of the aqueduct of Sylvius were also

affected. Römer and Stein concluded that the accommodation paralysis of ptomain poison originates from a degeneration of the oculomotor nuclear centers, and that it was caused by direct action of the ptomain.

Ritzke[43] concluded from a study of 64 cases that the symptoms confirm the theory that the nuclei are the point of origin of the accommodation paralysis.

Neuritis can be caused in its various forms and locations by intoxication. Wittmaach,[44] in his article on the toxin nuritis of the auditory nerve and ganglia, reports a case of general intoxication with auditory neuritis. He states that auditory neuritis is analogous to optic neuritis and that their etiology is the same; also that the clinical symptoms and pathological anatomy are analogous. Unfortunately, ptomain poisoning (*Wurstvergiftung*) is not one of the causes he mentions.

Though there is such a scarcity of literature on our subject, a fair analogy can be drawn between the effects on the auditory and those on the visual motor systems. This enables us to picture the changes occurring in the organ of hearing after ptomain poisoning.

We have a clinical case of what appears to be auditory neutritis of toxic origin, and also toxic degeneration of the speech centers. The prognosis is bad, as no improvement has yet appeared.

Our case suggests the possibility that some of the cases classified under Ménière's disease may be in reality neuritis of the auditory nerve, and of toxic origin, possibly ptomain. We can also infer that ptomain poisoning may sometimes be the source of deaf-mutism and of deficient mental development as well as of various kinds of paralysis of obscure origin.

It is probable that ear affections following ptomain poisoning will be found more numerous when we are on the lookout for them, as it is not likely this poison is especially discriminating in its action in favor of the auditory nervous system and selective of the visual system.

It is reasonable to suppose that the acute deafness and vertigo in this case following closely on ptomain poisoning were the results of neuritis, either peripheral or central, consequent to the intoxication. The aphasia must be accounted for by some central degeneration. That the difficulty in deglutition was probably due to the involvement of the facial nerve together with the auditory, appears more probable because of the facial spasms.

In lieu of an autopsy, we may use the findings that have been published in eye cases of ptomain poisoning. These justify the inference that in our case similar degenerative changes had taken place in the auditory centers. It is also fair to suppose that the auditory centers were affected, together with the speech centers, as is shown by the aphasia present with the deafness. In addition we may infer that the disturbances of the facial nerve indicate a peripheral neuritis of that nerve, in which its neighbor, the auditory nerve, was probably also involved.

*Differential Diagnosis.*—I. Encephalitis of suppurative organ can be excluded by the absence of the history and a focus of infection. Chronic non-suppurative inflammation of the brain is excluded by an acute onset.

II. Atropine poisoning is excluded by the absence of eye symptoms or by their reversed order.

III. Cerebral hemorrhage or embolism is excluded on the ground that to include the variety of symptoms seen, the condition must be still more grave than we find in our cases.

IV. Cerebrospinal meningitis is excluded by the course of the attack. In cerebrospinal meningitis, the head symptoms are early predominant and spinal irritation is generally noted. In ptomain poisoning, which is usually a mixed infection, the abdominal symptoms are most marked at first, and the cerebral symptoms develop gradually Ptomain poisoning is generally ushered in by an attack of gastroenteritis, due to the mixed infection. In cerebrospinal meningitis, however, the first symptoms are of rhinitis and the cerebral symptoms appear early. In ptomain poisoning, the nervous symptoms appear late, without any spinal symptoms. Ptomain poisoning differs from non-toxic diseases in that it usually affects several individuals of a party simultaneously.

V. Acute bulbar paralysis is excluded if deglutition is not seriously affected, and also by the presence of paralysis of some of the anterior cranial nerves.

*Conclusions.*—Ptomain poisoning or botulismus is caused by specific *Bacterium botulinus*, which produces a specific poison, botulim. This toxin has a special selective action in the central nervous system, giving a more or less definite group of symptoms.

There are other bacteria which cause symptoms of gastroenteritis usually concerned in ptomain poisoning.

The diagnosis can be based on the history of the case and the sequence of the symptoms.

Botulismus may very possibly be the cause of many of the paralyses and nervous degeneration of obscure origin, and perhaps in some cases, the primary cause of arrested central or peripheral nervous development.

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## SOME FURTHER NOTES ON THE TOXEMIA OF PREGNANCY.

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In a paper entitled "The Toxemia of Pregnancy" (*Amer. Gyn.*, December, 1903) the writer attempted to show that the vomiting of pregnancy is a manifestation of a toxemia, the lesions of which are primarily an acute degeneration of the liver, amounting to necrosis and destruction of liver cells in the severe cases, and presenting lesions in many of the fatal cases essentially those of acute yellow atrophy. The metabolism is imperfectly carried out as a result of these lesions, and various unoxidized compounds are formed in place of urea, which in themselves are more or less poisonous.

Further clinical study of this condition has more certainly convinced the writer of the truth of this opinion, and the clinical notes of the following cases, supplemented by some complete urinary analyses, may contribute in a measure to our still meager knowledge of the subject.

The urinary analyses were made in the pathological and chemical laboratories of the Cornell University Medical School, and I am indebted to Dr. James Ewing for the notes of Case III, for the clinical examinations of the urine, and for the privilege of examining the sections of numerous fatal cases. I am also indebted to Dr. C. G. L. Wolf for the determination of the nitrogen partition in the urines. The presence of leucin and tyrosin was determined by the following method: The albumen is first removed by boiling with acetic acid. To the filtrate one-half as much saturated solution of basic lead acetate is added. The lead is then removed from the filtrate by a current of hydrogen disulphide. It is then filtered and concentrated by boiling to a syrupy consistence, when the crystals are recognized from their characteristic shape and color. The total nitrogen was determined by the Kjeldahl method; the ammonia-nitrogen by the Schaeffer method of distillation in vacuo at 50° C.; the urea-nitrogen by (1) Folin in the urine itself, (2) in the phosphotungstic acid filtrate; the amino-acids by the Pfaundler method, the difference between the urea and the total nitrogen being taken as the amino-acids. Wolf considers that Pfaundler's method, when properly used, gives excellent results for clinical purposes, both with normal and pathological urines, and in every case in which a large percentage of amino-acids has been found leucin and tyrosin have been demonstrated in the urine itself.

The cases have been divided into two clinical groups, the first group including four cases of the pernicious vomiting of pregnancy, the second group including three cases of the preeclamptic type.

Group A, Case I.—Age 20; married six months. Menstruation had been normal, and she had considered herself in perfect health prior to the present illness, although she had always been careless about her diet and general hygiene. Vomiting began seven weeks after the last menstrual period, and becoming almost continuous within a short time, had persisted for four weeks. No physician had been consulted, but she had attempted to improve her condition by visits to Atlantic City and Lakewood. The writer's first observation revealed a serious condition. The patient was very thin and pale, and her face presented an anxious expression. Pulse 100 and feeble; temperature 99.5° F. The liver percussed, small, and could not be felt beneath the costal margin. These physical signs, however, are of doubtful value, especially in pregnancy, because of the gaseous distention of the intestines that is so frequently present. The uterus was enlarged to a size that corresponded with the menstrual calculation, and was sharply anteflexed, and in its normal position. The vomiting, that had begun to be black, persisted in spite of catharsis and saline irrigation of the colon, so that at the end of twenty-four hours the uterus was emptied under nitrous oxide and ether anesthesia. Vomiting ceased two hours after recovery from the anesthesia, and a rapid convalescence followed. The urine passed during the twenty-four hours preceding the operation showed the following: Amount, 700 c.c.; specific gravity, 1.025; faint trace of albumin; no casts; indican moderately increased; leucin and tyrosin present; urea by the hypobromite method, 3.39 per cent. A

determination of the nitrogen partition gave: total nitrogen, 6.237 grms.; urea nitrogen, 72.2 per cent.; amino-acids nitrogen, 1.4 per cent.; ammonia nitrogen, 1.23 per cent. Four days after the operation the nitrogen determination showed total nitrogen to be 6.003 grms.; urea nitrogen, 80 per cent.; amino-acid nitrogen, 1.6 per cent.; ammonia nitrogen, .49 per cent.

Case II.—Age 25. Married three years, with no pregnancy. Patient was very fat, had taken no exercise, and was a very heavy eater, especially of meats. Vomiting began five weeks after the last menstrual period, and had continued for five weeks, the last two weeks being accompanied by a burning pain in the epigastrium and excessive ptyalism. Slight jaundice had also been present for several days. Her mental condition was alarming, she at times threatening to kill herself. The liver could not be felt beneath the costal margin. The pelvic organs were normal, except that the cervix was of firmer consistence than is usual at this period of pregnancy. Pulse 110, of good quality; temperature 100° F. Saline irrigations of the colon, which were rather imperfectly carried out, caused no improvement, and at the end of four days the uterus was presumably emptied under ether anesthesia, but the vomiting continued after the operation, and an increase in the uterine discharge four days later, and the occurrence of a chill with a temperature of 101° F. suggested that the operation had been incompletely performed. A second intrauterine exploration under anesthesia revealed the presence of numerous gestation products, after a removal of which the vomiting ceased, although the patient's condition remained critical for several days. A urinary examination made before the first operation showed the following: Amount 545 c.c.; acid reaction; specific gravity, 1.021; no albumin or casts; marked sediment of urates; indican markedly increased; many leucin balls. A determination of the nitrogen ratios gave: total nitrogen, 5.17 gms.; urea nitrogen, 47 per cent.; amino-acid nitrogen, 22 per cent.; ammonia nitrogen, 2.5 per cent.

Case III.—Age 32. Had suffered from pernicious vomiting in three previous pregnancies, and from occasional attacks in the last one. Had been vomiting severely in the present pregnancy for two weeks, and was admitted to the hospital in a precarious condition on account of a threatened miscarriage at the sixth month. Death occurred in a few hours, and the autopsy showed an acute degeneration of the liver and kidneys. The urine was acid; specific gravity, 1.025; contained a distinct trace of albumin and a few hyaline and granular casts; indican considerably increased. The determination of the nitrogen ratios gave: total nitrogen, 0.26 gms. per 100 c.c.; urea nitrogen in the phosphotungstic acid filtrate, 23 per cent.; amino-acid nitrogen, 19 per cent.

Case IV.—Age 30. First pregnancy had been terminated in the latter months because of "acute Bright's disease," after which she was not in good health for a long time. Constant vomiting has been present for several weeks in the present pregnancy, which is now advanced to the third month. Fever has also been present during the past week. The patient was emaciated, and had a rapid and feeble pulse. The urine contained a trace of albumin, casts, and leucin and tyrosin. Saline irrigations of the colon did not improve the condition, and a bougie was introduced into the uterus without anesthesia. The uterus promptly emptied itself, but during the progress of the abortion the patient nearly collapsed, after which improvement followed. The fever, however, continued for several weeks, and treatment for typhoid fever was carried out, as the Widal reaction was positive. One year later patient became pregnant again, and the pernicious vomiting recurred, but the uterus was promptly emptied, and recovery rapidly ensued.

The individual symptoms in this group of cases merit some special comment. The appearance of black vomit in Case I, regarded generally as of serious import, and considered by the writer in his previous paper as a possible sign that the time for emptying the uterus has passed, shows that it is not necessarily of fatal significance, although the writer still believes its presence always renders the prognosis grave. The combination of symptoms in Case II—vomiting, ptyalism, jaundice, and serious mental disturbance—is rarely seen. Ptyalism has been referred to by the writer in his previous paper as a manifestation of toxemia, and a case was reported in which it occurred in two successive pregnancies, without, however, being accompanied by vomiting. The patient complained of more discomfort from this symptom than from the vomiting. The presence of jaundice in these cases has occasionally been noted, and naturally offers confirmatory evidence of the hepatic basis of the disease. The mental symptoms presented by Case II are of the greatest clinical importance, and should be carefully noted by those who find in hysteria a satisfactory theory for the origin of the disease. The first medical attendant of this patient evidently belonged to this persuasion, as from his remarks and treatment he evidently regarded these periods of mental distress as the expressions of a foolish and hysterical woman. The writer believes it is of the greatest importance to regard these mental aberrations as much a manifestation of the toxic process as is the vomiting. The maniacal delirium manifested as the patient recovered from the anesthesia after the second operation was so similar to that seen by the writer in a previously fatal case that he was inclined to think that an immediately fatal termination was inevitable. The persistence of the vomiting after the first operation furnishes an important lesson. Although portions of the fetus were found at the second operation, the presence of perfectly fresh placental tissue, which had evidently not been disturbed at all by the previous operation, might be regarded, in the light of Halban's recent work, as the part of the gestation product, if any, which is the source of the poison. Halban ("Die innere Secretion von Ovarium und Placenta und ihre Bedeutung für die Function der Milchdruse," *Arch. f. Gyn.* Bd. 75.353, 1905) believes the placenta to have an internal secretion similar to, but more active than, the ovary.

Case IV presented difficult problems in diagnosis and treatment. The positive Widal reaction would appear to have made the diagnosis of typhoid fever certain, but several observers have noted this reaction in the presence of hepatic diseases. Ludke (*Folia hæmatologica*, March, 1905, 182) noted that of thirty-six cases of liver disease, of which thirty-two had jaundice, the blood in nineteen agglutinated the typhoid bacilli in dilution of 1:20, and in eleven in dilution of 1:50. Although a high temperature is not an ordinary symptom of toxemia, the writer has noted its presence in several instances. The frequent occurrence of sepsis in these cases must also be remembered. The history of "acute Bright's disease" in the first pregnancy, the typical clinical course in the second pregnancy up to the time of the appearance of the fever, with the absence of other symptoms of typhoid fever, and the recurrence of the pernicious vomiting in a third pregnancy strongly indicate a common basis for all of these at-

tacks. The writer would also call attention to the method of terminating the pregnancy in this case by the introduction of a bougie into the uterus without anesthesia as one to be recommended in similar instances, in which the condition is so desperate that a rapid emptying of the uterus under anesthesia might prove fatal.

The study of the urinary changes in this group of cases shows the striking fact that the ordinary clinical tests furnish practically negative evidence of the presence of any serious disturbance. A diminished amount of urine, a practically normal specific gravity, a trace of albumin in two cases, a few hyaline and granular casts in the fatal case, the amount of urea, as determined by the hypobromide test in Case I, larger than normal, were the only evidences these methods furnished. Efforts to find an easily applicable method have so far been futile. Ewing has found leucin present in the urine of every serious case of the writer's, but he has also found it in two cases that so far have not proved to be grave, so that the significance of its presence must be still regarded as uncertain.

If a disturbance of the liver metabolism is the basic factor in the toxemia of pregnancy, it would be natural to expect that the normal ratios of the different forms of urinary nitrogen would be disturbed, and it will be seen from the table that such a disturbance is shown in all of the serious cases of Group A, in which the determination was made. The total nitrogen was markedly diminished in all of them, which is doubtless due to their limited diet. The urea nitrogen, normally running with a full diet from 80 to 90 per cent., is reduced from 72 per cent. in Case I to 23 per cent. in Case III. The amino-acid nitrogen has increased in Case II to one-half that of the urea nitrogen, and is almost equal to the urea nitrogen in the fatal case. The ratio of the ammonia nitrogen, however, was not disturbed, except in the fatal case.

Group B.—The following three cases, belonging to the preeclamptic type, are given to show the comparative results in the determination of the urinary nitrogen, in connection with the possible practical significance of the presence of indicanuria.

Case V.—Age 34. III-para. First pregnancy normal. Second terminated in a miscarriage at the third month from an unknown cause. Present pregnancy uneventful, except for occasional and moderate indicanuria, until the beginning of the eighth month, when the urine showed the following: specific gravity, 1.026; albumin, 2.5 per cent.; no casts; large amount of indican. The albumin and large amount of indican persisted, and at the end of the month a few hyaline and granular casts appeared. There were no other symptoms, except some lassitude, mental depression, and flatulency. A determination of the nitrogen partition showed the ratios to be normal, so that it seemed fair to conclude that no serious disturbance was taking place beyond that of an intestinal toxemia. A milk and cereal diet was followed by a decrease in the amount of albumin and indican, and in the disappearance of the casts, although a moderate increase in the indican and a trace of albumin persisted until two weeks after the labor, when they disappeared simultaneously. The nitrogen determination, in this case at least, seemed to be of practical value in the increased assurance it afforded us of the safety of the patient.

Case VI.—Age 30. Operated upon for appendicitis three months before this, her first pregnancy began. During the second month of the pregnancy an attack of persistent vomiting finally yielded to catharsis and saline irrigations of the rectum. The urine, unfortunately, was not completely examined at this time, but the ordinary clinical test presented negative evidence. A mild recurrence of the vomiting appeared two months later, but promptly yielded to treatment. Recently, during the second month of this pregnancy, an attack of headache, dizziness, spots before the eyes, and moderate edema of the legs occurred. The urine again showed nothing by the ordinary clinical tests except a slight increase in the indican. The determination of the nitrogen partition showed that only 55 per cent. of the total nitrogen was excreted as urea; that the amino-acid nitrogen was increased to 15 per cent.; the ammonia nitrogen was 5.14 per cent. Catharsis and a rigid diet was followed by a disappearance of the symptoms. A return to the ordinary diet two weeks later was followed by headache and an attack of blindness that lasted one day. A second urinary examination, made a few days subsequent to this reappearance of these symptoms, showed the following: specific gravity, 1.011; no albumin or casts; a slight increase of indican; the presence of leucin. The ratios of the nitrogen were: urea, 64.19 per cent.; amino-acids, 17.05 per cent.; ammonia nitrogen, 6.19 per cent. Compared with the first examination, we find the percentage of urea to be slightly higher, but the amino-acid nitrogen has also slightly increased, and leucin, that was absent at the first examination, is now present.

Case VII.—Age 39. I-para. Pregnancy had been normal, except for the transient appearance of a trace of albumin in the beginning of the seventh month, a persistent low specific gravity, and a moderate indicanuria. An excessive amount of liquor amnii was noted in the seventh month. During the latter part of the eighth month a marked edema of the legs and hands, and considerable shortness of breath appeared. There was also a moderate urticaria. The ordinary clinical tests of the urine at this time again furnished practically negative evidence, with the exception of a trace of albumin and a low specific gravity. A determination of the nitrogen partition showed the urea nitrogen to be 73.14 per cent.; the amino-acid nitrogen 15.9 per cent.; the ammonia nitrogen 6.18 per cent. Leucin was also found. Before the urinary examination was completed premature labor began, and a six-pound child was born spontaneously. A moderate jaundice began on the third day. The child died, markedly jaundiced, on the twelfth day. A second urinary examination, made at the end of the first week of the puerperium, showed the following: urea nitrogen by the Folin method, 82.5 per cent., by the Pfaundler method, 76.9 per cent.; amino-acid nitrogen, 8.4 per cent.; ammonia nitrogen, 2.9 per cent. Leucin has disappeared. Convalescence has been slow.

A comparative review of the clinical symptoms in these two groups seems to the writer to be of some importance because of the appearance of preeclamptic symptoms in Case V subsequent to a typical attack of pernicious vomiting in the early months. Williams, in a paper on "The Pernicious Vomiting of Pregnancy," read before the American Gynecological Society, May, 1905, stated that eclampsia and the vomiting of pregnancy are due to different toxins, and are clinically and pathologically distinct. The present state of our knowledge does not warrant a positive conclusion at the present time, but the clinical and chemical evidence of Cases IV and VI offer strong evidence that they are fundamentally identical, not to mention the identity of the visceral lesions in many cases.

The ordinary clinical tests of the urines in Group B present the same lack of evidence as do those in Group A. The presence of indicanuria, either mild or severe, has been noted in all of the writer's recent

| | Group A. | | | | | | Group B. | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Case No. . . | I<br>I Exam. | I<br>II Exam. | II | III | IV | V | VI<br>I Exam. | VI<br>II Exam. | VII<br>I Exam. | VII<br>II Exam. |
| Amount . . | 700 c.c. | ..... | 545 c.c | ? | ? | 1580c.c. | ? | ? | ? | ? |
| Reaction. . | Acid | ..... | Acid | Acid | Acid | Acid | Acid | Acid | Acid | Acid |
| Sp. Gravity | 1.025 | ..... | 1.021 | 1.025 | ? | 1.020 | 1.015 | 1.011 | 1.008 | 1.016 |
| Albumin . . | Faint<br>Trace | ..... | 0 | Trace | Trace | 1.5% | 0 | 0 | Trace | 0 |
| Casts. . . . | 0 | ..... | 0 | Hyaline Gran. | + | 0 | 0 | 0 | 0 | 0 |
| Indican. . | Mod.<br>Increase | ..... | Consid.<br>Increase | Consid.<br>Increase | ? | Marked<br>Increase | Slight<br>Increase | Slight<br>Increase | Normal | Normal |
| Leucin. . . . | + | 0 | + | + | + | ? | 0 | + | + | ..... |
| Total N. . . | 6.237 gms. | 6.003 gms. | 5.17 gms. | .26% | — | 10.98 gms. | .63% | ..... | .389% | 1.183% |
| Urea-N. | 72.2% | 80% | 47% | 23% | — | 93.1% | 55 39% | 64.19% | 73.14% | 82.5% Folin<br>76.9% Pfaundler |
| Amino-Acid N. . . . . | 1.4% | 1.6% | 22% | 19% | — | .74% | 15.01% | 17.05% | 15.9% | 8.4% |
| Ammonia N. . | 1.23% | .49% | 2.5% | 15% | — | .74% | 6.77% | 6.19% | 6.18% | 2.9% |

cases. Although its presence is probably chiefly indicative of proteid decomposition in the intestines, and such a condition is not generally regarded as the essential factor in the etiology of the toxemia of pregnancy, yet its frequent appearance in the urine of these cases may be of some practical value in furnishing us with an additional indication that abnormal conditions exist. Case V, in which its constant presence with a small amount of albumin, furnished practically the only evidence of an arbnormal condition until the determination of the nitrogen partition was made, offers us the best demonstration of the significance of its presence. The determination of the urinary nitrogens, as in Group A, has furnished us with the most important evidence, giving us in Case V an assurance of the absence of serious disturbances, and in the other instances satisfactorily demonstrating, in the absence of other signs, that serious conditions were present. These determinations, however, have not shown that an increase in the ammonia nitrogen of either group may be considered as an index of the severity of the process, as given by Williams in his recent paper. It was increased in none of the writer's cases, excepting Case III of Group A.

The theory of acid intoxication, as applied to the toxemia of pregnancy, is imperfectly understood, and the presence of diacetic acid and B-oxybutyric, although important and probably indicative of a serious condition, does not represent the fundamental factor.

The writer's present conclusions are:

1. Inasmuch as I have so far not seen a case of pernicious vomiting of pregnancy which I considered had a hysterical or reflex origin, I have never dared to treat a case on such theories.

2. The mental symptoms of Case II were those ordinarily stamped as hysterical, but which are essentially symptomatic of the disturbed hepatic function, shown to be present by the urinary changes.

3. While the majority of cases of pernicious vomiting of pregnancy present lesions that are different from those of eclampsia, yet I have clinical and pathological evidence that they are closely related.

4. Symptoms of either group present themselves practically without urinary changes, as determined by the ordinary clinical tests.

5. The persistent presence at any period of pregnancy of even a trace of albumin, especially if accompanied by casts, and a persistent increase of indican demand a more complete examination of the urine, which seems to be best accomplished by a determination of the total nitrogen and its partition.

6. I would recommend that the test for indican be included in the ordinary clinical tests, because it seems that whatever the basic cause of the toxemia may be, errors of diet and intestinal intoxication are one of the important contributing factors.

7. Our recent study may not have added much to the treatment of the severe cases, but the early recognition of clinical symptoms and better appreciation of the disturbances in metabolism have already, I believe, been of the greatest practical value in the prevention, in some instances, of serious consequences.

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## HENRY G. DAVIS, M.D.
## A REVIEW OF SOME OF HIS WORK.

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The pilot does not always steer his ship by watching the magnetic needle or by looking forward at a lighthouse or a star, but frequently he directs his course by taking his bearings from some object directly astern. The gold-hunter sometimes meets with the greatest success in country which has been picked and panned by numbers before him. Even in this age of the greatest advancement in all branches of medicine and surgery, may we not, with advantage, devote more time than we do, to a closer study of the ground apparently so well covered by our predecessors? May we not, perhaps, steer a better course forward and onward if we now and then correct our bearings by a glance into the past?

How frequently are new discoveries valuable, not so much by effecting radical changes, as by making new use of an old principle, or by successfully overcoming some obstacle previously insurmountable. Who can say that some methods of treatment, which have been discarded as worthless, may not be turned into the greatest value by some of us in the future? Because a man's lifework does not seem to us to bear any important relation to our present knowledge, who is competent to advise its relegation to oblivion?

In recalling to your attention the first orthopedic surgeon in this country, Dr. Henry G. Davis, it is with the hope that this review may be of assistance to some of you—may possibly suggest a solution of some difficulty in your work.

The temptation is great to seize golden nuggets from the works of others, and to ignore the heaps of gravel and sand which their industry produced. Where no nuggets are found, these heaps remain as the sole monuments to their lives, and, neglected and ignored, the winds of time are not long in effacing them. In these heaps of refuse, discarded by the diligent worker as waste matter, there sometimes may be found by-products of greater assistance to the profession than could have ever been the nugget for which the toiler sought.

Although the father of orthopedic surgery in the United States, few outside of those who make this branch their special study, know aught of the endeavors of Dr. Davis. Little mention is made of him in our present-day textbooks. Foreign writers seem to be more aware of his true greatness than

are his own countrymen. By inventing ingenious methods for the better application of principles discovered and taught by Dr. Davis, others have reaped the larger rewards. Undoubtedly we should honor those who have made it easier to apply these teachings, but let us not forget the great teacher, the originator of the basic principles. Perhaps, too, we may be able to find some truths, which, discarded as impracticable many years ago, are, by modern methods, capable of being put to the most happy uses.

In regard to the danger of our falling into imitative habits and neglecting to see new paths or the advantages to be had in reopening vacated ones, Dr. Davis wrote: "We can frankly say that for years after the truth began to dawn upon us, we were more disposed to doubt and disbelieve the evidence than to suppose that the profession had so long failed to discover what apparently was so evident. We fear this same state of mind has too often led those comparatively young in the profession to discard glimpses of light, because if true it appeared too plain not to have been before recognized by the great body of eminent men who preceded him."

The most important publication of Dr. Davis is his "Conservative Surgery" (D. Appleton & Company, 1867). In the introduction, the author gives us an idea of how important he believed his investigations to be, and yet how fully he realized that better means of obtaining the end were yet to be discovered. "The records we here present to the profession are the gradual accumulations of over thirty years' investigation. It may be thought that the amount is meager in comparison to the time spent; but it must be remembered, in extenuation, that we are but pioneers in this boundless field, and that each new discovery, effecting as it does in many instances, an entire revolution in the pathology and treatment of the difficulty, must necessarily require a long time to test, by experience, its truth. . . . The endeavor has been to discover and elucidate principles; hence, any success attained possesses a value in proportion as the subjects embraced by a principle are of advantage to man in promoting his happiness, or in prolonging his life. Principles in surgery may cover a large class of cases, whereas, manipulations or an operation may be applicable to a given case only. It is not probable that in every instance the best means has been devised for accomplishing the object desired; for we are like a traveler, crossing for the first time a vast, unexplored region, although it may be afterwards ascertained that he has not selected the best, yet it is much to demonstrate that it can be traversed by any route. We could wish for another term of life than that allotted to men, to enable us to continue these investigations; as this cannot be, we hope they will be resumed by one more capable, and pursued until the whole field has been explored."

Such expressions could come from none other than a great, a wise, and a modest man. Of conceit, he seems to have been singularly free. His demands for recognition as the originator of certain principles in practice were but the demands for justice by one who appreciated the value of his own discoveries.

The application of continued elastic extension in cases of fracture was urged by Dr. Davis, in an article published in the *American Medical Monthly* of May, 1856. Four years later, in 1860, Dr. Gurdon Buck successfully treated a fracture of the femur after this method.

The treatment of fractures by extension has now become an accepted principle, yet we know of no textbook which gives such a clear exposition of it as is given by its originator, who says: "After continued elastic extension has been applied to a fractured limb with sufficient force, and for a sufficient length of time to weary the muscles, all the tissues surrounding the fracture will be drawn tense. While in this position, and tense, they act and serve as so many splints, exerting a uniform pressure to force the parts in a simple fracture into their natural position, and, so long as they remain tense, they prevent any displacement. When the bone is comminuted, unless the fragments are isolated and detached from the tissues that adhere to them when in their place, the extension, acting upon the tissues adherent to the fragments, will tend to draw them into their relative positions with the principal bone." May not this principle be more far-reaching than has yet been appreciated?

Under treatment of fracture of the neck of the femur, Dr. Davis has a paragraph which, though published thirty-five years ago, might be quoted in every work dealing with this injury: "The great care of the surgeon should be, from the commencement, not to break up any periosteal or ligamentous union that may exist between the divided parts; for it is to this connection and at this point that we are to look for ossific union to commence. If we can secure ossific union at one point, however small, then we may reasonably look for extension of the same, and an eventual firm union." To quote further: "After partial union has taken place, the splint and apparatus for extension, which we use in morbus coxarius, can be applied, and the patient allowed to exercise on crutches."

Dr. Davis advises against manipulating, in the case of a fresh injury, to differentiate between a sprain with contusions and a fracture of the neck. In regard to this, he writes: "This precaution, as before intimated, gives to the patient the best chance of a favorable termination, which, in cases of fracture, is union by ossification, and in case there should turn out to be only sprain or contusion, the same plan of treatment is the one best calculated to benefit the patient."

From another page we quote: "In addition, we feel constrained to protest a too common practice which prevails among surgeons, and one which is of the utmost importance in its bearings upon the casualty under consideration. We allude to the inordinate desire to ascertain the fullest extent of the injury to the ilio-femoral articulation, and the unwarranted efforts made, by manipulations of the injured limb, to ascertain whether there is fracture or not, and, if so, its particular character, direction, and extent." . . . "We have a very strong corroborative evidence of there being some point of ligamentous union of the two portions of bone, that at first effectually prevents displacement, in the fact that, in so large a number of cases, there is at first *no shortening*, and many times the shortening takes place in the hands of the surgeon, after active manipulations of the limb to discover crepitus."

Under the subject of dislocations we find a most startling statement: "At the present time, by means of the principle we have promulgated, that a ligament or other soft tissue can be elongated to any desirable extent by the use of *continued elastic extension*, we have it within our power to reduce almost any dislocation, without reference to the length of time it has been luxated, and it can be done, not only without pain or suffering, but without the slightest danger to life, and with almost a certainty of a perfect restoration of the joint to all its functions." He further adds: "This is not a process by which one joint only can be reduced, but a *principle* equally applicable to all; a mode of preparing the parts by

which we can not only reduce a luxation successfully, but can do it *without violence*." And again: "By this plan of elongating the tissues, all dislocations, whether recent or of many years' standing; all fractures; all deformities that are dependent upon the soft tissues, are entirely within our control. These soft tissues can be elongated or shortened as we please. Ligaments that are inextensible, that are designedly made unyielding, are no exception to this rule. The future alone, as the principle is applied to the various misfortunes of our race, can fully develop and make evident the importance of this discovery. We have reduced dislocated hips at all periods of time from the recent up to that of fourteen years' standing, and, in the latter case, restored a clubfoot in the same limb at the same time."

The first attempts at the reduction of congenital dislocation of the hip by means of continued extension were those of MM. Duval and Lafond. MM. Humbert and Jacquier were probably the first who achieved success with this method. It remained, however, for M. Pravaz, in 1838, to prove the curability, under favorable circumstances, of congenital luxation of the femur upon the ilium. John Murray Carnochan, M.D., in his "Treatise on the Etiology, Pathology, and Treatment of Congenital Dislocations of the Head of the Femur," published in 1850, has given a clear exposition of the treatment as practised up to that time. These pioneers in the treatment of hip-dislocation, however, applied their weights in an empirical manner. They divided the treatment into three stages: The stage of preparatory extension, the stage of reduction, and the stage of normal consolidation of the articular structures, so that the head of the femur will be retained in the acetabulum.

On the other hand, Dr. Davis puts a general principle to a specific use. Extension had been used solely to make reduction possible without dividing retracted muscles and tendons. Dr. Davis applied extension with the purpose of elongating contracted tissue, and at the same time shortening elongated tissue. Thus, when the head finally reaches the socket, the muscles and ligaments about the joint are exerting equal and balancing influences upon the articulation. He says: "If the joint is equally supported, or drawn up equally on all sides, what except violence will displace it? It is at rest, neither drawn to one side nor the other. Therefore, there is no force operating to remove it from the cavity." Extension had hitherto been applied only until such time as force could obtain the reduction.

A number of surgeons since Dr. Davis' time have used this treatment, and the fact that they have had so few successes has been discouraging. Yet without assuming to be prophetic, we believe that perfected apparatus will make this the treatment by election in early and simple cases. Where an open operation is necessary to remove obstruction to reduction or to prepare the acetabulum for the reception of the femoral head, the procedure will be continued elastic extension assisted by arthrotomy. It would seem to be a more scientific procedure than the method, for instance, advocated by Lorenz. Not but that in our present state of ignorance the Lorenz operation, so called, is valuable and a blessing to humanity, and should redound much to the honor of the Viennese; yet a method in which unseen, and therefore unknown, and severe injuries are inflicted; in which hemorrhage is only stayed by the pressure of surrounding parts; in which muscles are torn and lacerated, and not incised with comparatively little injury to the fibers; in which nerves may be ruthlessly injured—such a method seems to furnish neither the scientific exactness of an open operation nor the freedom from danger of true, conservative surgery. The principle of Dr. Davis' method is at least deserving of the close study of every surgeon. To some one there may come the happiness of making it the successful means of relieving these congenital deformities.

In reference to the imperfect acetabulum frequently found in these cases, Dr. Davis says: "We would remark in this connection that, judging from the efforts of Nature to retain the functions of the joint, although the several parts comprising it are in new and abnormal position, we are encouraged to believe that, when the imperfect (by reason of arrest of development) head and neck of the femur are placed in what may exist of an acetabulum and retained there *unremittingly*, the functions of the joint being kept up and stimulated by passive exercise of the parts, that, after we have done this much, the original law of development will come to our aid, and that sound parts will be partially, if not wholly, restored, or at least will keep pace with the future growth of the body." . . . "There have been instances where all the parts of a joint, even to bone, have been formed where none existed previously."

Dr. Davis was the first to recognize and point out the factor in causing destruction in diseased joints, of the interarticular pressure produced by contraction of the muscles passing over the joint. In the chapter on synovitis, on page 206, he says: "We consider it fully established, that when disease about a joint renders the movements of that joint painful, that the joint is always liable to be destroyed by uninterrupted pressure effected through the contraction of the muscles passing over it. They do this by preventing the parts pressed upon from receiving nourishment, in the same way that a bedsore is produced." Until he brought this view to the notice of the profession, in a paper read before the New York Academy of Medicine, in 1860, it was the belief that destruction of the joint following a synovitis was always due to an extension of the primary inflammation.

Many surgeons use immobilization with little or no idea of any of the physiological action it tends to promote. "It produces rest of the part, and thus assists nature in healing," is the extent of their knowledge. If the part does not heal under treatment by immobilization, they are as likely as not to try passive or even active movements "to encourage nature to exert herself." In some of their cases these surgeons may find that whatever traction was used in applying the plaster of Paris, and was retained by the splint, deserves the credit for their cures, and the absence of any traction may be the reason for the ineffectiveness of immobilization in their less fortunate cases. "The treatment of simple synovitis," says Dr. Davis, on page 209, "in its earliest stages, by extension, is as imperatively demanded as at any later period, and relieves the pain as effectually. It has been stated by some professors in our colleges, and by others, that this mode of extension was of no advantage before shortening had taken place. We wish to correct this error, and to state most emphatically that continued elastic extension is applicable not only to synovitis, but to all other diseases within the capsule; and not only there, but when parts about or in the vicinity of a joint are so painful as to compel the individual to hold the joint motionless, extension should be applied, for the reason that the pressure exerted by the muscles in holding the joint motionless will strangle the nutrient vessels of the parts held in contact."

It is in the treatment of tuberculous disease of the hip that this surgeon made his influence more

especially felt. As long as the art of surgery is studied and practised, so long will the name of Dr. Davis remain the most illustrious in the treatment of hip disease. His recognition of the damage to the joint structures, as well as the pain, which results from the impingement of the joint surfaces upon each other, is sufficient evidence of a great genius. Many writers have given much of their time, and taken much of ours, in discussing the questions of friction, and of motion, and of extension in the axis of the neck. These questions are worthy of the attention of all, but they should not overshadow the effect of continued elastic extension as taught by Dr. Davis. Some have erred in thinking that Dr. Davis' object was distraction of the joint. Others have failed to recognize the comparative importance of traction and immobilization.

Like many new methods, that of Dr. Davis was seized upon eagerly and was widely used. Such renowned surgeons as Sayre, Taylor, and Bauer became its advocates. Sayre went to England and the Continent, where he introduced the method to the profession. Then, again, like many new methods, it became the center of a great storm. Everything was discussed, often most bitterly, but usually the essence of Dr. Davis' principle was ignored because not recognized.

In the treatment of hip disease, this surgeon soon became dissatisfied with the weight, cord, and pulley. On page 213, he writes: "It soon became evident that, if this principle of continued elastic extension could be so applied as to allow the patient to walk and ride, and take outdoor exercise, we should not only add to his comfort and happiness, but it would aid in invigorating the system, thereby enabling it not only to resist the disease, but to repair the injury which might already have been inflicted." His original ambulatory splint was a wooden affair. After a year or two, he substituted one of steel. This has been improved upon in various details by other surgeons, but the principle of an extension apparatus, permitting outdoor exercise, which is the keynote in the treatment of hip-joint disease to-day, is the one discovered by Dr. Davis, and by him first shown to be practicable.

The genius of this man is well illustrated in his discovery that the extension must be applied in the direction of the shaft, or, as stated by Sayre, "in the line of the deformity." On page 221, in the last paragraph, he says: "The extension must be made in the direction which will overcome the resistance of the contracted muscles, and serve, at the same time, to separate the diseased surfaces within the joint." On this page and the preceding one he clearly and graphically explains the mechanical necessity of this extension being in the direction of the shaft, which he illustrates with a diagram. Many of the failures to obtain the expected results from the extension were undoubtedly due to ignorance of this law, and renowned surgeons performed tenotomy so as to straighten the limb. Where wisdom does not teach, ignorance is excusable, but once the light of knowledge has been thrown upon a subject, there is no excuse for ignorance. Before the time of Dr. Davis the application of a traction brace without any regard for this law was pardonable, but for surgeons to ignore it to-day is inexcusable. Many useless joints and many avoidable operations result yearly from a disregard of this law in the application of traction.

It seems to us that the introduction of chloroform and ether interfered with the study of mechanical physiology and of Nature's more minute expressions of health and disease. Almost the first thought of the general surgeon, where an arthritic trouble exists, is to anesthetize. Thus all of Nature's indicators are lost, and only gross pathological conditions are discovered. As an assistance in certain instances, a general anesthetic is frequently confirmatory and sometimes necessary, but had the orthopedic surgeon to do without either the evidence from nature or the evidence from the condition when nature is in abeyance, he would, without hesitation, discard the anesthetic as an assistant in making his diagnosis. This principle of the direction in which to apply the traction force in joint disease, as discovered by Dr. Davis, and taught by him, must necessarily be ignored by those who apply their apparatus with the patient anesthetized.

The application of the adhesive strips to the thigh and leg for traction are according to the general plan as taught by Dr. Davis. Few know, or stop to think, that the profession is largely indebted to him for this method, without which constriction of the part and a long line of complications would be unavoidable. In truth, the spiral bands make the continued application of traction possible.

Dr. Davis was a physician in the broadest sense. In treating a part, he did not neglect the whole. He emphasized the necessity of caring for the general health. In treating a diseased joint, for instance, he advised as little restraint as possible to the normal actions of the body. The constitutional treatment is not more wisely taught to-day than it was a generation ago by Dr. Davis. For instance, how rich in wisdom are such sentences as: "Stimulants in chronic diseases never do any good any further than they promote digestion and assimilation of food. Our dependence must be upon nutritious food efficiently digested and assimilated. Meals should be served regularly and punctually. If the patient is in the habit of having his dinner at 1 P.M., which is the proper time, he should not be kept waiting; for the stomach, from habits of punctuality, acquires the habit of secreting the gastric juice in anticipation, as it were, of the coming meal, and if it is delayed the gastric juice is apt to irritate the stomach and pass into the duodenum. It will be remembered that patients with this disease (morbus coxarius) are to be put in the highest possible state of vitality; therefore, not even the most trivial thing should be allowed to interfere. If the patient is a child, it is well to give him an associate during meals, and let both be under the care of a cheerful nurse who devotes her time during the meal to cheerful, amusing conversation. Avoid, if possible, for the patient, a dark room. Sunlight is one of the requisites of health, besides the mere fact that it renders the room pleasant. It is not well to inform patients that they are to eat; for the same reason, it is not well to make eating a subject of conversation."

His directions as to the local treatment in joint disease would be creditable to a surgeon of the twentieth century. Some writers and lecturers are teaching, as original, methods devised by Dr. Davis. One of these is the scheme of cutting a hole the size of a nickel in a piece of adhesive plaster and applying it to the part. The hole is then filled with an ointment, which is thus secured from spreading. This is described on page 222 of his Conservative Surgery.

In speaking of the opening of a joint abscess, he says: "We avoid thrusting the finger into the opening for the purpose, as some surgeons do, of exploring. Surgeons seem to forget that the finger acts injuriously, as would any other foreign body, and that the flesh of a person reduced by hip disease is in that low state of vitality that it is readily induced to take on a low grade of inflammation, and

thus yield what little vitality it has. We speak from observation, and in every case where the abscess was simply opened, injected with water, using but a slight pressure to remove the matter or the water, and then injecting the chloride of soda, the abscess has closed up without any constitutional disturbance."

Many surgeons to-day would have better success in their treatment of abscesses if they followed the directions of Dr. Davis to the letter, rather than continued their rough methods, even fortified as they are with phenol and bichloride of mercury.

The Seminole, Sixty-ninth Street and Broadway.

## A METHOD FOR THE STERILIZATION OF SEA-TANGLE TENTS.

By O. L. MULOT, M.D.,
Brooklyn, N. Y.

Only a limited experience is necessary to convince one that the class of cases in which cervical dilatation is indicated is a large one. At present the rapid method, by divulsers of one or other variety devised for that purpose, is most generally practised; nevertheless there are good authorities who argue for the slow, gradual method, *i. e.*, by tents—sea-tangle, tupelo, or sponge; and even many of the devotees of rapid dilatation admit the soundness of the arguments and the advantages of slow dilatation, but urge that tents cannot be sterilized. Placing them in sterilized rubber fingercots has been advocated and practised, but this in no small measure increases the difficulty of insertion, particularly in a cervical canal of small caliber. Then, too, there is danger of pushing the tent through the rubber covering, and also there is no means of correctly gauging the amount of water that should be enclosed with the tent to insure its greatest swelling. This method, while theoretically good, presents too many difficulties and uncertainties ever to bring it into general use and favor.

The writer, having a case in which dilatation seemed imperatively indicated, and there existing contraindications to general anesthesia, decided upon tents. Procuring some sea-tangle tents, I soaked them for seventy-two hours in tincture of iodine (U. S. P.), and after that immersed them in 95 per cent. alcohol, to remove the surplus iodine. This proceeding does not destroy the swelling capacity, as one can easily prove for oneself. How deeply the iodine penetrates the tent can be seen by soaking one in water after removal from the tincture and before placing it in the 95 per cent. alcohol. Split it with a knife after it has swelled, and the iodine stain band can be seen. Tents thus treated I have left *in situ* for thirty-six hours without the slightest sign of mischief; no rigors, no fever, and an occasional one-fourth of a grain of morphine controlled the pain. Such dilatation seemed more lasting than that of the rapid method. I certainly believe my patient was more comfortable than had she been subjected to general anesthesia, with its objectionable sequelæ.

Another method of sterilization has suggested itself to me. Sea-tangle tents can be boiled. This will cause them to swell to their fullest extent. Then they should be exposed in sterile receptacles (test tubes will do); suspend from cotton plugs in an oven or hot air chamber, and in a few days they will shrink to their original size.

Either of these methods, or possibly combining the two, first boiling and shrinking, then soaking in tincture of iodine, will, I think, make sea-tangle tents aseptic and safe to use, provided, of course, there is no slip in the technique of insertion.

In stenosis of either the external or internal os, flexions and their concomitant dysmenorrheas, and endometritis due to the obstruction to the free flow and the possible retention of some of the menstrual discharge, I think dilatation by tents would be available and materially simplify the treatment.

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**The Mechanism of the Pain in Migraine.**—Francis Hare advocates the view that the pain of migraine is the true analogue of the dyspnea of asthma, in that it is caused by a peculiar pathological modification of vasomotor action, and depends proximately on vascular distention at the seat of pain, due to a vasodilatation which is compensatory of, and exaggerated by, widespread peripheral vasoconstriction. In most cases the patient is very chilly; while the body is cold the head is hot. Probably in the majority of patients the pulse rate is unaffected, for in this affection the vasoconstriction and vasodilatation may be accurately balanced; this, however, may not be always true. It is known that anything which reduces the vascular distention will relieve the pain, and *vice versa*. The writer has made a series of observations on the effects of compressing arteries during migraine paroxysms; for example, in unilateral migraine, pressure on the common carotid of the same side completely removes all pain at once, while pressure on this artery on the opposite side increases the pain. In bilateral migraine, pressure on either common carotid removes the pain from the corresponding side and increases the pain on the opposite side. General vasodilatation or that in the peripheral constricted area generally affords immediate relief; a hot bath has this effect; dry cupping is useful, and sipping of hot liquid may relieve the pain. The nitrites dilate the periphery. Exercise during paroxysms at first increases the pain, but, steadily persisted in, it shortens the period of migraine. Reduction in the force or frequency of the heart-beat may afford much relief; hemorrhage of any kind gives immediate relief. The writer declares that the evidence that the pain of migraine is due to vasomotor action seems sufficient.—*Medical Press and Circular.*

**Operative Treatment of Gunshot Aneurysm.**—T. Kikuchi writes an interesting account of his experience in operating on bullet wound aneurysms. He describes the following method as being the most convenient one, adding that it must be limited to cases in which the circulation of the afferent vessel can temporarily be stopped by means of a tourniquet tube or by the pressure of the fingers. With the tumor of an artery or vein one of the extremities, a tourniquet should first be applied and the skin and muscle be successively cut wide open. If muscle be found covering the tumor, it should be freed and pulled apart to one or both sides. When the tumor is reached it should be incised vertically with as wide an opening as possible. The coagulated blood is removed and the inside is wiped clean. Care should be taken in the search for the bullet wound. In a doubtful case a bougie should be used for exploration. The injured vessel is then freed and tied close to the hole, the part containing the hole being excised. After the tourniquet is removed, a piece of iodoform gauze is inserted. The muscle and skin are sutured in two layers. The writer states that if the common method of operation upon an aneurysm is designated as the tying of the injured vessels at their juncture on the outside of the sac membrane, his method must be styled the tying of the injured part of the injured vessels on the inner side of the sac membrane. The writer points out several advantages of his method. It makes the operation easy; the time for operation is greatly shortened; the loss of ramifying branches is reduced; in some cases operation can be performed under mere local anesthesia; the part of the injured vessels that is excised is very small, obstruction of circulation is much diminished, and the danger of consequent necrosis is small.—*The Sei-i-kwai Medical Journal.*

MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

THOMAS L. STEDMAN, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, August 19, 1905.

## THE INFLUENCE OF CHEMICAL CONSTITUTION ON THE CHARACTER AND THERAPEUTIC APPLICATION OF MEDICINAL AGENTS.

THAT constitution alone determines the physiological and therapeutic action of chemicals becomes more and more in evidence as we more clearly understand their atomic groupings, molecular configuration, and physiological effects. This law is not only of great interest and value to the chemist, but of vital importance to the therapeutist, for the combining of medicinal products with constituents of the gastric, intestinal, and tissue fluids and contents as well as of the secretions of the various glands, influences the success of treatment. Therefore, a knowledge of chemistry, physiological and otherwise, would seem to be requisite to the intelligent practice of medicine. The selective action of the cells for certain chemicals and the resulting compounds determine the benefit of treatment, as often altogether different products are formed in the animal economy than are sought for, the new compounds having sometimes an action very far from desirable.

When we realize the numberless chemical products that are formed by the various groupings of the atoms of carbon, hydrogen, oxygen, and nitrogen, and that it is not the symbolic but the structural formula which determines the characteristics of the molecular configuration, we are amazed. A specific or identical number of atoms of these various elements will in one grouping produce an acid, in others an alkaline or neutral substance. Take for illustration $CH_4N_2O$; in one instance we have ammonium cyanate, a highly poisonous substance, while with another grouping we have urea, a product of metabolism found in all animal organisms and lately highly recommended for the treatment of tuberculosis. Why these distinctive differences we cannot understand. All that we know is that these various resultant products are acid, alkaline, or neutral because of the configuration.

Then the changes of substances within the organism resulting from contact with the secretions; the saliva, which is but slightly modifying; the stomach contents, especially HCl (pepsin exerting scarcely any action on drugs); the intestines, in which many drugs undergo important alterations through contact with the intestinal juices, including the bile and pancreatic juice. These juices dissolve insoluble acids and saponify many drugs, making them susceptible of absorption and thus active. Through their alkalinity the intestinal juices precipitate many substances from solution, thus withdrawing them from absorption and allowing of a local action in the intestines.

The syntheses which take place in the organism often hamper and entirely abolish the action of drugs. Thus, benzol when given, is changed to phenol, and this in part oxidized into dioxybenzol; propylbenzol is oxidized into benzoic acid; salicylic aldehyde is oxidized into salicylic acid; toluol and cinnamic acid to benzoic acid; chrysarobin goes over as chrysophanic acid. Many of the ortho-combinations are readily oxidized in the organism while the meta- and para- series offer much more resistance. In addition to these processes of oxidation, a series of syntheses occur in the organism, the chief use of which is to render toxic substances harmless. These syntheses bring about mated combinations of residues of the alcohols and phenols, which combinations are physiologically inert and are eliminated as soluble salts in the urine. In this mating, the sulphuric acid which arises from the oxidation of sulphur in the albumin plays an important part, and indifferent ether sulphuric acid is formed by it from the most poisonous substance. Substances which pair are always poisonous, while non-poisonous substances seldom pair.

Differences exist in the toxicity of ortho-, meta-, and para- compounds, the latter as a rule being most poisonous. Some compounds show the reverse behavior. The para- and meta- oxybenzoic acids are both inactive, while the ortho- compound (salicylic acid) exerts a well-known energetic action. Pyrocatechin, the ortho- combination of the dihydroxybenzole is quite poisonous, while the para- compound (hydrochinon) is less so, and resorcin, the meta-combination, the least. Other differences exist; the ortho- and meta- compounds irritate the vagus, while the para-combinations weaken its action. Then these combinations have still more striking differences; ortho-benzosulphinide, which is known as saccharin, for example, being five hundred times as sweet as cane sugar, while the para- compound is tasteless.

Ferrous salts do not affect the pulmonary capillaries, while ferric salts cause their contraction. The former arrest the activity of the heart, while the latter increase and strengthen it. The action of the ferric salts upon the nerve centers is very definite, while the ferrous salts are almost without effect. The ferrous salts delay or prevent the coagulation of the blood, while the ferric salts favor it. Finally, the ferric salt is much more poisonous than the ferrous salt.

The alkalies cause cardiac arrest in diastole, while the alkaline earths, on the other hand, arrest the heart in systole. Very soluble substances are absorbed much more readily, and under ordinary circumstances produce a more extensive effect than the insoluble, because a larger amount of the substance affects the cell in a unit of time. Solubility and volatility at ordinary temperature greatly influence the action of substances. Thus the volatile hydrocarbons of the petroleums show the narcotic group action of these compounds, while the fluid and insoluble members of the same group—paraffin oils and solid paraffin—are entirely inert.

Pharmacology should receive the greatest amount of study and painstaking investigation, for with a perfected knowledge of the chemical and physiological action of individual drugs only can come the intelligent and scientific treatment of disease.

## THE PURIFICATION OF WATER SUPPLY BY COPPER SALTS.

It is now some time since Dr. George T. Moore first suggested the use of copper salts in the purification of drinking water, and his method has had a very extensive and critical trial in many cities under very diverse conditions. The subject was recently discussed at great length at a meeting of the Washington Academy of Science and reported in *Science* for April 21. Dr. Moore, in opening the discussion, said that in almost all of the numerous towns of this country where a bad odor and taste have been noted in the water supply, the cause has been shown to be the growth of certain species of algæ. The Bureau of Plant Industries was led to investigate methods of preventing this growth, for though analysis shows the waters to be harmless, they are too foul for use and people are sometimes driven from them to polluted wells and springs. Copper sulphate in a dilution of 1:50,000,000 was first employed for extermination of the dense algal growths which choked the watercress in the streams of the South. It was then used as a purifier of water in reservoirs. At Winchester, Ky., the reservoir water developed an intolerably strong odor and taste, but within three or four days after the addition of copper sulphate in dilution of 1:5,000,000, the water became perfectly clear and free from odor. The success in this case led to the more extended application of the method. During the last six months of 1904 more than fifty large water supplies were successfully treated in this way. The cost of treatment may vary from ten to fifty cents per million gallons. Opposition to this use of copper is based on the wide-spread idea of its poisonous nature. But Moore insists that the evidence of its harmlessness is convincing.

Dr. Henry Kraemer, of the Philadelphia College of Pharmacy, next spoke of his work with metallic copper in water containing typhoid and colon bacilli. Neglecting technical details, his results are summarized as follows: (1) Colon and typhoid bacilli are completely destroyed by placing clean metallic copper foil in the water containing them; (2) the effects of colloidal copper and copper sulphate in the purification of drinking water are, in a quantitative sense, much like those of filtration, but the organisms are destroyed; (3) pending the copper treatment of water on a large scale, the householder may employ copper for this purpose with safety. Kraemer thinks the copper treatment may be resorted to in emergency, even if not regularly in connection with filtration.

The value of copper sulphate in destroying mosquito larvæ was discussed by Dr. C. L. Marlatt, of the Bureau of Entomology. The use of kerosene for this purpose has the disadvantage of rendering the water unpalatable. The effectiveness of the salt was found to be diminished in foul water or water containing much earthy matter, owing to its rapid precipitation. Also the strength required increased markedly with the age of the larvæ. Marlatt concludes that, as far as the mosquito problem is concerned, the value of copper sulphate seems limited to the protection of small bodies of comparatively pure water. But in tropical countries, where most of the supply is kept in cisterns, the method may have distinct usefulness, particularly, perhaps, against the yellow fever mosquito.

It is impossible to give more than an outline of the remarks of Dr. W. H. Wiley, Chief Chemist of the Bureau of Chemistry, which were intended, he said, as a caution against the use of antiseptics in themselves harmful. Among other points the following were made: The public should not be forced to consume antiseptics in foods, especially not in water, which is of universal consumption. The general opinion of experts upon the presence of copper is decidedly unfavorable. Hence *any* residual copper in the water supply is objectionable. As shown by the preceding speakers, however, copper sulphate may be used in quantities sufficient to kill algæ without leaving any excess. If, also, it could be used to kill pathogenic germs, and the residue were entirely precipitated afterwards, then the chief objection to its use as a germicide in water would be removed.

The Health Officer of the Port of New York, Dr. A. H. Doty, expressed his belief in the value of copper sulphate as a deodorant and clarifier of water, and described the prompt disappearance of the fishy odor and taste from a reservoir in western New York after treatment with this reagent. He endorsed as economical, effective, and safe the use of copper in small amounts against algæ, but not its use for sterilizing reservoirs suspected of containing pathogenic organisms. A sudden, serious epidemic of typhoid fever without known cause would justify the assumption that the water supply was the medium of infection, but since generally the organism cannot be detected in the water, it would be impossible to determine when sterilization with the copper salts was accomplished. Besides, it is the primary source contributory to the reservoir which must be found and disinfected.

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## The Health of School Children.

A very important investigation has just been completed by the health authorities of this city. The information obtained a short time ago, when an inquiry was made regarding the number of children who came breakfastless to school was so surprising that a more extensive investigation of the general health of school children than has hitherto been made was planned. Four schools of the primary grade were selected from the poorer quarters, but not from the worst sections, in order that fairly representative results might be obtained. One hundred inspectors were detailed to examine the children of these schools, and the results announced show a startling state of affairs. The exact number of children examined was 13,941, and of this number 6,294 are described as requiring medical attention. Defects of vision and swollen cervical glands were the most prevalent defects, the number affected in this way being in each case over 3,000. Bad as this showing is, it is more than paralleled by recent studies of a similar nature made in Great Britain. Two years ago a medical census of the school children of Edinburgh revealed the fact that 70 per cent. of them were actually diseased, and in London the conditions were found equally deplorable. The question is being taken up in earnest by the New York Health Department, and far-reaching plans are being made for the extension of the system of examination and for attempts at improvement of the health of the city's vast child population. The records of the examinations are entered in a card index and the parents of each child are to be notified of the abnormality noted and advised to obtain medical advice. At the end of a month the child is to be reexamined, and if it is found that the parents have not consulted

a doctor, a health inspector, or a nurse will visit the family and find out why not. This work is one of exceeding importance for the welfare of the coming generation of New Yorkers, and the Health Department should be seconded in its efforts to ameliorate the existing evils by the financial aid necessary to prosecute so extensive an undertaking.

### Venesection.

The view as to the utility and significance of bloodletting has fluctuated widely in accordance with current pathological doctrine, the procedure being at one time most highly lauded and at another time not less heartily condemned. There is scarcely a morbid state for the relief of which at some stage venesection has not been recommended and often employed. Clinical and experimental observations have shown that the withdrawal of blood is capable of inducing certain definite results, and in general it may be stated that the measure is indicated when such results cannot be more readily and more effectively obtained by other means. From an extensive study of the literature of the subject, in conjunction with clinical and experimental observation, Dr. Alexander Strubell (Der Aderlass, August Hirschwald, Berlin, 1905) has reached the conclusion that, in accordance with the amount of blood withdrawn, a reduction in vascular tension frequently occurs. This may be exceedingly slight, because (1) the caliber of the vessels readily adapts itself to their lessened content, and (2) the amount of blood lost is rapidly replaced by fluid absorbed from the tissues. In addition, relief is afforded to the left auricle and the pulmonary vessels and tissues. In order that these conditions shall be fulfilled, however, the tissues must contain a certain amount of fluid and the vessels must be capable of responding to vasomotor stimulation. In conjunction with the abstraction of blood the amount of albumin and of hemoglobin is diminished and the amount of water is increased. The specific gravity of both the blood and the serum is reduced, while there is a relative increase in the amount of salts. In addition to the direct loss of red corpuscles and of hemoglobin a certain amount of cellular degeneration takes place. Two hundred and fifty cubic centimeters is a fair average amount of blood to withdraw for ordinary therapeutic purposes. When the procedure is employed for the removal of toxic substances from the blood the effect will be greatly enhanced by the introduction of decinormal salt solution to an average amount of 400 c.c.

### Eyestrain as a Cause of Headache.

There has been considerable diversity of opinion as to the effect of eyestrain in the development of various morbid states, but there is a growing conviction that, while such strain cannot be held responsible for all the ills that have been laid at its door, it is still an important factor in the etiology of certain symptomatic conditions. Of course, it has long been known that eyestrain is a prolific cause of headache and other attendant phenomena, including nausea and perhaps vomiting. It can be conceived also that it may be the means of exciting the occurrence of a paroxysm in the case of such neuroses as migraine and epilepsy, but here it can be considered only as an accessory factory. Sydenham's chorea is an infectious disease and has, of course, no relation to eyestrain, but blepharospasm may be induced by conjunctivitis secondary to eyestrain or other cause, and various attitudes of the head and movements may be brought about by attempts to secure easy and clear vision on the part of eyes whose refraction is abnormal or whose muscular apparatus is ill balanced. An interesting confirmation of the relation between eyestrain and headache is presented by Dr. G. L. Walton (*Boston Medical and Surgical Journal*, June 22, 1905), as the result of a comparative study of the prevalence of headache in 100 healthy individuals, with preserved vision, in 42 persons partially blind or totally blind, after the habit of fixation and convergence had been established, and in 90 persons totally blind from infancy, and thus free from eyestrain. Of the first group 31 per cent. had never had headache, while 69 per cent. suffered from headache with greater or lesser frequency. Of the second group only 29 per cent., while of the third group 66 per cent. had never had headache. The frequency of recurrence of the disorder was about the same in all of the cases in which it occurred at all.

## News of the Week.

**Typhoid Fever in New York.**—Apparently New York is to suffer from an unusually severe visitation of typhoid fever this year. There have already been a very large number of cases, with an abnormally high death rate. The cases have been especially numerous in Brooklyn, owing, it is supposed, to contamination of the water supply of that borough. Because of the negligence of physicians in reporting cases, the Health Department is taking the matter up actively, and is making a house-to-house canvass for cases of the disease in the Thirtieth Ward, Brooklyn. The Health Department has given out a statement, advising against the use of unboiled well or tap water in Brooklyn, and urging care in the protection of food from flies. Boiling or pasteurizing milk is also advised, and people are warned against bathing at beaches in the vicinity of sewer outlets. The situation is not so bad, however, as a resident of New York, now temporarily in New Orleans, has been led to believe. The reports reaching him were so alarming that he sent the following telegram to his son: "Take good care of yourself and get away from New York as soon as you can. Over fifty thousand cases of typhoid fever there since January 1. Don't stop in Washington. Typhoid epidemic there. Over five times as many deaths as we have had here in the same period from yellow fever." If the young man must keep moving until he gets to a fever-free locality he will be on the run for a long time.

**Yellow Fever.**—There is an improvement in the situation at New Orleans. Since the officials of the U. S. Public Health and Marine Hospital Service have taken charge a more thorough supervision has been possible, and, as a consequence, there are fewer concealed cases. This increased at first the number of reported cases and gave the appearance of an increase in the gravity of the epidemic. Up to Wednesday of this week there had been a total of 1,080 cases known to the authorities, with 171 deaths, a mortality percentage of 15.83. It is believed that the height of the epidemic has passed, and that a total of 105 new cases, reported last Saturday, will not again be reached.

**Arsenic for Yellow Fever.**—Dr. Reginald B. Leach, a homeopathic physician of St. Paul, has gone to New Orleans to determine the prophylactic virtue of arsenic against yellow fever. He claims that a small daily dose of the drug will render one immune against the disease, and is, it is said, so convinced of this that he proposes to experiment with himself by allowing infected mosquitoes to sting him. Many years ago a physician invented a fever cot by

means of which cold affusions could be repeatedly made without disturbing the patient. He was convinced that this treatment would cure yellow fever, and went to New Orleans during an epidemic to demonstrate its efficiency. He died of yellow fever on his own cot.

**Dr. G. M. Berry** of the United States Public Health Marine Hospital Service, who was engaged in the work of yellow fever sanitation in New Orleans, has been taken down with the fever. He was in charge of the inspection service in the Italian district. He had had an attack of yellow fever a number of years ago, and was regarded as immune. He is, we are glad to say, now reported to be convalescent. One other physician, Dr. John T. Crebbin, has also had the fever and has recovered.

**The Idiocy of Quarantine.**—Several of the panic-stricken communities in Mississippi and Louisiana are on the verge of a famine, owing to the severity of the shotgun quarantine they maintain, excluding all manner of freight and the mails, not only that coming from New Orleans, but even from other towns as fear-ridden and closely guarded as themselves. One town in Louisiana has actually refused to admit a consignment of carbolic acid, sent to it for disinfecting purposes, and another has turned back a carload of steel rails.

**Autopsies at the Craig Colony for Epileptics.**—The last legislature gave to the authorities of the Craig Colony the right to make autopsies on the bodies of epileptics dying at the colony, who had been supported therein wholly at the State's expense. The following is the clause in which such authority is given: "The superintendent shall have power, subject to the supervision and control of the board of managers, in case of the death of any patient at such institution who shall have been maintained therein wholly at public expense, to make, or cause to be made, at the said Craig Colony by a member or members of its medical staff an autopsy on the body of such patient, provided that such autopsy be made not later than twelve hours after the death of such patient, and that it be confined exclusively to the brain and made in such a manner as will cause the least possible mutilation, and provided also that the said Craig Colony shall print conspicuously upon all application blanks used in admitting patients to the institution the fact that the officers of said colony have the above stated powers in relation to the making of autopsies." Previous to the enactment of this law, autopsies were made on 50 per cent. of the patients dying at the colony, and it is believed that under the new law autopsies will be made in fully 95 per cent.

**Medical Hall of the U. of P. Burned.**—Fire destroyed the old medical hall of the University of Pennsylvania, at Thirty-sixth Street and Woodland Avenue, Philadelphia, on Monday of this week, and threatened the main group of buildings of the institution and the great hospital across the street. The loss is $150,000.

**The Evangelical Lutheran Hospital,** at Granite City, Ill., was dedicated on August 13. The building was erected at a cost of $40,000, the funds being contributed by friends from all parts of the country. The hospital is four stories high, with dimensions of 85 by 115 feet, and will accommodate about 100 patients.

**Prize for Essay on Trachoma Awarded.**—The prize of 1,000 kronen, offered by the Hungarian Government for the best essay on the treatment of trachoma, has been won by Professor Kulmt of Königsberg. The second portion of the prize, also of 1,000 kronen, for an essay on the pathology of the disease, was not awarded.

**Typhoid Contamination Threatens the Boston Water-Supply.**—There are so many cases of typhoid fever in Worcester, Mass., as almost to justify the term epidemic. Seventeen cases were discovered in one day. The origin of the disease has been traced to a spot near Holden, in the watershed from which Boston draws its supply.

**War Against Hokey-Pokey Ice Cream.**—An investigation is to be made by the Paterson Board of Health of the ice-cream sandwiches peddled from street stands. If it is found they contain a dangerous proportion of bacteria or other impurities the hawking of the stuff in the streets will be prohibited.

**Pennsylvania State Medical Examinations.**—Of 466 candidates who presented themselves before the Pennsylvania State Board of Medical Examiners on June 28 for examination to secure license to practise medicine, 320 passed, 56 failed, 4 were rejected for cheating, and 4 withdrew; decision was reserved in 82 cases.

**Dr. H. W. Hill,** who for some years has been director of the bacteriological laboratory of the Boston Board of Health, has handed in his resignation, to take effect September 1. He has accepted the positions of assistant director of the Minnesota State Board of Health laboratory and assistant professor of bacteriology of the University of Minnesota.

**Dr. Charles P. Thayer** has resigned the post of secretary and chief executive officer of the Tufts College Medical and Dental Schools, of which he was practically the founder. He will be succeeded by Dr. F. N. Briggs.

**Texas Fever** is sweeping Indian Territory, and a Government inspector says that over 5,000 cattle have died in the Chickasha Nation in two weeks. Whole herds are infected, and the loss to cattlemen will run into millions, it is feared, before the fever is stamped out.

**Missouri Tuberculosis Sanatorium.**—The commissioners appointed by Governor Folk of Missouri to choose a site for the location of the State sanatorium for the treatment of incipient tuberculosis, have completed their tour of inspection of the various proposed locations. About the 1st of September the commissioners will visit the State institution at Rutland, Mass., and similar institutions in Rhode Island and New York. Upon their return, they will choose a site for the sanatorium in Missouri. The legislature appropriated $50,000 for the erection of the building, and provided that it should be located at a point at least 1,000 feet above sea level.

**Mosquitos in London.**—Reports from London indicate that the city is suffering from an altogether unaccustomed plague of mosquitos. A few years ago they were almost unknown, or made their appearance fitfully in the neighborhood of the docks and Fleet Street, coming, it was supposed, among the rolls of paper. This summer they are being found all over the metropolis, and not a suburb is free from them. Apparently their bites are very trying to the insular skin, for it is stated that the physicians and hospitals are kept busy treating patients suffering from the effects of the punctures.

**Sea Water for Tuberculosis.**—A French physician, Dr. Quinton, who has been experimenting with sea water in the treatment of tuberculosis, has communicated his results to the Paris Academy of Medicine. The sea water is sterilized and injected hypodermically every three or four days in doses of from 50 to 300 c.c. It is used diluted with distilled water, so that its total saline strength is 0.7 per cent. So far,

Dr. Quinton has treated eighteen patients, who gained steadily in weight. Only three, in whom the disease had progressed very far, showed no improvement, while in the fifteen others a decided improvement was effected.

**Much Unsafe Milk.**—More than one hundred men are now employed in inspecting the milk sold in New York City, and over 13,000 quarts have been condemned since August 3. An especial effort is being made by the Health Department to improve the quality of the milk sold in the tenement districts.

**Another Appendicitis Theory.**—Dr. Pond of Liverpool has published in the *Lancet* a new theory concerned with the production of appendicitis and other intestinal disorders. He believes that such ailments may be the result of antimonial poisoning, and that this may take place through the rubber washers used in closing bottles with patent spring stoppers. Dr. Pond claims to have established the fact that such rings consist of almost one-third their weight of antimony. Not only is the antimony dissolved by the mineral waters containing alkalies and organic acids, but these rubber rings, as daily observation shows, soon become brittle and some of the compound falls into the contents of the bottles.

**American Electro-Therapeutic Association.**—The annual meeting of the American Electro-Therapeutic Association will take place at the New York Academy of Medicine, September 19, 20, and 21, 1905, under the presidency of Dr. Emil Heuel of New York. The secretary is Dr. Clarence Edward Skinner, 67 Grove Street, New Haven, Conn. An interesting programme is announced.

**Quacks in Prussia.**—According to the latest statistics obtained by the authorities, the number of quacks in Prussia has undergone considerable increase. The present number is given as 5,148, against 4,104 in the previous year.

**Statistics of Cremation.**—The French Society for the Encouragement of Cremation has recently held its annual meeting in Paris. The secretary reported that there are now ninety crematories in Europe and America, in which so far 125,000 bodies have been incinerated. There are nine crematories in Germany, in which during the past year 1,381 bodies were burned, a gain of 300 over the previous year. During 1904 only 354 cremations were carried out in France. This method of disposing of the dead is becoming more popular in South America, and 370 cremations are reported from Buenos Ayres during 1904.

**Milk Conditions in Illinois.**—Impure milk in towns in Illinois outside of Chicago is causing a flood of complaints in the office of the Pure Food Commission. Because of poor facilities in smaller cities, such close supervision as is possible in Chicago cannot be exercised. According to complainants, formaldehyde is being used freely by milk dealers in the country.

**Work of Visiting Nurses.**—According to the report of the Visiting Nurses' Association of Chicago, 853 patients were cared for during the last month, and 3,717 visits made; fifteen sick babies were taken care of each day at the Fresh Air Station.

**The Medical Society of the Missouri Valley** will hold its eighteenth annual meeting at Council Bluffs, Iowa, on August 24 and 25, under the presidency of Dr. S. Grover Burnett of Kansas City. The secretary is Dr. Charles Wood Fassett of St. Joseph, Mo. The programme contains the titles of about fifteen papers, promised for the meeting.

**Dr. Wilfred H. Manwaring** of Johns Hopkins Medical School, at present Fellow of the Rockefeller Institute for Medical research, and assistant in pathology in the University of Chicago, has been appointed head of the new department of pathology and bacteriology in Indiana University, with the rank of associate professor.

**An Alleged Cure for Leprosy.**—A dispatch to the Associated Press from Manila announces that a cure for leprosy is believed to have been discovered in radiotherapy. Of twenty-five cases treated, all have improved, six patients being pronounced cured. All of these cured patients have been under observation for at least six months, and repeated examinations have shown the absence of the lepra bacillus from the blood and tissues.

**Typhoid Fever in Washington.**—Typhoid fever prevails to an unusual degree in Washington, 32 new cases having been reported on August 14. Since the beginning of July 290 cases have been reported. On the same day a year ago only seven cases were reported, making a total of 193 cases from the preceding July 1. An encouraging feature of the situation is that the new filtration plant is being put into operation. Water was started through two of the filter beds, having a capacity of 3,000,000 gallons each, on August 15, and in sixty days the entire plant of twenty-nine beds will be put in operation, thus insuring a complete supply of filtered water.

**Obituary Notes.**—Dr. Seth D. Boggs of Brooklyn died suddenly on August 10, while returning home from a round of professional visits. He was born in Brooklyn in 1852, and was graduated from the Bellevue Hospital Medical School in the class of 1886.

Dr. Thomas J. Maxwell died in Keokuk, Iowa, on August 1. He was born in Athens, Ohio, in 1837, and was a graduate from the Medical Department of the University of Iowa in 1861. He served in the Medical Corps of the Union Army during the Civil War.

Dr. John C. Coats of Huntsville, Ala., died July 30, after a brief illness, at the age of fifty-three years. He was a graduate of the Medical Department of Vanderbilt University, in the class of 1878. He practised for many years in Blanche, Tenn., and removed to Huntsville only a short time ago.

Dr. William May Bramlette of Florence, Ala., died August 2, at the age of forty-three years. He was born in Giles County, Tenn., and was graduated from the Medical Department of the University of Louisville in the class of 1881.

Dr. John G. Pike of Dover, N. H., died August 1, at the age of eighty-seven years. He was born in Somersworth, N. H., and was graduated from the Bowdoin College Medical School in the class of 1847. He practised in Salmon Falls, then in Boston, and later in Dover.

Dr. Robert Edwin Jameson of Jamaica Plain, Mass., died suddenly August 4. He was born in Lynn in 1837, and was graduated from the Harvard Medical School in 1861. He served in the Medical Corps of the Union Army during the Civil War.

Mrs. E. Fleischman-Aschheim died on August 3, at her home in San Francisco, directly as a result of prolonged use of the *x*-ray. Mrs. Aschheim was not a physician, but the last years of her life have been devoted entirely to radiography, fluoroscopic examinations, and other uses of the *x*-ray, under the direction of physicians, and her work has possessed such rare excellence as to have gained for her a national reputation. It became necessary in January of this year to amputate one of Mrs. Aschheim's arms, on account of persistent dermatitis and ulceration, but although the operation was successful, it did not lead to improvement of her general condition, and she finally died, a martyr to her profession.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

MEDICAL CONGRESS—ROYAL INSTITUTE OF PUBLIC HEALTH—MEDICAL DOINGS OF THE KING AND PRINCES.

London, July 28, 1905.

This is the British medical week, and a fair number of Londoners have gone to Leicester for the meeting. Some are returning to-day, but others are staying for the closing entertainments. It seems a little unfortunate that a younger association, working on similar lines, some almost parallel, should be holding its meeting almost at the same time in London. The congress of the Royal Institute of Public Health, the opening of which I chronicled last week, continued its work until Tuesday afternoon, and was divided into sections after the usual manner. The entertainments and excursions were excellently planned, and the exhibition was well worth a visit or two.

Sunday was included in the programme—special services for the sanitarians, who mustered in such large numbers, being held in the morning in St. Paul's Cathedral, in the Roman Catholic New Cathedral, in the City Temple, and in St. Columbia; while in the evening Westminster Abbey and Southwark Cathedral were largely attended by the delegates.

At St. Paul's the Bishop of London preached, and divided the world into three classes—those who looked for physical, moral, and social salvation to human effort only, keen, earnest, self-denying, scientific, but unable to look beyond the immediate present; those who were impatient when they heard of the laws of nature, and thought that with more faith death and misery could be averted; and those who saw no inconsistency in combining both ideas. Such were Newton, Herschel, Stokes. If it was not inconsistent for great scientific men to be religious, still less was it for the most devout to be enthusiastically scientific. The bishop passed on to say the doctors and the clergy met in the slums and worked together against unsanitary areas and all things injurious to health. No men were more enthusiastic on the side of the public health. He then took four of the problems discussed in the congress to enforce his lesson, viz., infant mortality, housing, immorality, and drink. To meet these great evils men must indeed work, concluded the bishop; but the work would only be permanent and effective when behind the human worker is the God who "worketh in us both to will and to do of His own pleasure."

Infant mortality was largely discussed at this congress. The average death rate in our great towns is 17.2 per 1,000 living, while for infants under one year it is 160 per 1,000 births; in the smaller towns, 154, and in rural districts, 125. There are some large towns where the number exceeds 200. It is among the poorer classes that the greatest infant mortality occurs. Dr. George Carpenter, in a paper on the subject, attributed the shocking loss of life for the most part to improper feeding, and supported the scheme of municipal supply of milk (sterilized) to the poorer people on easy terms.

In the section on Preventive Medicine, a paper was read on Dietetics which gave rise to no little amusement. The author advocated a vegetable diet of one meal a day, after, as he put it, the example of Buddhist monks and Trappists. Diet, he held, would cure many diseases, even the infectious ones, at which laughter was general in the audience. Since he had lived thus his health was much improved. Medicine was a mere corollary to dietetics.

Sir J. Crichton Browne, who presided in this section, gently reminded the author that enthusiasm often degenerated into faddism, and that with decrease in the death rate there had been an increase in the consumption of meat. Further, a baby wanted food every two hours.

The proceedings of the British Medical Association will be furnished to you at length by your special staff of reporters, so here I need only say that I am told the meeting has been successful, and above 900 members went to Leicester for the occasion.

The King went to Chatham on Wednesday and unveiled a memorial arch erected in memory of the Royal Engineers who died in the South African war. His Majesty then opened a naval hospital which has been completed this year. It is situated on the top of Chatham Hill, 200 feet above the River Medway, and the grounds extend to more than 33 acres. There is accommodation for 600 patients and a staff of 90. It is arranged in pavilions joined by a connecting corridor nearly 1,000 feet long, from which the wards branch off. Begun in 1899, the hospital has cost £400,000.

The Duchess of Connaught on Wednesday opened a new nurses' home for the City of London Hospital for Diseases of the Chest, familiarly known in the East End as Victoria Park Hospital. The foundation stone of this hospital was laid by the late Prince Consort in 1851, and it has been a great benefit to the poor of the neighborhood. There are 164 beds. The open air treatment has received attention, and separate balconies have been added to both the male and female wards. The Duke accompanied the Duchess and made a speech. He lately accepted the office of president.

Princess Louise, Duchess of Argyll, held a reception at Charing Cross Hospital on Wednesday to mark the opening of the new improvements. On the same day His Royal Highness was present at a meeting of the Council of Queen Victoria's Jubilee Institute for Nurses, and presented Miss Peter, on her resignation of the office of general superintendent after fifteen years' service, with a check and a complimentary resolution of the Council.

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## OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

PHILIPPINE ISLANDS MEDICAL ASSOCIATION—DISCOVERY OF A SOURCE OF DYSENTERY INFECTION—A MEDICAL SCHOOL FOR MANILA—NEED OF NATIVE PHYSICIANS.

Manila, P. I., June 30, 1905.

At the recent meeting of the council of the Philippine Islands Medical Association it was decided that the next annual meeting should take place in Manila during February, 1906. It is the intention to invite a number of distinguished medical men from the United States and from foreign countries. The change in the time of meeting from March to February is very desirable, because March marks the beginning of the hot season, while February is one of the coolest months of the year.

The source from which much of the dysentery that has occurred among persons who were very careful about their food and drink has probably been located. The Board of Health, in its endeavor to locate the source from which the ever-present ameba finds its way into the alimentary tract of the people, took samples of distilled water at seventeen different places throughout the city, and had them subjected to microscopical examination. In seven of them amœbæ were found. It was at first thought that the water had become infected through the carelessness of servants, or, perhaps, had become contaminated by the ice, which is often dragged over the ground and afterwards washed with ordinary tap water, which is known to be infected, and then put into the water cooler. While that may account for some of the instances, the main cause is no doubt the contaminated condition of some of the storing tanks of the distilling plants. The tank of the distilling plant located near the Magallanes monument was one of those containing amœbæ, and from there they were distributed throughout the city by the water carts that receive their supply from that place. It was reported that the tank at the First Reserve Hospital was infected some time ago. It will therefore be seen that many persons who were drinking distilled water only were just as likely to contract dysentery as their brethren who were not so careful. Suspicion naturally first fell upon the water distributing carts, but investigation showed that they were disinfected daily with live steam, and no amœbæ could be detected after this procedure. There was much surprise expressed when it was announced that the trouble had actually been traced into the distilling plants. After the tanks were thoroughly cleansed and disinfected, it was found that the water stored in them for a short time, again showed the presence of amœbæ. The aërating coils, which are situated just above the tanks, came under suspicion. They were temporarily removed and the distilled water was permitted to flow directly into the tanks. After that the tanks remained free from infection. The question now arises as to how the aërating coils became infected. It has been suggested that the amœbæ were carried there by dust or dirt, or other extraneous matter, which may be blown about by the wind, but careful examinations of such material has failed to reveal any amœbæ. It would appear more likely that the employees, in cleansing the coils, may probably have used ordinary tap water, and so infected them. The plan which has been followed by many persons in Manila, viz., to boil the drinking water just before using it, would seem to be the only safe one. The foregoing experience again demonstrates that eternal vigilance is necessary to protect the average white man in the tropics against the introduction of amœbæ into his system.

The Committee on Public Policy and Legislation of the Philippine Islands Medical Association has been making a strenuous effort to have a medical school started in Manila. Numerous attempts have been made in this direction before, but they have always ended in failure. The Philippine Commission has appointed a committee, composed of Com-

missioners Worcester and Tavera. These latter gentlemen have been in conference with the representatives of the Medical Society, and it is hoped that an Act of Commission will soon be passed, which will place this matter upon a legal and working basis. The physicians who will be required for professors and instructors have all signified their willingness to serve without compensation. If the Government would extend the use of the facilities in the way of laboratories, buildings, apparatus, etc., which are already on hand, the school can be conducted with a very small annual outlay.

There is a great need of properly educated Filipino physicians. If they could be available now for work in the provinces for the purpose of relieving distress and suffering, it would probably do more to convert the people to American ideas, and to cause them to settle down to peaceful pursuits, than could be expected from soldiers and guns. Reports are received almost daily of persons who have died of some disease or injury that would have yielded readily to the means employed by a modern physician.

Colonel Byrne, of the Medical Department of the United States Army, arrived a few days ago, and assumed the duties of Chief Surgeon of the Philippines Division, *vice* Colonel Girard, who has returned to the United States on account of illness.

## AMBLYOPIA EX ANOPSIA.

To the Editor of the Medical Record:

Sir: In the Medical Record of July 8 I notice an address delivered before the New Jersey State Medical Society at its 139th session, by Dr. W. B. Johnson, on a condition of the eye which he calls "Amblyopia Ex Anopsia." He cites the histories of three cases which, he says, prove the fact that such a condition does exist. To this number I desire to add another case of my own. In explanation I will say that my left eye became affected with convergent strabismus when I was passing through my first dentition. I had congestion of the brain, with convulsions, and on recovery my left eye was crossed, my right eye not being affected. Since that time I have used my right eye, or, as I always term it, my good eye. I can see with my left eye, but my vision is indistinct, and I use my right eye exclusively. About twenty-four years ago I had the strabismus in the left eye corrected by operation, and one cannot tell that the strabismus ever existed, except that in the sunlight I still carry my left eye in a partial squint. My attention was first called to this condition by an article in the Medical Record for February 25, 1905, by Dr. D. B. St. John Roosa, and I have been thinking I would write concerning my own case, but have waited, knowing I would hear or see more on the subject. Since than I have noticed the condition of the eyes.

Two cases of convergent strabismus now under observation present what to me appears to be a somewhat peculiar phenomenon. The patients are both girls, aged 9 and 11 years, respectively. Their eyes became crossed at about the same age in both, and from the same cause, viz., convulsions attending congestion of the brain. Now, when one puts the finger on one eye and closes it, its fellow becomes straight and subject to complete control of its muscles, the children being able to look up, down, or to either side, but they cannot close one eye without closing both with voluntary muscles. They can use the finger to close one, and the other will stay open, all right. Is there not some way by which this condition can be corrected without operative procedure? I believe that there is, and that it can be accomplished through a simple course of exercise of the eye muscles. I advised the family of these girls what to do and how to do it. The results I will report at some future day. E. C. Hydrick, M.D.

Watson, Ark.

**The Successful Treatment of Foreign Bodies in the Digestive Tract by the Internal Administration of Cotton Wool.**—W. Blair Bell refers to several cases in which he has used cotton wool in order to carry along foreign bodies which had been swallowed. One child had swallowed a gold brooch. The writer teased up very finely a small handful of absorbent wool, part of which he administered in milk and part in jam sandwiches; some hours later he ordered a dose of castor oil. In the morning there was a copious motion, in which were found several egg-shaped lumps of cotton wool, in one of which the brooch was closely packed. The second patient swallowed a small brass bedknob. A skiagram was taken, and the knob was seen to be still in the stomach. A handful of absorbent wool was administered in a dish of bread and milk, and at night a dose of castor oil was given. The knob was passed on the next day. The writer believes that the wool may act in one of two ways—either by directly enveloping the swallowed body or by matting the feces together around it.—*Medical Press and Circular.*

# Progress of Medical Science.

*Boston Medical and Surgical Journal, August* 10, 1905.

**Three Cases Illustrating the Practical Importance of Recognizing the Post-Epileptic State.**—These cases are reported by Morton Prince. He states that though temporary paralysis and various forms of mental delirium following epileptic fits are well recognized, he does not think that the possibility that the paralytic and mental condition may simulate gross lesion of the brain is as fully realized as the practical importance of the matter demands. Post-epileptic state may easily be mistaken for cerebral hemorrhage or tumor, and may seem to call for operative interference, as happened in two of the cases reported. The diagnosis of post-epileptic paralysis was made in the first case in view of the fact that the patient was subject to fits, that she had testified that she had had the symptoms which always began a fit shortly before being found unconscious, that opening the skull showed no hemorrhage, that the hemiphlegia nearly completely disappeared on the second day to reappear after the convulsion, and finally disappeared completely and rapidly at some time within four days of the original attack, and that after disappearance of the hemiphlegia there was no persistent physical signs of increased myototic irritability. In reviewing the history of the second case the paralysis and other symptoms for which he was operated upon were really post-epileptic phenomena and would have spontaneously disappeared if operation had not be undertaken. While there was an exquisite ankle klonus on the right, there was no Babinski. The third case was one of post-epileptic delirium simulating insanity, one that could hardly be described as entirely pathological or unreasonable; she always had an intense dread of becoming insane and was now rapidly recovering her reason. She could not make those about her realize that she was not insane, and she was in terror of being sent to an asylum.

**Remarks on the Present Status of Surgical Treatment of Hepatic Cirrhosis.**—After reviewing the various theories as to the etiology of ascites, both mechanical and pathological, Charles Green Cumston writes of the various procedures that have been devised to increase the number of portal-cava anastomoses, omentopexy being one of the first. His review shows that there is one chance out of two for cure if omentopexy is undertaken. The proportion of cures would become much greater if the cases of improvement were taken into account; and the number of good results will increase so soon as operations are performed under more favorable circumstances. From all said it appears that omentopexy was looked upon with general favor by surgeons, although the results obtained are very disparaging. This could hardly be otherwise when one takes into consideration that the affections are so different and where frequently ascitis and some other hepatic lesion have alone been diagnosticated; and in the statistics published so far are to be found the atrophic and hypertrophic forms mixed together and, from the pathogenic standpoint, will be found alcoholic, toxic, malarial, and very probably tuberculous and syphilitic types. Numerous are the cases of cure of cirrhosis. Atrophic cirrhosis is susceptible of improvement. It is his intention to show that ascites attributed to atrophic cirrhosis has been cured and that perhaps fortunate outcomes obtained by medical treatment in the past are quite as numerous as surgical cures which have been published of late. That omentopexy may cure portal hypertension is not at all doubtful, provided the peritoneum is healthy. Omentopexy lessens the disturbances resulting from hypertension of the portal vein and may prevent ascitis to a certain extent, but indirectly so, by correcting the bad effects of venous stasis on the peritoneum, by delaying chronic peritonitis, the changes both of a toxic and circulatory nature of the peritoneal epithelium, which is the cause of ascitis. It is especially applicable when disturbances of the urinary secretion occur, and phenomena of congestion arising in the abdominal viscera, particularly of the spleen, and is also very efficacious in diarrhea and intestinal hemorrhages, hematemesis, or melena. The peritoneum should be vivacious and susceptible of giving rise to adhesions, so that a venous neoformation can be created. Even the most favorable statistics show that the mortality is high.

*New York Medical Journal, August* 12, 1905.

**A Fatal Case of Bacillus Pyocyaneus Septicemia after Surgical Operation.**—John B. Roberts reports a fatal case of general septicemia, probably from infection with *B. pyocyaneus.* The patient was a girl of nine years who was first operated upon to relieve a cicatricial deformity of the arm due to a burn. The scar tissue obliterated the axilla and tied the upper arm to the chest. There was some sloughing of the flap sutured into the axilla which was accompanied by the discharge of a greenish secretion. The wound afterwards became so healthy that it was skin grafted. Then

followed a sudden amygdalitis with lowered hemoglobin, a marked leucocytosis, and a diminished number of red cells. This seems to have been the starting point of her fatal illness. In a few weeks she apparently recovered from this acute condition and was then subjected to a second plastic operation under ether. The bronchitis which occurred afterwards might have been due to infection of the lungs from an incompletely cured amygdalitis, or a mild bronchitis might have been awakened into activity as the result of the anesthetic. About three weeks later the secretion from the sloughing wound was noticed for a second time to be greenish, and from this time until her death she suffered from some general infection. The greenish tint of the secretion, which was twice noticed, the existence before and after the time of the patient's illness of cases of blue pus in the wards, and the general symptoms exhibited by her led him to the belief that the infection was probably due to *Bacillus pyocyaneus*. Unfortunately no bacteriological examination was made.

**Adenoids.**—E. M. Sill considers adenoids from the pediatrist's standpoint. He refers to its frequency in childhood and the importance of an early diagnosis and treatment. His observations are based on 1,000 personal cases operated on. He believes that adenoid growths of the pharynx are more responsible for certain minor ailments in infancy and childhood than any other pathological condition found. A small amount of adenoid tissue in a small nasopharynx may become as formidable as a greater amount in one good sized. The diagnosis can often be made by the facial appearance, especially if the adenoids have been of long duration. The clinical picture is most striking, the open mouth, drooping eyelids, vacant, dull and listless expression, prominence of the veins at the root of the nose, contracted alae and sunken chest. When these characteristic symptoms are not present the condition may be inferred from the history of obstructed breathing through the nose, snoring, frequent colds, discharge from the nose, inability to nurse, otitis, earache and laryngismus. The treatment of his 1,000 cases was surgical entirely. Medical treatment without surgical intervention is of little avail. A description of the operation follows.

**An Unusual Sequel to Kraske's Operation.**—Charles B. Kelsey reports the following case that appeared at his office after nine years' absence: The woman was operated on for non-malignant stricture of the rectum, which he operated upon through the Kraske incision. Two years ago a tumor began to form over what remained of the sacrum and this has gradually increased in size. Examination shows a soft tumor the size of the fist, located low down over the end of the sacrum,and covered by a thick layer of skin and fat which proved to be a hernia escaping behind the rectum through an opening in the pelvis made by the old incision. Such a possible sequel to this operation has never been reported, so far as he knows, and must be exceedingly rare.

*Medical News, August 12, 1905.*

**The Treatment of Chronic Nasal Catarrhs with Sulphur.**—Louis Kolipinski says that sulphur is valuable in simple chronic rhinitis, in the hypertrophic stage; intumescent rhinitis is relieved by it, but the effects of it in atrophic rhinitis are not so good as during the earlier stages. In phlegmonous rhinitis the disease is often aborted by it. Hyperplastic nasopharyngitis is improved and scrofulous rhinitis can be much helped by sulphur. The immediate effects of the sulphur are to check the purulent irritating discharge, heal the excoriations, improve the patient's pale and languid looks and stop the sniffling, sneezing, crust formation and odor. In epistaxis from any cause this is one of the best applications, but should be reinforced for twenty four hours with the gauze tampon. Sulphur will not cure the coryza of acute nasal catarrh, but in chronic dironic diseases not requiring surgical aid and with the membrane not destroyed by atrophic degeneration, sulphur gives lasting relief from all the persistent symptoms. Sulphur may be a useful postoperative dressing, particularly in the surgery of the nasal cavities. The best galenical preparation is the official sulphur praecipitatum, U. S. P. The powder is blown into the nostrils with a strong powder blower. Applications are made two or three times a week for a month and once a week for the next two months.

**Treatment of the Individual Case in Appendicitis.**—Charles C. Allison gives sufficient data to show that there is a great difference in the mortality between the practise of the eastern and very radical wing of the surgical profession, and the analytical, conservative methods of the western surgeons. There is a difference also in their methods of treatment based upon a different conception of the pathology. The real cleavage in views seems to originate upon points as to the amount of infection the peritoneum, intelligently aided, may bear; as to the method which supports the peritoneum in this emergency, by limiting the infective process and by surrounding it with a barrier which offers at least a reasonable period of truce. The promptness with which adhesions occur is favored by rest and all admit that their development is an element of safety. Arresting the peristaltic wave from above ameliorates the inflammatory progress so essentially as to change the whole course and severity of a given attack; in other words, withdrawing food and avoiding cathartics, emptying the lower bowel by the repeated use of normal salt or standard enemata, encourages a peristalsis with a mild, gentle origin at the inflammatory zone rather than a painful, inefficient, and damaging wave which terminates there. He says it is not the interval case, nor an inflammation confined to the appendix, nor the management of a localized abscess that admits of debate, but it is especially the management of the sharp, progressive attack, most often seen during the second day with symptoms more obstrusive on the third and even the fourth days, that has led to views so divergent and, regrettably, to discussions so acrimonious. In a series of 231 cases, 71 were suppurative; of these four assumed the type known as acute, general, septic, peritonitis with one death; the only other death in this series occurred in an interval case, the patient dying from haematemesis, there being a history of a gastric ulcer three years previous.

**Malarial Hemoglobinuria.**—Lorin A. Greene relates some few personal experiences with resultant deductions. In a number of cases he has seen he is convinced that this agent which wrought such terrible destruction with the blood elements was not the plasmodium malariæ itself, but some toxin, the existence of which depended either upon the assistance or presence of plasmodium. There is a liberation in every case of remittent malaria; in the milder infections, or those of short duration, the free hemoglobin is converted by the relatively healthy liver into bilirubin. But in cases of long duration or greater intensity the congested condition of the liver prevents that organ from performing its function, and the free elimination of the hemoglobin by the kidneys follows. In his experience the use of quinine depends on the stage of advancement of the case when first seen. The hypodermic injection of quinine is indicated when he finds the spore forms in the blood or knows from previous examinations that they have not long disappeared. He advocates the administration of quinine in every case of estivo-autumnal malaria before the appearance of the hemoglobinuria. After a thorough cinchonization, if the hemoglobinuria continues, he sees no object in continuing its use. Calomel in large and often repeated doses he believes to be a valuable adjunct. The intravenous injection of the normal saline solution has been most useful in his hands. The hyposulphite of sodium in saturated solution has proven of doubtful efficacy in his hands.

*American Medicine, August 12, 1905.*

**Some Conditions Determining Variations in the Energy of Tumor Growths.**—Leo Loeb asserts the rate of tumor-growth is not only influenced by the species into which the tumor is transplanted, but also by variations which exist among individuals or families of the same species. Under certain conditions a state of active immunity can be experimentally produced. It can be accomplished more easily with some tumors than with others. The energy of tumor growth can be experimentally increased through successive transplantations up to a certain maximum. It is also possible to cause an experimental decrease in the energy of tumor growth. These variations are caused by a direct stimulating or depressing effect upon the tumor cells. (Contact metastases may occur, and different tumors which are morphologically similar or identical behave differently in this respect. The greatest care ought to be exercised to prevent a tumor from touching the wound during extirpation. The fact that surgeons operating on tumors do not become infected agrees with the facts found in experimental tumor inoculations.) Tumor growth is primarily due to an increased energy of growth of those cells from which the tumor takes its origin; it cannot be due to a lowered resistance of the organism in which the cells carry on their apparently unlimited growth. If a tumor cannot be successfully inoculated into other animals, it is probably not due to the fact that other animals are more resistant towards the growth of inoculated tumor cells than the animal in which the tumor growth developed originally, but to other causes still unknown.

**Infection in Transportation.**—H. M. Bracken, after a careful consideration of more than a hundred opinions received by him from State sanitarians, railway surgeons, health officers and inspectors, concludes that there is a real but unnecessary danger of infection with tuberculosis in many of the cars operated by city railroad companies, and by the Pullman Car Company. Street railway companies, as a rule, are not giving sufficient attention to car cleaning or ventilation. Railway officials, however, must be given credit, in many instances, for trying to keep their coaches in good sanitary condition. Many companies have elaborate regulations governing car cleaning and ventilation,

but unfortunately these are not always enforced. The greatest danger of infection is found in the sleeping car.

**Diseases of the Heart and Their Treatment.**—Otto Lerch (New Orleans, La.) emphasizes the fact that health and life depend largely on the equilibrium that exists between arterial and venous pressure. Cyanosis, dyspnea, edema of the feet and ankles, and a urine of high specific gravity, high color, containing a sediment, albumin, and sometimes casts, are the characteristic symptoms of a disturbance of this equilibrium. As long as compensation is perfect, no matter what the lesion may be, the patient does not suffer any inconvenience. The object, therefore, of all treatment must be to keep such a compensation or to re-establish it when lost. In cases with a completely broken compensation rest and drugs must be used. As soon as the compensation is reestablished the mechanical dietetic treatment must take the place of drugs, and if under its employment the heart again begins to fail, the prognosis is grave.

**Mercuric Chloride, Intravenously or Intramuscularly, for Epidemic Cerebrospinal Meningitis.**—Rich. Hogner has found intragluteal injections of mercuric chloride, twice a day, of great value in the treatment of epidemic cerebrospinal meningitis. He uses

| | |
|---|---|
| Mercuric chloride | 2 |
| Sodium chloride | 9 |
| Distilled water | 1000 |

One to 4 c.c. for intravenous or intramuscular injection, once or twice a day.

The maximum dose intravenously is 4 c.c. of the solution. Dr. Hogner prefers the intravenous injections and he cautions against extravenous injections on account of the bad local effects.

*Journal of the American Medical Association, August 12, 1905.*

**Exophoria.**—W. H. Roberts finds that a troublesome degree of exophoria can be corrected by systemic exercise with prisms. He begins with weak prisms, bases out, rapidly increases the strength, and has the patient's attention drawn to a point of light six meters distant. He interposes himself between the light and the patient, holding a ruler at first fourteen inches in front of the eyes and backs gradually toward the light, and when he reaches this he suddenly exposes it. If the light appears single after the transfer of the gaze to it, he has the patient look steadily at it for a few seconds, then, after closing the eyes for two or three seconds, if it still appears single on opening them, he goes through the exercise again with stronger prisms. He usually adds one or two degrees each time till 25 or 30 degrees are readily overcome. After the exercise, the patient should rest with closed eyes until somewhat recovered from the excessive convergence. He supplements the office exercises by giving the patient a pair of 8 or 10 degree prisms in a properly fitting straight frame, with or without distance correction. He has him practise with these for about ten minutes morning and evening, till the light can be fused at once, at a distance of six meters. As the muscles strengthen, once daily will suffice. It may be necessary to increase the strength of the home prisms two or three times, according to the results obtained. The treatment should be persisted in till the Maddox rod shows from ½ to 2 degrees of esophoria for distance, and the von Graefe test shows orthophoria for near. It is well to advise the patient that moderate exercises will be needed for an indefinite period after the treatment to keep the muscle power gained. He reports a number of cases illustrating his method and its results.

**Subconjunctival Salt Injections.**—S. D. Risley reports his personal experience with subconjunctival salt injections which are, he says, always innocuous and often markedly beneficial in various diseases of the eye. Illustrative cases are reported of their use and value in corneal abscess, keratitis, hemorrhage and suppuration of the retina, etc. The mode of their beneficial action, Risley thinks, is through the well-known protective influence of the serum albumin poured out into the aqueous humor. It is probable the injection of neutral saline solutions of low specific gravity dilates the clogged channels of exit and dilutes their contents, thus hastening the flow of the lymph and albuminoid substances through their normal channels, and that this fluid is replaced by a fresh supply still richer in albuminoid substances carrying a fresh nutritive supply to the tissues. Recent observations have led him to think that similar good effects can also be produced by the prolonged application of saline stupes at body temperature directly to the conjunctival sac.

**Incising and Suturing the Liver.**—J. Frank describes his method of excising a wedge-shaped portion of the liver and suturing, and its advantages over other methods, such as packing, cautery, and other methods of suture. He has experimented with it in 16 dogs. It consists in removing a wedge-shaped portion, including the diseased area, ligating the arterial bleeding with catgut sutures and, as soon as the hemorrhage is checked, bringing the flaps together, and with a long non-cutting needle making a running suture from one end to the other in the following manner: In case the excision is in a transverse direction, "one suture is carried through the liver tissue near the bottom of the trough, and then one superficially, and so on, alternating, until complete closure. It requires but very slight tension to approximate the flaps. The mode of suturing can be varied, according to the fancy of the operator. The main object is to bring the two flaps together, obliterating all dead space. The continuity of the liver surface is reestablished, appearing as if a new border had been constructed. No raw surface or ragged edge is left. If a portion of the liver is to be removed in a longitudinal direction to the viscus, the following method is then pursued: A wedge-shaped portion of the entire thickness of the liver is first cut out and the two broad surfaces left are now converted into troughs. This is accomplished by the excision of wedge-shaped pieces. The troughs thus formed have two flaps. When the operation is completed, the raw surfaces left of the original V are transformed into smooth, continuous liver tissue assuming the form of liver borders, and the V space left persisting as a notch."

**Surgical Bacteriology of the Mouth.**—A. H. Levings has studied the bacteriology in a large number of mouths of healthy individuals, as well as in persons suffering from various pathological conditions. He divides the nonpathological cases into four classes, clean mouths, ordinarily kept mouths, filthy mouths, and tobacco chewer's mouths. Bacteria were found in great abundance in the first class (20 cases), but were innocuous, with the exception of streptococci (two cases), bacillus coli (three cases), bacillus subtilis, staphylococcus and micrococcus tetragenus (eight cases). In thirty ordinarily kept mouths, bacteria were still more numerous. They were mostly, however, putrefactive germs which, growing rapidly, kill off others. The grip bacillus was found in two cases. In thirty filthy mouths, there were generally some pathological conditions present, such as decayed teeth or diseased gums. Millions of bacteria were present, and a much larger percentage were virulent. In ten cases the pneumococcus was found and the micrococcus tetragenus was present in a large number. Staphylococci occurred with the purulent cases. Putrefactive germs and gas-forming bacteria were common, accounting probably for the bad breath of these persons. Tobacco chewer's mouths were worst of all, the tobacco not restraining bacterial growth. The majority of the mouths were pathological, containing decayed teeth, ulcers, etc., showing lack of care. Experiments were made to show the effect of coughing on the dissemination of bacteria which was quite marked, even at a distance of five feet. Tests of various methods of cleansing the mouth and their effects on germs showed that scrubbing with warm soap and water and later decinormal salt solution, thoroughly for several minutes each, was about as useful as any method. Disinfectants alone, with the possible exception of hydrogen peroxide, were not reliable.

**The Oral Manifestations of Diabetes.**—H. Prinz includes diabetes mellitus as one of the diseases producing a distinct form of pyorrhea alveolaris, which, according to some physicians, is classed as a prodromal sign of the primary disease. He does not recognize any one organism as the cause of the pyorrhea, but considers that its general depressant effect on nutritions is sufficient to make way for the infection. While sugar has not been found in the saliva, the acid action that is produced is followed by an increased sensitiveness about the necks of the teeth. The circular ligament becomes swollen and relaxed, thus affording a ready gateway for the microorganisms. Pus pockets and necrosis naturally follow, and, according to Arkoevy, a distinct separation of the two upper centrals occurs. The upper arch becomes weakened in consequence, and more or less prognathism occurs. The rapid formation of soft, light-colored tartar is another diagnostic symptom. As far as local therapeutics is possible, the usual routine treatment should be followed, but little can be expected during the continuance of the primary disease.

*The Lancet, August 5, 1905.*

**The Spa Treatment of Circulatory Disorders.**—Leonard Williams says that since the introduction of what is known as the Nauheim system, the spa treatment of circulatory disorders has been in danger of becoming synonymous with effervescent baths and resistance exercises, and he, therefore, believes the time to be favorable for a brief review of the whole subject. The Nauheim treatment can be obtained elsewhere than at Nauheim. From the point of view of climate and accessibility Nauheim is by no means a place to which a cardiac patient should be lightly advised. Of the treatment which has made the place famous it may be said at once that useful as it undoubtedly is in suitable cases, the number of those cases is not large. The physiological

effect of these baths is to increase blood pressure which induces a slower and stronger cardiac systole, because the heart is stimulated to overcome the resistance. The duration of the baths is so managed that the stimulation is never allowed to approach the point of exhaustion and the effects are, therefore, maintained for a considerable time after its cause is removed. In these baths there is a cycle of results almost exactly analogous to that produced by the action of digitalis. He then refers to the limitations of the therapeutic value of these baths which were indicated by Sir William Broadbent as long ago as 1897. The near presence of dilatation, irrespective of its cause, does not constitute an indication for the employment of the Nauheim treatment, any more than it indicates the employment of digitalis. The treatment by Nauheim baths is quite unsuited to the great majority of cardiac disorders. The real truth of the whole matter may be summed up in saying that, as a rule which admits of very few exceptions, spa treatment is not suited to organic circulatory disorders where compensation is imperfect and that functional circulatory disorders, though sometimes conspicuously amenable to effervescent baths, are usually much better and much more scientifically treated by means other than those which are commonly associated with Nauheim. Nothing but harm can result from sending patients affected with aortic regurgitation away from their surroundings, and no spa provides sufficient excuse for subjecting a case of mitral stenosis with broken compensation to the fatigue of a long journey. In deciding upon the respective claims of the numerous spas at which cardiovascular diseases may be treated, various factors must be taken into consideration, but one general principle is that any spa at which gout is properly treated is, potentially, a spa suitable to cardiopath.

**On the Behavior of Leucocytes in Malignant Growths.**—J. B. Farmer gives an account of observations relating to the peculiar behavior of leucocytes in very early examples of carcinoma in various parts of the human body, referring more especially to a small primary renal tumor, an early case of chimney-sweep's cancer, and an early epithelioma of the penis. In all it is suggested that they were dealing with cytological phenomena peculiar to the earliest phases of the transmutation of normal tissue cells into cancerous elements

**A Case of Blackwater Fever.**—Edward S. Crispin reports this case and says the symptoms of hemoglobinuria, icterus, biliary vomiting, and acute anemia occurring during an attack of malarial fever are typical and yet at the post-mortem only a trace of malarial pigment in the liver or spleen could be found, the condition of the former being somewhat like that of a case of acute yellow atrophy of the liver. This naturally brought up the question of the real connection between hemoglobinuria and malarial fever and the administration of quinine. A patient from a malarial district having frequent attacks of malarial fever, during one of which hemoglobinuria occurs, appears. In the absence of any means of examining the blood for parasites the administration of quinine was obviously indicated and in the case reported ten grains were injected four times over a period of two days. They could not have increased the hemoglobinuria in this case as it ceased within twenty-four hours of the last injection. Extensive bruising occurred at the site of the injections, which were given subcutaneously and not intramuscularly. In all cases of severe malaria there is a great liberation of hemoglobin which is precipitated in the form of yellow pigment in the liver. This liberation of hemoglobin cannot be from the infected corpuscle as it is far in excess of the number of infected corpuscles, continues after no parasites can be found in the blood, and non-infected parasites are found deficient in hemoglobin. This bore out Sir Patrick Manson's theory that part of the hemoglobin only is derived from these infected corpuscles which when sporulation occurs, set free some toxin which is able to liberate hemoglobin from uninfected corpuscles. This would account for the continuation of the hemoglobinuria when there were no parasites in the blood.

*The British Medical Journal, August* 5, 1905.

**An Experimental Contribution to the Treatment of Cholelithiasis.**—William Bain describes experiments undertaken by him on dogs to ascertain the changes undergone by gallstones introduced into the normal gall-bladder, and the fate of such calculi where cholelithiasis was artificially produced. He also administered various remedies to the dogs, in hope of finding one useful to the human being. The amount of cholesterin in the normal bile is small, 0.5 per cent., but in diseased conditions it is secreted in much larger amounts. In his experiments he opened the gall-bladders, soaked up the bile, inserted the stones, and closed the bladder and abdomen. If he desired to produce cholelithiasis, he injected a culture of bacillus coli communis in decinormal salt solution before closing the bladder. In general the dogs increased in weight after the operation. The results show that the normal gall-bladder will dissolve calculi in about nine weeks' time. Hence we should aim to render the gall-bladder aseptic in order to obtain this normal solution of calculi. Where cholelithiasis is set up the gallstones do not disappear, although they are reduced in weight.

**Professional Relations Between Spa Doctors and their Brethren.**—Albert Mouillot gives some very sound advice as to the best way of maintaining pleasant professional relations between the family physician sending his patient to a health resort and the medical man who takes charge of the patient while there. When the patient is sent by his family physician, the name and address of the practitioner to whom he is sent should always be given to the patient and a letter should be sent to the physician by post describing the case. No suggestion as to the treatment should be given to the patient, and wherever possible it should be left to the judgment of the spa doctor. Such a letter should not be given into the hands of the patient, as is may never be delivered. If the patient makes an appointment a few days ahead with his future physician, it will insure him a prompt opportunity of consultation. When these precautions are not carried out the patient frequently goes to incompetent persons for advice in the choice of a physician, or failing to see the one desired promptly, goes to another to save time. The family physician never receives any answer to his letter, and never gets any proper account of the treatment received. If no letter is written by him, or it does not correspond with what has been told the patient, a thousand unpleasant little incidents may occur in the line of apparent conflict in the mind of the patient between the opinions and statements of the two medical advisers. The time during which treatment is to be given should not be limited by the family physician, as the period necessary depends much on how the patient responds to treatment. The duties of the spa doctor are more strictly ethical. He should acknowledge the receipt of the letter describing the patient's case, and should write in full when treatment is finished. It is important not to appear to differ in diagnosis from the sender of the patient, and if anything unexpected is discovered, to communicate with the sender before telling the patient. The responsibility of the spa physician is not that of a consultant, and ends with his last treatment, whenever the patient is sent by a city consultant. If, however, he is sent by the family physician, the latter may desire advice as to future treatment in the line of that given at the health resort. Such advice should never be given to the patient himself. When patients come unrecommended and of their own initiative the case is quite different. Here the family physician need not be communicated with, except at the request of the patient, or on his own request after the patient returns home. You may suggest that, if your treatment is to be continued by the patient on his return, it be done with the concurrence of his physician.

*Berliner klinische Wochenschrift, July* 24, 1905.

**Diseases That Precede Carcinoma.**—E. v. Bergmann describes a number of his cases in which it was possible to determine some abnormal condition which had given rise to the development of carcinoma. Scars following burns or other extensive injuries are often the seat of malignant degeneration. Paget's disease of the nipple is another condition that precedes carcinoma, but it is a much rarer lesion than is usually supposed, for, out of a thousand cases of malignant growths of the breast treated by the author, only seven or eight of Paget's disease were found. He then mentions the carcinoma of chimney sweeps or tar workers, and next discusses at some length psoriasis of the tongue as a forerunner of cancer. This is a more frequent starting point of carcinoma than is generally recognized, and the author considers belief in a possible syphilitic origin of the condition as unfounded. Lupus is also an occasional precursor of cancer, and birthmarks form a frequent starting point for it. Every carcinoma of the extremities is secondary to some abnormal condition of the skin, such as scars, sinuses, ulcers, eczema, seborrhea, warts, moles, or birthmarks. The pigmented moles are an especially frequent seat of malignant deterioration.

**The Precipitin Reaction in Carcinoma.**—Kelling makes a vigorous reply to the recent communication of Fuld, who repeated Kelling's experiments with negative results. He ascribes Fuld's failures to improper technique, and gives details of the proper method at great length. He also reports tests on a series of one hundred cases. Thirty-three of these proved not to be carcinomatous, and all gave a negative reaction. Sixty-seven were undoubted cases of carcinoma, thirty-eight of these were negative, and twenty-nine gave a positive reaction, twenty-two responding to extracts of hen or hen embryo albumin, four to extracts of pig or pig embryo albumin, and three to extracts of sheep albumin. A large number of these tumors were tested after removal, and the proper reaction always ob-

tained. Kelling reiterates his former assertions, and maintains that there are cases of carcinoma in which the blood contains precipitins that have a distant relationship to albumins foreign to the human body. These reactions do not occur in other diseases, and when they are obtained with distinctness they permit a positive diagnosis of concealed carcinoma.

**Laryngeal Tuberculosis and Pregnancy.**—Kuttner gives an exhaustive study of this combination and concludes that the prognosis of diffuse tuberculous laryngitis occurring during pregnancy is extremely unfavorable. The mortality of children born of mothers suffering from this disease during gestation is very high. In consideration of these facts laryngeal tuberculosis is in principle a justifiable indication for the interruption of pregnancy, but this is permissible only when it appears to be the only possibility and offers some probability for the safety of the mother. Experience has shown that the induction of abortion in the later months of pregnancy does not offer very favorable prospects. Under these conditions, if the case is not already hopeless, tracheotomy may give a chance.

*Münchener medizinische Wochenschrift, July 25, 1905.*

**The Etiology of Croupous Pneumonia.**—Schottmüller describes six cases in which, although the symptoms produced were those of a typical croupous pneumonia, the disease was caused not by the pneumococcus but by a special organism, which he terms the streptococcus mucosus. When grown on solid media, this organism forms diplococci, which occur in chains of ten to fourteen members. The separate members are 1.5 $\mu$ in diameter, are rounded, and provided with a gelatinous envelope, which becomes visible in stained preparations. The coccus is positive to gram, and grows best at 37° C. On agar, after twenty hours, a clear, slimy, shiny gelatinous scum is formed. These characteristics are constant, and are maintained through successive generations. The author, therefore, agrees with Weichselbaum's opinion that the pneumonic virus is not a uniform agent, and that so-called lobar pneumonia may be caused by a number of different sorts of bacteria. These are, the pneumococcus of Fränkel, the diplobacillus of Friedländer, and the streptococcus mucosus. The streptococcus of erysipelas can also produce lobar pneumonias, but both clinically and pathologically these differ from the true type. The differentiation of the various bacterial inciting agents is of importance in making attempts to cure the disease by serum treatment.

**Inflammatory Fatty Tumors in the Knee and Tarsal Joints.**—Gaugele says that Hoffa, about a year ago, described a form of fatty new growth of synovial membrane of the knee, which was the cause of stiffness and disability. Becker investigated the matter further, and found that the process was by no means simply a hypertrophic one, but that it was a true inflammation of the fatty tissue of the synovial membrane. Gaugele describes a case in which complete relief was given to a disabling, painful affection of both knee joints that had resisted all the ordinary means of treatment, by excision of large masses of fatty tissue. Three other cases were subsequently treated in the same way, with equally satisfactory results. The author was led to apply the same reasoning to two cases of obstinate flat foot that presented slight swellings at the outer side of the foot below the mallcolus. On opening the joint in each case a lipomatous growth was found, the removal of which was followed by relief of the symptoms. The author also suggests that joint affections in other parts of the body that have been attributed to various obscure conditions may depend on inflammatory, fatty growths in these situations.

**The Treatment of Nasal Suppuration in Children by Aspiration.**—Sondermann says that the obstinacy of nasal discharges in children as well as in adults often exhausts the patience and the resources of the physician. In addition to suitable local treatment, the pharyngeal tonsil is usually removed, but this as well as other operative work about the nose nd throat may not lead to a cure of the rhinitis. He has perfected a plan of treatment which has given him excellent results and which he warmly commends. A face piece is used which fits the nose closely and is provided with a suction apparatus. The patient is desired to say "e," by which means the nasopharynx is shut off, and at the same time suction is made. All the secretion is in this way drawn out of the recesses of the nares, and even from the accessory cavities. In addition to the cleansing effect, the local hyperemia produced contributes towards bringing about a cure. In dealing with little children, some tact is often necessary, but one can always succeed with patience, and, as the procedure is not painful, the patients do not object to its repetition, and often learn to carry out the manipulation themselves. The frequency with which it should be repeated depends on the amount of secretion, but even in severe cases it is not necessary at first to aspirate oftener than four to five times daily, and the frequency may be rapidly reduced. The secondary effect of the treatment, that the author has repeatedy seen, is the cure of an obstinate cough, which was not based on any pulmonary lesion, but apparently was dependent on the nasal discharge.

*Deutsche medizinische Wochenschrift, July 27, 1905.*

**Experimental Observations on Sterilization of the Skin.**—Vogel, who is Bier's assistant, was led to make experiments with the hot-air apparatus devised by the latter, in connection with the question of sterilization of the skin. The consideration that has of late occupied investigators in this field has been the ability of the various methods in use to reach the bacteria concealed in the deeper layers of the skin, especially in the sweat glands. the author conducted his experiments by making cultures from his hands after sterilization, and again after they had been subjected to active sweating in the hot air box for half an hour. In this way it was found that, even though the cultures made before the sweating remained sterile, the hot-air treatment brought large numbers of bacteria to the surface in almost every case. The hot-water-alcohol-bichloride method was found more effectual than the soap-solution method of Mikulicz, and if the hand was disinfected in the former manner, sweated one-half hour, and redisinfected, a second sweating of one-half hour failed to bring to the surface any germs. While it is impracticable to apply the sweating procedure as a routine measure in every-day work, the author believes that it will furnish a valuable addition to the experimental methods of studying hand disinfection, and will also prove useful in some phases of operative work, both for preparing the patient's skin and that of the operator, as, for example, in hernias and in joint operations, when every possible precaution must be taken. Although the experiments seemed to indicate that the hot-water-alcohol-bichloride method was much superior to the soap-solution plan, the latter is still retained in Bier's clinic, first, because it has given good results in the past, and it is certain bacterial asepsis is a different quantity from surgical asepsis, and second, because it improves the condition of the skin, whereas the bichloride is damaging to the hands. For those who can stand it, however, the latter method is the safer one.

**An Apparatus for Pneumatotherapy in Heart Disease.**—Herz has devised an apparatus by means of which it is possible to accomplish what he calls endomassage of the heart. It consists of a mouthpiece through which the patient breathes, connected with an interrupting device. This consists of a toothed wheel against which a lever actuating a valve in the breathing tube impinges, so that as the wheel is turned the air tube is rapidly opened and shut off. By this means marked changes in the air pressure in the lungs are caused through the alternate rarefaction and compression of the air inhaled. The blood pressure in the pulmonary circulation is thus increased, and the auricles are better filled, while at the same time the mechanical pressure of the lungs upon the heart as a whole reacts very beneficially upon it. The author has employed the apparatus in a great many cases, principally of muscular weakness of the heart combined with arteriosclerosis, and is much gratified with the results. Both the physical signs and the subjective symptoms underwent marked improvement, and the patients were enabled to perform a greater amount of muscular work than before.

*Annals of Surgery, July 1, 1905.*

**Ligature of the Innominate Artery.**—The elaborate paper of W. Sheen is a study of this operation from the earliest times to the present, and includes the history of a successful personal case, the latter being the eighth on record. Only the author's general conclusions can be quoted here. These are: (1) That in properly selected cases ligature of the innominate is a reasonably safe and undoubtedly useful operation. (2) That suitable cases are those in which the aneurysm is of a circumscribed, globular character, and the general condition of the patient is otherwise good. That unsuitable cases are those in which the aneurysm is what is commonly called fusiform, but is really often nothing more than part of a general arterial dilatation, and in which there are marked signs of general arteriosclerosis with accompanying visceral disease. (3) That the maintenance of asepsis is the main factor in obtaining a successful result. (4) That the incision should be central with horizontal and vertical division of the manubrium, if necessary. (5) That the carotid should be tied as well as the innominate. (6) That silk is the best ligature material. (7) That some amount of injury to the inner coats is probably necessary to insure occlusion, but that with aseptic conditions such injury does not matter. (8) That two ligatures should, if possible, be placed round the vessel, the first turn of the proximal ligature being held tight, so as to keep back the blood while the distal ligature is completely tied. (9) That the use of a drainage tube is inadvisable. (10) That, as a study of the recorded cases shows, next to sepsis, some cerebral

lesion has been the most frequent cause of death after operation, it would be well for future operators to consider the advisability of tying the carotid about a fortnight before the innominate. (11) That "Valsalvan" methods of treatment immediately prior to operation are inadvisable.

**The Surgical Treatment of Tuberculous Cervical Lymphnodes.**—This subject receives an elaborate consideration by C. N. Dowd, whose paper is fully illustrated by photographs of patients and dissections. He gives the following summary: (1) Tuberculosis of the cervical lymphnodes is apparently due to infection received from the fauces, pharynx, or nasal mucous membrane, in the great majority of cases (86 per cent. in this series). (2) The disease shows a tendency to extend to the lungs and other internal organs. Statistics indicate that such extension occurs in one-quarter to one-half of the patients from whom the nodes are not removed. (3) Entirely apart from its tendency to infect other organs, the disease is very tedious, causes great discomfort and disability, and leaves disfiguring scars. (4) The thorough removal of the diseased nodes by operation has given better results than any other method of treatment which the writer finds recorded. (5) The records of operations justify the following assurances: (*a*) In favorable cases: Safety of operation (many operators reporting more than 100 cases without mortality); a scar which is hardly to be seen; probable confinement to bed of two or three days; the wearing of a bandage or dressing from one and a half to three weeks; freedom from recurrence in about 75 per cent., and ultimate recovery in about 90 per cent. of the cases. (*b*) In the less favorable cases: Safety of operation; less disfigurement from scars than discharging sinuses will cause; freedom from recurrence in 50 to 55 per cent., and ultimate cure in 70 to 75 per cent. of the cases. (6) Transverse incisions, either in the neck creases or parallel to them, are usually to be made. They should be so placed that the fibers of the facial nerve will not be cut. A vertical incision back of the hairline is occasionally helpful. Extensive incisions are necessary for the far advanced cases. (7) Every precaution should be taken to preserve the normal structures of the neck. (8) It is not feasible to divide the cases into groups, some suitable, others unsuitable for operation. Every patient with tuberculous cervical lymphnodes should be operated upon unless there is a particular reason to believe that the operation would not be endured.

**Drainage in Diffuse Septic Peritonitis.**—Van Beuren Knott emphasizes the following points: (1) Operations for diffuse septic peritonitis should be made as quickly and with as little manipulation as it compatible with thoroughness. (2) Evisceration, partial or complete, greatly increases shock and the prospects of a fatal result. (3) The generous use of clean, hot water will most thoroughly cleanse the infected cavity with the least traumatism. (4) Drainage is simplified by collecting the peritoneal fluid at one point where drains may be easily placed. The elevated head and trunk posture followed by the gravitation of fluid to the lower pelvis best accomplishes this. (5) Results following the surgical treatment of diffuse septic peritonitis will be improved should each individual operator adopt some definite form of procedure in such cases, which, being well understood by operator and assistants, may be methodically, speedily, and thoroughly carried out.

**Surgical Treatment of Chronic Mucomembranous and Ulcerative Colitis, with Special Reference to Technique.**—J. E. Summers, Jr., discusses the various operative procedures which have been followed in recent years in this class of cases. His personal experience comprises eight cases, exclusive of mild catarrhal conditions of the cæcum and appendix due to displacement of the right kidney. In four the Gibson operation has been done, and two of these have had, in addition, the ileum divided, the lower segment being occluded and the upper being implanted in the sigmoid flexure of the colon. The Maisonneuve method was followed in one instance. In another a sigmoid ulcer was excised. In still another urgency of operation was determined by an intussusception of the lower ileum, resulting probably from the antiperistalsis in the colon. Seven of the eight patients recovered. The cause of death in the fatal case is not definitely stated.

**The Treatment of Congenital and Acquired Luxations at the Shoulder Joint in Childhood.**—R. Whitman finds the essentials of successful treatment of these cases to consist of (1) complete overcorrection at the time of operation, (2) fixation for a sufficient time to assume the stability of the new articulation by accommodative changes within and without the joint, and (3) persistent after-treatment. The latter consists of daily passive forcible movements to the extreme limits in the directions formerly restricted, namely, outward rotation, backward extension and eventually abduction of the humerus and supination and extension of the forearm.

*French and Italian Journals.*

**Treatment of Migraine and Cannabis Indica.**—G. Carron de la Carrière give us an account of this method of treating migraine, which he has found very successful. It consists of neuroarthritic constitutional remedies, treatment for whatever organic or functional symptoms may be troublesome, and prevention of the crises. The first indication is met by a strict dietary; no alcohol, pure water and hot tea infusions, the only drink; beef, mutton, and chicken for meats; all vegetables that are not acid; for dessert, milk puddings, cheese, fruits, ripe and soft, or cooked. When crises are frequent a modified milk diet, without meats, with rice, tapioca, mashed potatoes, etc. The second means of fulfilling this indication is by the use of cannabis indica. It is given in pill form, one and one-half centigrams morning and evening, taken regularly for months and years, then intermitted and renewed for a month or two at a time, at periods of great fatigue. It is also useful for persistent dull headache lasting continuously. It must be taken regularly. The author begins with a small dose, and increases it up to the point of benefit or intoxication, having never produced a habit or bad symptoms. The third measure is the hot douche, tonic, revulsive, and sedative. He uses a broken spray, not douching neck or head, increasing in coolness, and ending with the feet. This must be taken daily for one or two months. The second indication is subserved by attention to digestive, uterine, or eye troubles. At the time of a crisis we may put it off by the hot douche and rest, the douche long and very sedative. When the crisis has set in we can only relieve pain by applications of chloroform and menthol, hot cloths, and sedatives. Each year the patient should visit an appropriate bath establishment and take a course of treatment.—*La Pressc Médicale*, July 19, 1905.

**Therapeutics of Tuberculous Lymphoma of the Neck.**—D'Este has treated many cases of tuberculous lymphatic glands in the neck by different methods. Some of them have been simply extirpated, without any medical treatment; others have had simple medical treatment, while a third class have had the two methods combined, the glands being removed and removed and then the treatment continued by the use of iodine. The combined method he considers much the most effective, giving a better and firmer scar and leaving the patient in better physical condition, with less liability to recurrence. Simple medical treatment is most unsatisfactory. The iodine he uses in doses of one centigram by injection at the beginning, and increases it to 5-6 centigrams at each dose. Less radical intervention than total excision is useless; simple opening of the abscesses and scraping are without effect.—*La Riforma Medica*, July 15, 1905.

**Autogenous Regeneration of Isolated Nerve Trnnks.**—A. Perroncito, from his experiments concludes that he has demonstrated that nerve fibres in trunks isolated from the nerve centres after a time, instead of undergoing autogenous regeneration, independently of the centres, grow from the central stump. He has seen the new-formed nerve fibres advance from the extremity of the central stump through the tissues, and with a very complicated path join the peripheral stump, perhaps finding their way through a muscle. A question intimately connected with that of autogenous regeneration, is the question of lack of continuity. He has demonstrated that all reports that go to demonstrate lack of continuity are due to errors of observation, and the application of insufficient methods, since the fibrillæ regenerate continuously, more rapidly than was supposed.—*La Riforma Medica*, July 15, 1905.

**Heredity, Biological and Psychological.**—Madeleine Pelletier draws our attention to the theory of Dantec, who believes that we should seek in histology an explanation of heredity. The ovule produces the same kind of an organism that it came from. The infant must resemble his parents because he is composed of the substance of his parents, a substance particular and different from other men. The form of the body is the expression of the equilibrium of the substance. The conception of heredity as a chemical phenomenon enables us to comprehend how that heredity can be an absolute law. Man is not only the product of a fertilized ovule; he is also the result of the combination of the substance of that ovule with exterior circumstances. Heredity does not transmit all the characters of the parent, and the child is never exactly identical with the parent. It is easy to comprehend, then, how mutilations are not transmitted. Alcohol, syphilis, and other poisons, acting chemically, are transmitted; so also good hygienic conditions, good influences may bring to the organism modifications transmissible by heredity. Profound chemical influences, acting quickly, are quickly transmitted; those that are feeble, and act slowly are transmitted in the course of generations. Simple mechanical modifications are not transmitted at all. If the influence is only temporary it has no inheritance. Such influences as acute diseases are not transmitted.—*La Médecine Moderne*, July 19, 1905.

# Book Reviews.

The Pharmacopœia of the United States of America. Eighth Decennial Revision. By the Authority of the United States Pharmacopœial Convention Held at Washington, A. D. 1900. Revised by the Committee of Revision and Published by the Board of Trustees. Official from September 1, 1905. Philadelphia: P. Blakiston's Son and Company, Agents, 1905.

Some of the changes in the new Pharmacopœia have already been noticed in the Medical Record, but the revision has been a very radical one, and the alterations are too numerous to be discussed completely in even a long review. For the most part, they appear to be in the direction of simplicity and practicability, and will no doubt be viewed with approval by both physicians and pharmacists. Some important changes have been made in terminology, such, for example, as the substitution of fluidextractum and fluidextract for the corresponding older Latin and English terms; acidum arsenosum has become arseni trioxidum; carbolic acid is phenol; spiritus glonoini has been changed to spiritus glycerylis nitratis; zinc valerianate has been abridged to zinc valerate, etc. It is gratifying to note that the Committee of Revision has decided to retain the terminal "e" in the names of the alkaloids, the halogen compounds, etc., and the reason given for the position, viz., that "it was not deemed wise or safe to sacrifice this distinctive method of designating powerful substances used as medicines," is perfectly rational. The most radical innovation, perhaps, is the admission of a few of the synthetic products, whose widespread use certainly justifies their official recognition, and of formulæ reproducing with more or less accuracy several commercial preparations. The addition of the average dose paragraph to each description is a decided advantage, though omission of the list of preparations which formerly occupied the corresponding position seems less well advised, as it formed a useful system of cross-referencing.

The articles dismissed can all be easily spared, and it is a matter for congratulation to find that the additions are not quite so numerous as the omissions. The paper and typography are more pleasing than those of the preceding revision, and the former binding was so thoroughly bad that this can hardly help being better. Some oversights are inevitable in so complicated a work, and they are not lacking in this revision. It is strange, however, that no one's eye was caught by the fact that although resin cerate has been changed to rosin cerate, the old form of spelling appears twice in the formula for turpentine liniment on page 257.

The new Pharmacopœia, as is announced on the title page, becomes official on September 1, 1905.

The Travelers' Handbook. A Manual for Transatlantic Tourists. Compiled by Josephine Tozier, Author of "Among English Inns." New York and London: Funk & Wagnalls Company, 1905.

Even the seasoned old globe-trotter will find many valuable suggestions in this well thought-out little book, while as for the tyro, the wonder is that his interminable questions did not result in some such comprehensive solution years ago. Certainly, after reading it there will be no excuse for certain errors now all too common, such as the carrying of luggage intended for a brief stay in London or Paris, but irresistibly suggesting a desert exile, and so on. Medical men journeying to Europe to attend congresses, or those going for a longer period of study, should not fail to make this handbook a part of their kit, for it answers all the questions with which they seethe, and will reduce the wear and tear of their trip to a minimum. In fact, it is only after reading even the index of Miss Tozier's book that we realize how much of the fatigue of travel is traceable to the thousand and one minor details as to which we are uncertain. A wide distribution of this handbook is all that is necessary to make the interrogative traveler like unto the dodo. It may be added that the little work makes no claim to encroach upon guide-book ground, but is emphatically what it calls itself, "The Travelers' Handbook." It is an almost indispensable companion to "The Pocket Guide," or the more voluminous Baedekers, for any one contemplating a trip to Europe.

Addresses and Other Papers. By William Williams Keen, M.D., LL.D., F.R.C.S. (Hon.); Professor of Surgery, Jefferson Medical College, Philadelphia; Membre Correspondant Étranger de la Société de Chirurgie de Paris; Membre Honoraire de la Société Belge de Chirurgie; Ehrenmitglied der Deutschen Gesellschaft für Chirurgie; Honorary Member of the Clinical Society of London, etc. Illustrated. Philadelphia and London: W. B. Saunders & Company, 1905.

This volume consists of seventeen addresses, six papers, a lecture and an oration. The subjects treated cover a variety of topics, historical, educational and scientific; some have a purely local interest, while others will appeal to a wide circle of readers. The first address, on "The Early History of Practical Anatomy," is the longest, and perhaps the most interesting in the volume. There are two papers (or, rather, a paper and an address) on "Vivisection," which will well repay perusal, and which appeal to the laity even more than to the physician. "Progress in Surgery" is the title of two papers written at an interval of ten years, and which attracted some attention when they first appeared. The above are the papers that have specially appealed to us; but all are worth reading, and the volume will serve as a first-class companion during an idle half-hour, and will make an attractive addition to the literature in the waiting-room.

A Syllabus of Materia Medica. Compiled by Warren Coleman, M.D., Professor of Clinical Medicine and Instructor in Materia Medica and Therapeutics in Cornell University Medical College; Assistant Visiting Physician to Bellevue Hospital. Second Edition. New York: William Wood & Company, 1905.

The addition of twenty pages on toxicology, and the correction of a few errors which were in the former edition constitute the only changes which have been made in this little volume. The book will be useful to the unfortunate student who has to learn all about a host of drugs and preparations, not more than a small percentage of which he will ever use.

Enlargement of the Prostate. Its History, Anatomy, Etiology, Pathology, Clinical Cases, Symptoms, Diagnosis, Prognosis, Treatment, Technique of Operations, and After-Treatment. By John B. Deaver, M.D., Surgeon-in-Chief to the German Hospital, Philadelphia, Assisted by Astley Paston Cooper Ashhurst, M.D., Surgeon to the Out-Patient Department of the Episcopal Hospital, Assistant Surgeon to the Orthopedic Hospital, and to the Dispensary of the German Hospital. Philadelphia: P. Blakiston's Son & Co., 1905.

This excellently and profusely illustrated book represents an important addition to the literature of prostatic enlargement. In the opening chapters the history and literature of the subject, the anatomy of the gland, and the pathology, etiology, and symptomatology of its diseased states are clearly and interestingly dealt with. In the diagnosis of prostatic enlargement Dr. Deaver advises against the use of the cystoscope; he thinks "that to advise the general practitioner, who may have need of a cystoscope once in five years, to insert it into the distorted, inflamed, and susceptible urethra of prostatics is to be guilty of great indiscretion." Surely, the author would not apply this objection to the trained cystoscopist, which every prostatic surgeon should be. Nor does Dr. Deaver practise what he preaches, for we find him advising the use of the cystoscope in order to differentiate tuberculous cystitis from prostatic enlargement.

The chapters devoted to the treatment of prostatic enlargement are excellent. The author's views, while radical, are tempered with the proper degree of conservatism. They represent the experience which he has gained from his own practice and from a close study of the work of others. The author believes that every prostatic should have a trial of catheter life, so as to ascertain which patients will be benefited by regular catheterism. "Because of the imperfection of its immediate result, and the uncertainty of its ultimate effect," he considers the Bottini operation to be but a makeshift, and to be employed only when no other treatment is applicable. The various sexual operations, he thinks, have fallen into deserved disuse.

Among radical operations, Dr. Deaver is a strong advocate of the suprapubic method of Freyer, though he considers that in selected cases, viz., those in which the prostate is atrophic, the perineal operation is to be preferred.

A good bibliography closes this excellent monograph, which all who deal with prostatics should read.

Les Indications des Interventions Chirurgicales dans les Maladies Internes, à l'usage des Médecins Praticiens. Par le Professeur Hermann Schlesinger (de Vienne). Traduction française de MM. les Docteurs Lichtwitz et Sabrazès, Professeur Agrégé, Médecin des Hôpitaux de Bordeaux. Paris: Vigot Frères, 1905.

This is the second volume of the French translation of Schlesinger's practical treatise on the indications for operative treatment of internal diseases. In this part the author takes up diseases of the liver and gall-bladder, the spleen, the pancreas, the kidney and its pelvis, and the bladder. Each of these subjects is treated of thoroughly from the standpoint of the surgeon ready to remove by the knife any lesion in an accessible organ which the medicaments of the physician have failed to disperse. Of necessity, the diagnosis of these lesions is thoroughly discussed, and the indications for and probable advantages of operative interference are carefully considered.

# Society Reports.

## BRITISH MEDICAL ASSOCIATION.

*Seventy-third Annual Meeting, Held at Leicester, July 25, 26, 27, and 28, 1905.*

(Special Report to the MEDICAL RECORD.)

(*Continued from page 281.*)

### SECTION OF OBSTETRICS AND GYNECOLOGY.

*First Day—Wednesday, July 26.*

The PRESIDENT, PROFESSOR H. R. SPENCER, of University College, London, welcomed Professors Wertheim of Vienna and Howard Kelly of Baltimore, who had come to take part in the discussion. He drew attention to the gynecological specimens in the museum, which were of unusual interest, and said that their collection was largely due to the efforts of Miss Garrett Anderson, one of the honorary secretaries of the Section. He then called on Professor Wertheim to open a discussion on

**The Diagnosis and Treatment of Cancer of the Uterus.**—Prof. WERTHEIM presented a table of 179 cases, with the results. All the cases had been followed up and their subsequent condition ascertained. Since 1898 he had operated on all cases by the abdominal route, removing connective tissue and glands. He performed preliminary disinfection and removal of the accessible portion of the growth by the cautery. The patient was then placed in the lithotomy position and a median abdominal incision made. The posterior layer of the broad ligament was divided and the ureters exposed and isolated from surrounding tissue. The anterior peritoneum was then incised and bladder separated, and the infundibulopelvic, broad, and round ligaments divided. The uterine vessels were then divided by pushing down a finger in front of them, lifting them up on the finger, and tying them. The ureter was then separated from the growth, the posterior layer of the broad ligament divided, and the rectum separated. The two lays of peritoneum were taken off as close as possible to the pelvic wall, after clamping, and the clamps were afterwards replaced by ligatures. The vagina was again cleansed with sterile gauze, and afterwards it was clamped to the isolated cancer and divided and separated below the clamps. To extirpate the glands, the peritoneal incision was prolonged upwards, and all enlarged glands up to the level of the division of the abdominal aorta and down to the obturator foramen were extirpated. The wound was treated in the following way: The cavity left by the removal of the tumor was carefully packed down to the vulva and the peritoneum sutured over, the abdominal wall being closed in layers. The gauze was removed on the fifth to the tenth day. The care of the bladder was most important, as it was frequently paralyzed for a time. The catheter was passed regularly, and the bladder frequently washed out with 3 per cent. solution of boric acid. It usually recovered its functions in a few days. Vesicovaginal fistula was a troublesome complication, and so was necrosis of the ureter, the latter sometimes requiring nephrectomy. This was required in three of his cases. To avoid necrosis of the ureter, it should not be completely raised. The duration of the operation was at first 2 to 2½ hours, but was now 1 to 1¼ hours. For a long time the mortality was 18 per cent., and death was mostly due to cardiac failure occurring 24 to 48 hours after operation. He now performed the preliminary cleansing of the vagina and scraping and cauterizing of the growth before beginning the anesthetic. The anesthetic used was Billroth's mixture. He attached more importance to the removal of the cellular tissue than to that of the glands. Since taking to the abdominal route the proportion of cases operated on had risen from 15 to 50 per cent., and he had operated on many cases which had been refected as too far advanced for operation elsewhere. Sections had shown that 28 per cent of the enlarged glands were infiltrated with cancer. The commonest site for infected glands was at the crossing of the iliac artery by the ureter. He emphasized the importance of women being taught that they should not neglect to seek advice for the early symptoms of cancer, and said that Winter had written a pamphlet for general distribution, having this object in view. He would limit vaginal hysterectomy to cancer of the body of the uterus and very early stages of cancer of the cervix, and he used the microscope in all doubtful cases.

Dr. HOWARD KELLY of Baltimore said that years ago he advocated extensive operation for cancer by the abdominal route, and he performed as wide an enucleation as possible. He had found that masses in the pelvis which he would have considered metastatic were always connected with the primary growth by a continuous band of infection; in operating he made a long slit below the ovary, exposing the ureter, and a most important point was not to separate this portion of the ureter from its attachments, but to push it along with the peritoneum. He inserted a ureteral catheter before commencing the anesthetic. He next ligated the infundibulopelvic ligament, then detached bladder and set ureter free in front, carefully ligating some large veins which lay just above it. He then exposed and tied the uterine vessels at their origin. He said we must never catch the ureter with forceps, but lift it gently with a blunt hook. He then divided the uterovesical ligaments. He used Wertheim's clamps, and cut across the vagina with the cautery. He said that it was especially important to pack off the whole wound area with numerous pieces of gauze. Ninety-eight per cent. of his patients had suffered from unusual bleeding from the vagina when first seen and 60 per cent. ought to have sought medical advice earlier. He thought that the causes of cancer lay largely in the moral field, viz., overwork, poor living, worry, etc.

Miss ALDRICH BLAKE of London read notes of sixteen cases of abdominal hysterectomy for cancer and presented a tabulated statement. She said that she had not considered involvement of the vagina a bar to operation, and as regarded fixation she had treated each case on its own merits; in only one case had she used preliminary cauterization of the growth, but in all she had washed out the vagina and packed it with iodoform gauze before commencing operation, removing the packing at the time of making the vaginal incision.

Dr. CUTHBERT LOCKYER of London said that among 4,000 cases seen by him in the out-patient room there were 85 cases of cancer, and 17 of these were operated on; in recurrent cases some good could be done by radium and high-frequency currents. The average age of his patients had been 46, and the average number of pregnancies to each case had been 7.

Mrs. SCHARLIEB of London had performed abdominal hysterectomy 15 times for cancer, with 3 cases free from recurrence for three years and upward afterwards. She thought that the field of vaginal hysterectomy for cancer would narrow more and more in the future.

Dr. CAMPBELL of Belfast recognized two classes of cases: (1) Where the growth spread early to the vaginal wall, and these were hopeless for operation by the older methods. (2) Originating in the cervical canal, which were more hopeful. In 50 cases of vaginal hysterectomy he had been unable to trace any remaining free after 3 years.

Dr. H. BRIGGS of Liverpool had operated for cancer of the body in 40 cases, and of the cervix in 109 cases, with 10 per cent. of freedom after 5 years in cervix cases and 30 per cent. in cancer of body. The mortality of the operation had been 3.7 per cent. The recurrence had most frequently taken place in the vaginal roof.

Dr F. J. MCCANN of London protested against the circulation of pamphlets such as had been mentioned amongst women, as likely to cause mental distress. He advocated supravaginal amputation of the cervix in doubtful cases of erosion and hypertrophy.

Dr. HERBERT SNOW of London thought that worry and

trouble were potent causes of cancer, and pointed out the great value of morphine in inoperable cases.

Dr. Inglis Parsons of London said that when the removal of the cancer was incomplete its growth was much more rapid afterwards. He advocated salicylate of soda in cases unsuitable for operation.

Dr. Rosenwasser of Cleveland, Ohio, had lately had an opportunity of seeing Wertheim's work in Vienna, and said that the necessary skill could be acquired by watching the work of a master and making experiments on the cadaver. In Wertheim's clinic the patients, if in bad condition, were first curetted to remove offensive growth, then kept in bed and fed up until fit for operation. He asked where the line would be drawn between cases suitable for vaginal operation and those in which abdominal operation was necessary.

Dr. Forbes Ross of London thought that irregularity of the arrangement of the cells in the gland acini could be recognized by the microscope in the very earliest stages of cancer.

Miss Mary Thorne of London considered that prolonged anesthesia added gravely to the dangers of the operation.

The President said that he considered Prof. Wertheim's the finest paper ever read on any cancerous subject, as the whole of the after-histories of the cases had been followed up. The conclusions to be drawn were that one can operate more safely and successfully by the abdominal than by the vaginal route.

Prof. Wertheim, in closing the discussion, said that he thought the statistics in his paper would refute the conclusions drawn by Prof. Olshausen of Berlin in a paper read by him at the last annual meeting of the association.

*Second Day—Thursday, July 27.*

**Fibroid Tumors of the Uterus.**—Dr. S. J. Cameron of Glasgow gave a lantern-slide demonstration illustrating some of the complications and degenerations of fibromyomata. Among the subjects demonstrated were the following: (1) Primary cancer of fallopian tube associated with a fibroid. The growth was in the peritoneal end of the tube, and Dr. Cameron considered that a hydrosalphynx had preceded the growth. (2) Sarcomatous degeneration of the fibroid from a woman aged 62. (3) Carcinomatous invasion of a fibroid. (4) Cystic degeneration in the line of the capsule of a fibroid. Dr. Cameron considered that this change, by interfering with the blood supply, led to calcification, and that the latter change was more common in broad ligament tumors. (5) Chronic twisting of pedicle in fibroid, leading to peripheral calcification and central liquefaction of the tumor. (6) Sections of the lower pole of a fibroid polypus, showing stratified squanous epithelium in place of columnar. (7) Telangiectatic change. (8) Adenomyoma in the uterus. This growth differed from a fibroid in having no capsule. (9) Malignant and cystic degeneration of an adenomyoma.

**High Limit of Pulse and Temperature Throughout the Normal Puerperium.**—Dr. Hastings Tweedy of the Rotunda Hospital, Dublin, read a paper with this title. He said that success in obstetric practice was more accurately gauged by morbidity than by mortality; even in the pre-antiseptic days the mortality was not always heavy. Thus in the report of the Rotunda Hospital for the year 1766 there were only three deaths among 611 women delivered; in the year 1877 the percentage of morbidity was 50; last year it amounted only to 3. He asked what were the physical indications of puerperal morbidity. Some time ago an elevation of temperature to 100-4 degrees was fixed as a limit. He found the pulse a more reliable guide, and that a very brief pyresia even much higher than this may mean nothing. He would fix the standard of normal recovery as a pulse of 90 and a temperature of 99 degrees Fahrenheit, and any rise above this should be investigated, though he would not consider it important unless the temperature and pulse remained above normal for at least twenty-four hours.

Dr. Byers of Belfast drew attention to the fallaciousness of thermometers and the importance of comparing pulse with temperature.

Dr. Corby of Cork laid stress on the importance of the patient sitting up in bed during the puerperium to suckle and for the purposes of defecation and micturition.

Dr. Buist of Dundee said that bacteriological investigations at his hospital had shown that there might be septic infection without rise of pulse and temperature.

Dr. R. Boxall of London said that the registrar's returns showed that there were as many deaths now from puerperal fever as there were in the past.

**A Standard of Puerperal Health.**—It was proposed by Dr. Buist, seconded by Prof. Byers, and resolved, *nem. con.*, "that it is desirable that a standard of puerperal morbidity should be arranged for lying-in hospitals, and that the Council be requested to appoint a sub-committee to consider the matter."

**Treatment of Cervical Cancer in the Last Two Months of Pregnancy, with Especial Reference to Vaginal Cesarean Section.**—Dr. Thomas Wilson of Birmingham read a paper on this subject. In the last two months the uterus with its contents was so large, he said, that until recently it had been considered impossible to remove it through the vagina, but Dührssen's method had cleared away this difficulty, and it was now possible to operate through the vagina even at the full term of pregnancy. In the last months of pregnancy in association with operable cancer of the cervix there was now therefore a choice of three methods of hysterectomy, viz., abdominal, vaginal, and combined. The relative advantages of these methods were discussed, and reasons given for preferring the vaginal route. Two cases were related in which operation was done at the eighth month successfully as regards both mothers and children. The uterus was incised in the mid-anterior line after separating the bladder; then forceps was applied and the child delivered, and afterwards the uterus was removed. The broad ligament was clamped by two pairs of forceps, which were left on for forty-eight hours. In conclusion, the author pointed out that the choice of operation in pregnancy would depend upon the method generally adopted by the operator in cases of cervical cancer. Even in the last months the operation of vaginal cesarean section was not a difficult one in suitable cases. The ultimate choice of operation in these cases would depend upon the remote results as regards recurrence of cancer, and until time had enabled these to be estimated and compared, the question of the best method of operating, whether by the abdominal or the vaginal route, must remain an open one.

Prof. Wertheim of Vienna said that he had operated six times for cancer complicating pregnancy—in one case at full term, in another at six months, and in the remaining four in the first three months. All the operations were done by the extensive abdominal method, and so far there had been only one case of recurrence; one case was done five years ago and another four years.

Prof. Spencer, the president of the Section, said that of all the cases in which the cancer was removed at the time of labor, only five were known in which there was not recurrence. The cancerous cervix dilated in a remarkable way if the whole circumference was not involved, and he advised delivery per vias naturales when possible, with operation later in the puerperium.

**The Influence of the Presence of Pus in the Female Urethra on the Prognosis in Obstetrical and Gynecological Cases.**—Dr. John Campbell of Belfast read a paper with this title. He said that this was especially important in pregnant women, for the pus was often of a very virulent character. The examination for pus would explain many obscure cases of puerperal septicemia. He had examined from this point of view 544 cases in private practice, and had found pus in the urethra or Skene's glands in 24 per cent.; in hospital practice the frequency was 29.4 per cent. In 120 parturient women he had found pus in the urethra in 18. Bacteriological examination was made in 100 cases,

with the following results: Mixed infection, mainly staphylococci, 96 per cent.; streptococcal infection, 6 per cent.; gonococcal infection, 2 per cent. The pus was squeezed out of the urethra after careful cleaning of the external parts. He strongly urged that every gynacological patient and every pregnant woman should be examined for pus in the urethra. Perchloride of mercury was the best solution for douching in these cases.

Dr. THOMAS WILSON of Birmingham said that the absence of gonococci was not a proof that the discharge was not gonorrheal in the first instance, as it was well known that the gonococci would die out, leaving the field in the possession of the other pus-producing bacteria.

Dr. BOXALL of London said that in order to avoid autoinfection from this cause at the British Lying-in Hospital, a douche of perchloride, 1-12000, was always given before, and sometimes after, labor.

Dr. CORBY of Cork read a paper on "Case of Fibroid of Ovary from an Hermaphrodite," the specimen being shown.

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SECTION OF SURGERY.

*First Day—Wednesday, July 26.*

**Surgical Treatment of Non-Malignant Diseases of the Stomach.**—B. G. A. MOYNIHAN opened this discussion. He said that operation was required in certain conditions, and amongst these was acute perforating ulcer. With regard to the diagnosis of these cases, it would almost always be found upon inquiry that there was a long history of dyspepsia, and that it had been getting worse lately, so that it was not an acute ulcer that perforated, but a chronic ulcer; and the fact that there was an increase of the symptoms before perforation gave due warning in most cases of what might happen. With regard to lavage of the peritoneal cavity in these cases, it was not necessary in the cases operated on early; but in the later cases, where the general cavity was involved, it was, for then general peritonitis existed, and must be dealt with. Operation again was necessary in certain cases of hematemesis, notably in those in which there was recurrent hemorrhage of severe amount; and he would like to point out that in cases where hematemesis occurred there was usually a preceding warning, as in cases where perforation occurred, given by an increase of the symptoms. The multiplicity of ulcers of the stomach was far commoner than was usually supposed, and at the operation the stomach and duodenum should be examined for a second ulcer.

The medical treatment of chronic gastric ulcer often failed, and perforation or hemorrhage occurred; it was therefore clear that surgical treatment was safer, for the mortality percentage in gastroenterostomy, which was the operation he advocated, was only 3 per cent., and even this low mortality was capable of reduction, whilst 80 per cent. were permanently cured. Further, it appeared that chronic ulcer led to cancer of the stomach, for in some 60 per cent. of cases of cancer of the stomach there was a definite and positive history of preceding ulcer. He then said a few words upon hourglass stomach, a condition which he considered was very commonly overlooked, even at the operation. On one occasion he had seen a trifid stomach. The point necessary was to examine the whole stomach as a routine practise.

Dr. SAUNDBY, who came to the surgical section at the invitation of the president of the section, Sir Charles Ball, to speak on the subject from the physician's point of view, said that it was admitted by the surgeons themselves that in cases of atonic dyspepsia and in cases of neurasthenia, operation was not only useless, but even harmful, therefore the most important thing of all was diagnosis; and these cases where gastric ulcer was supposed to exist should be seen by a physician and a surgeon together, acting in concert. Further, he considered that the vast majority of cases of gastric ulcer were curable by simple medical treatment, especially by proper dieting; and that a very small field in these cases was left for the surgeon; at the same time he was far from failing to recognize the very low mortality which operation gave in these cases.

With regard to operative interference in cases of hematemesis, he considered it usually unnecessary, for the hemorrhage was, as a rule, perfectly amenable to medical measures.

As for ulcer leading to cancer of the stomach, ulcer was very common, and cancer very rare. He saw an average of only about one case in a year. So that any deduction based upon this theory was liable to grave error; and he declined to admit that operation in chronic ulcer was desirable with a view to saving the patient from cancer at some future date.

Prof. HARTMANN of Paris devoted the greater part of his remarks to the method of performance of gastrojejunostomy in which he differed but little from most English surgeons; he, however, considered that great care should be bestowed upon obtaining an aseptic condition of the mouth for some days before the operation was performed, and advised the washing out of the stomach with boiled water in cases where troublesome vomiting occurred after the operation.

Dr. J. M. T. FINNEY of Baltimore described at some length the method of procedure which he adopts in his operation of gastroduodenostromy. The most important point was the proper freeing of the pylorus and first part of the duodenum—the so-called *mobilisation* of the duodenum. He illustrated his method by diagrams. He had operated in 25 cases by this method, with only 3 unfavorable results. He showed drawings of cancer starting in the base of a hypertrophic ulcer of the stomach, which he believed to be the earliest stage yet recorded; and he considered that there was no doubt that cancer of the stomach did frequently start in these old chronic ulcers.

Dr. C. MANSELL MOULLIN said that an exploratory operation was justifiable in doubtful cases in which the disease failed to respond to medical treatment, and that a patient ought not to be left until he was in a hopelessly emaciated and weakened condition before operation was undertaken. In perforation by a gastric ulcer, operation must of course be undertaken. He had operated in 115 gastric cases of all kinds during the last five years; in many cases the patient's condition was so grave that he had operated only as a forlorn hope, but when a fatal result was inevitable without operation, it was clearly justifiable. In fact, it was only in three cases that he had refused to operate, on the score that the patient was too ill, and in all three the patient had died in 24 hours. In cases of hematemesis due to erosions and acute ulcer, the mortality was only 3 per cent. if no operation were performed; and he did not consider it necessary or advisable to operate unless the hemorrhage was very severe. In chronic ulcer, however, the mortality in cases of hematemesis was 16 or 18 per cent. or even higher, and he considered that an operation should be performed if one severe or two moderate hemorrhages occurred. It was not difficult to distinguish between the hemorrhage due to erosion and that due to chronic gastric ulcer. In the former there was little or no antecedent history pointing to ulcer, whilst in the latter the history of chronic dyspepsia and vomiting showed clearly the presence of an ulcer previous to the hematemesis. The operation must be commenced by finding the bleeding point and dealing with it. Gastrojejunostomy was not sufficient alone, but should be performed in addition when the condition of the patient allowed it. Gastrojejunostomy was also indicated in gastric ulcer accompanied by great pain, which was always due to adhesions, which were dragged upon by peristalsis. This was at once cured by allowing the food to pass rapidly out of the stomach into the intestine, and this object was attained by a gastrojejunostomy with a very large opening made in the cardiac portion of the stomach, so that the food at once fell through into the intestine.

Dr. F. S. EVE said that last summer he operated in three or four cases of acute erosions in which there was an antecedent history indistinguishable from chronic ulcer, and this added to the difficulty of the cases. He quite agreed

that acute cases due to erosions should be operated upon as a rule, but that in chronic ulcer with repeated hemorrhages operation was desirable. He had operated upon several cases of enteroptosis, and had sutured the stomach to the abdominal parietes. These operations of gastropexy had been very successful.

Dr. W. Bruce Clark said that in cases of perforative ulcer it was necessary to wash out the peritoneal cavity by the ordinary method of lavage—he had had the fluid tested in 10 or 12 early cases, and it had always been sterile; it should be sponged out, but the peritoneum did not require to be extensively dealt with. In later cases, when general peritonitis existed, lavage by means of saline injections of 14 or 16 pints into the subcutaneous tissues was desirable—a considerable quantity of the fluid was quickly effused into the peritoneal cavity, and so flushed it. In all cases a drainage tube should be put into the peritoneal cavity, but numerous drainage tubes were unnecessary. With regard to dealing with the ulcer, it should, where possible, be infolded, but in one case he only employed one stitch, and in another, in which the ulcer was high up under the diaphragm, and adhesions were forming, he left it without stitching at all, and merely drained the peritoneal cavity by means of a drainage tube; both patients did well.

Mr. R. Morison regarded pyloroplasty as a better operation than gastrojejunostomy; the latter being too serious an interference with the anatomy and physiology of the viscera. Patients submitted to the former operation were more vigorous and in better health than those submitted to the latter. He predicted that gastrojejunatomy would fail to maintain the high position in surgical opinion which it now occupied. He based his remarks on 28 cases of pyroproplasty.

Dr. F. C. Wallis said that four months ago he performed gastrojejunostomy upon a woman of 93 years for chronic gastric ulcer and she was alive and in good health now. He did not think that so much saline solution as 14 or 16 pints should be injected subcutaneously for the purpose of combating shock and flushing the peritoneal cavity by the indirect method; 8 or 10 pints was sufficient, and saved the patient from the risk of an inquest, with the verdict "found drowned."

Dr. C. B. Keetley said that the drainage of the pelvis was the key to the situation in dealing with the peritoneal cavity in these cases of perforative gastric ulcer, and a suprapubic incision should be made for this purpose. He regarded ascepsis of the mouth as most important in all these cases of gastric trouble.

Dr. E. Deanesley said that gastrojejunostomy was a very successful operation; although as a rule the ulceration caused no obstruction to the outward passage of the food contents, he thought that it caused spasm of the pyloric portion of the stomach if situated in that part of the stomach and gastrojejunostomy relieved this.

Dr. L. A. Bidwell preferred the anterior method of gastrojejunostomy, because in the posterior method the opening of the stomach was so fixed, especially by the fastening of the stomach at this point to the mesocolon, that the greater curvature of the stomach sagged over it, and the opening in the stomach was no longer the most dependent point; the success of the operation depended chiefly upon the complete and efficient drainage of the stomach. In performing the anterior operation the opening upon the anterior wall should be placed as low as possible near the lowest point of the greater curvature of the stomach. Pyloroplasty and Finney's operation he regarded as bad for the same reason, namely, that the drainage of the stomach was not thorough, since the new opening was not at the most dependent part.

Dr. A. B. Mitchell said that in operating upon a perforating gastric ulcer excision was unnecessary, for the ulcer rapidly healed after the infolding. He considered that the operation of stitching should, when the patient's condition allowed it, be combined with gastrojejunostomy, which placed the stomach at rest.

Dr. Moynihan briefly replied. He regarded Finney's operation as a very valuable one, but he had stuck to gastrojejunostomy in order that he might learn its best methods and the most advantageous way of performing it and managing the case. He thanked Dr. Finney and M. Hartmann for their interesting remarks, and all those speakers who had taken part in the discussion. He regarded pyloroplasty as of little or no value, and considered that the statistics of the operation showed that it ought not to be performed. In performing gastrojejunostomy he preferred the posterior method to the anterior, as did most other surgeons.

**Some Further Experiments on the Sterilisation of the Skin.**—Dr. C. Leedham-Green read a paper with this title. He found antiseptics in alcohol more efficient than aqueous solutions. Of all those in general use which he had tested, he found an alcoholic solution of perchloride of mercury the most efficient.

Dr. Pearson considered biniodide of mercury in 75 per cent. alcohol, with 25 per cent. of sterilized water added, an exceedingly valuable solution for sterilizing the skin.

**Statistics of Gastrojejunostomy.**—Dr. Atkins gave tables of the after results in 20 cases of gastrojejunostomy. Four he had been unable to trace; of the remaining 16, all had been much benefited and able to return to their work. The time of operation ranged from four years ago to one year ago. He also reported a case of gangrenous appendicitis, in which the patient had succumbed to acetonemia three days after the first onset of symptoms. He advocated operation at the earliest possible moment in all cases of appendicitis.

(*To be continued.*)

## THE PRACTITIONERS' SOCIETY OF NEW YORK.

*One Hundred and Ninety-sixth Regular Meeting, May 5, 1905.*

The President, Dr. Charles Stedman Bull, in the Chair.

**Operations for Procidentia Uteri.**—By Dr. William M. Polk. (See page 285.)

Dr. Beverley Robinson asked Dr. Polk whether, in the operation he had described, the ovaries were left. In a case that came under his observation last year, where the uterus and its adnexa had been removed, the patient had certain neurotic manifestations that eventually disappeared entirely.

Dr. Andrew H. Smith called attention to the fact that the conservative measures recommended in gynecological work at the present time were widely at variance with the very radical operation advocated a decade ago—the so-called normal ovariotomy, which consisted in removing the ovaries and leaving the uterus.

Dr. M. Allen Starr, in connection with Dr. Polk's paper, reported a case that had recently been referred to him by Dr. Henry Hun of Albany. The patient was a woman who had for a long time had a prolapse of the uterus, with cystitis and a considerable degree of incontinence of urine. In the course of time she developed a very peculiar gait, consisting of a short, rapid step, with irregular balancing movements and an overlapping of the knees, which had led two neurologists to make a diagnosis of spastic paraplegia, or lateral sclerosis. Dr. Hun did not concur in that diagnosis, and thought the peculiar gait was the result of the continual efforts made by the woman to keep her uterus from falling down. When Dr. Starr examined her, he found no evidence of organic disease. There was no anesthesia nor ankle clonus, and the gait was not truly spastic, although to a superficial observer it was rather suggestive of lateral sclerosis. Through her long-continued efforts to keep her uterus from coming down, the woman had developed this automatic or semivoluntary gait.

Dr. Polk, in reply to a question as to whether the operation he had described interfered with the function of the

bladder, said that, on the contrary, it rather aided it, and added to the efficiency of that organ. It was now an accepted notion to leave the ovaries in all cases of extirpation of the uterus, unless their condition imperatively demanded removal, on account of the influence of the ovarian secretion upon the nervous system. The speaker said he was not prepared to say how much good was accomplished by leaving the ovaries after removal of the uterus. He recalled one case, in an extremely nervous, hyperesthetic woman, whose symptoms, caused by a fibroma, were relieved by removing the uterus, leaving the ovaries; menopause symptoms were, however, intense, the presence of the ovaries seemingly being of no avail. The general rule, however, was to leave the ovaries if they were not diseased, but removal of the uterus largely robbed them of their circulation, and they would probably atrophy sooner or later. The same thing happened after vaginal hysterectomy for prolapsus uteri. The circulation was not restored, and atrophy of the ovaries occurred in the course of two or three years.

Dr. Polk said that during the ovariotomy craze, to which Dr. Andrew H. Smith had referred, gynecologists concluded to take the bull by the horns, and removed ovaries for the relief of various conditions which it was now known had no connection whatever with those organs. During that period hundreds of ovaries were no doubt uselessly removed, and very frequently the operation eventually left the woman a nervous wreck. The operation was frequently done for the relief of ovarian pains, particularly in young women, which it was now known were due to chronic endometritis, and which often readily yielded to curettage. It was even claimed by some that epileptic seizures could be relieved by removing the ovaries.

**A Case of Gonorrheal Arthritis and Endocarditis of Obscure Origin.**—Reported by Dr. A. Alexander Smith. The patient was a traveling salesman, 28 years old, who was admitted to Bellevue Hospital two weeks ago. The history obtained was that he had been on a drinking bout for the preceding fortnight, and during that time he began to suffer from pain in the right knee joint. The pain gradually became more severe, and when the patient entered the hospital the joint was swollen to about twice its natural size, and his temperature ranged between 102° and 103°. The case was regarded as one of single-joint rheumatism, and although a gonorrheal origin was suspected, there was no evidence of that disease, and the patient absolutely denied a gonorrheal infection. Forty-eight hours after his admission he developed an acute endocarditis, and within two days later an acute pericarditis. On admission the leucocyte count was 17,000; forty-eight hours later it was 21,000. The knee-joint was aspirated and found to contain pus. This was submitted to Drs. E. K. Dunham and Henry S. Norris for bacteriological examination, and both reported that it contained pure cultures of gonococci. The blood was also repeatedly examined, with similar results. In spite of this, the patient still denied that he had ever had a gonorrheal infection. His urethra was absolutely clear, and no gonococci were found in the urine.

Dr. E. G. Janeway said that in one of the children's hospitals in the city there had recently been reported a number of cases of gonorrheal endocarditis and other gonorrheal affections, in which the usual primary source of the disease was absolutely excluded.

Dr. Polk said that among children the disease could be easily disseminated by nurses and attendants, but this explanation would hardly be satisfactory in the case of adults.

Dr. A. Alexander Smith, in closing, said that as the man had been on a spree for several weeks, he might possibly have become infected without recollecting it, but, if so, he showed no evidences of it outside of the joint and heart affection. The symptoms of arthritis came on before any instrument had been introduced into his urethra.

**Joint Affections in Cerebrospinal Meningitis.**—Dr. Beverly Robinson said he had recently made an effort to have the value of salicin tested in the treatment of cerebrospinal meningitis, in which he had made the claim that it might be a useful remedy. Thus far the number of cases in which he had seen it employed were too limited to permit him to speak authoritatively on the subject. He inquired whether any of the members had met with cases of cerebrospinal meningitis complicated by joint affections. Two such cases had come under his observation.

Dr. George L. Peabody said he had seen only one case during the past winter in which there was any conspicuous joint involvement. In that instance the right knee joint was much swollen and very tender, and contained a great deal of fluid. It was not reddened. The patient, who was a boy of twelve years, recovered from his cerebrospinal meningitis, and the joint improved after a few days' application of cold compresses, and without the use of salicylates. Dr. Peabody said he had seen two cases—one during the present epidemic and the other a year ago—that had been diagnosticated as cerebrospinal meningitis, chiefly because of the headache and the rigidity of the neck, which proved to be cases of rheumatism, and the symptoms disappeared promptly under the use of the salicylates. The speaker said he had never tried salicin in cerebrospinal meningitis.

Dr. Robinson said he was convinced that salicin was a more efficacious remedy in the treatment of rheumatic affections than either sodium or ammonium salicylate, and it possessed the further advantage that it did not give rise to either head or heart symptoms.

Dr W. Gilman Thompson said there was a notable absence of joint symptoms in the adult cases of cerebrospinal meningitis observed during the present epidemic. There was also a notable absence of eruptions. It was therefore interesting that Dr. Holt had reported a number of cases of joint affections in the disease in children.

## THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

*Stated Meeting, May 8, 1905.*

The President, Dr. Thomas E. Satterthwaite in the Chair.

**Trachoma in Children.**—Dr. C. Cole Bradley read this paper in which he stated that trachoma in the children of New York City, and particularly in the school children, had occupied a prominent position in the public eye during the past two years, and had at last been recognized by the Board of Health as a decided enemy, to be fought as strenuously as the other contagious diseases of childhood. Two years ago, while the disease was not truly epidemic, it existed in a large and increasing proportion of the school children, and it was now a matter of history how ably the Board of Health met the situation. Hospitals were established for the treatment of the afflicted children, and a careful system of regular inspection was inaugurated. As a result of this supervision, the percentage of cases had been greatly reduced during the past two years. Trachoma might be defined as an inflammation of the conjunctiva, due to a specific organism, characterized by the development of hypertrophic areas, and followed by the formation of cicatricial tissue, with its consequent contraction. There was little doubt that it was caused by a specific organism, which had yet to be demonstrated. In this city, the male sex was more subject to the disease than the female. It was met with in two forms, acute and chronic. At first there were often no symptoms other than slight discharge in the morning; in other cases there was lacrymation, burning and itching of the lids, and sometimes sensitiveness to light. In the acute form the symptoms were very similar to those of a purulent ophthalmia. If the disease was unchecked, there was contraction of the palpebral slit, due to thickening of the upper lids, followed by the slow formation of cicatricial tissue, with its consequent contraction. The form seen daily in the children of New York was the soft follicular trachoma, and hence the difficulty of differen-

tiating between follicular conjunctivitis and trachoma. Some had claimed that the school children were suffering from an epidemic of follicular conjunctivitis rather than from trachoma, and had intimated that the strenuous efforts of the Board of Health were rather far-fetched and possibly unnecessary. In speaking of his treatment of trachoma, Dr. Bradley summarized it as follows: (1) The general use of sulphate of copper was not altogether harmless. (2) The use of a 1 per cent. solution of bichloride of mercury was harmless, and was equally as good in its curative results as sulphate of copper. (3) Copper citrate was apparently harmless, and devoid of the objectionable features of copper sulphate. (4) General anesthesia was unnecessary in the operation of expression. Cocaine hydrochlorate, in solid form, answered every requirement, and obviated the necessity of a hurried operation, with its frequent extensive laceration of lid tissue.

**Eczematous Affections of the Eyes of Children.**—Dr. John E. Weeks presented this paper. He stated that eczematous affections of the eyes of children were met with at any age after the first few months of life. The form was "moist" eczema. It affected the eyelids, the conjunctiva, and the cornea. It was found most frequently in children whose hygienic surroundings were poor, and in those who had been permitted to eat indiscriminately. The robust, as well as the poorly nourished might be affected. Children of the poor were more frequently attacked, but those of the wealthy were not exempt. In regard to the etiology of eczema of the eye, two factors were involved; one, a predisposition on the part of the tissue, or rather a susceptibility, which permitted the active factor to produce the specific disturbance; the other, the exciting cause, which appeared to be the staphylococcus pyogenes aureus, which found its way beneath the epithelium of the lid, conjunctiva, or cornea, and produced the elevations peculiar to the early stage of the disease. The symptoms of eczema of the lids were those of irritation occasioned by the development of the nodules and denuded areas. The treatment of the condition was both constitutional and local. The former consisted in correcting the diet and improving the environment of the individual, particularly in regard to hygienic conditions. Calomel, in small, frequently repeated doses (one-tenth of a grain, three or four times daily), continued for from two to four weeks, often produced excellent results. Care should be taken to avoid mercurialism. The local treatment consisted in freeing the lids of crusts by means of bland alkaline solutions, and applying to the surface a protective ointment, which might consist of the yellow oxide of mercury in the strength of one and a half to two per cent. Many of the cases did extremely well if calomel, in a thin layer, was dusted on the affected area after the crusts had been removed and the surface gently dried. When calomel was used in this way, the iodides should not be given internally. In eczema of the cornea, with involvement of the iris, atropine, in the strength of one per cent., might be instilled sufficiently often to keep the pupil dilated. The possibility of a recurrence should not be lost sight of, and preventive measures should be employed.

Dr. Francis Valk said he was inclined to take a more optimistic view of trachoma than did Dr. Bradley. From a clinical standpoint, these cases could be separated into two types, first, that known as "school trachoma," of follicular conjunctivitis, which he looked upon as rather benign in character, yielding readily to treatment, and rarely invading the ocular portion of the eye. The second form was the true glandular disease of the conjunctiva, which was very intractable, if not incurable. The speaker said he had never seen a case of true trachoma that he considered really cured, and it was this pernicious form of the affection that frequently led to pannus, entropion, and other disastrous sequelæ. In operating for trachoma, Dr. Valk said he preferred to do thorough expression under ether in preference to a local anesthetic. In order to prevent subsequent adhesions of the lid to the conjunctiva, he permitted immediate use of the eye after the operation. The subsequent treatment consisted of applications of silver nitrate, five grains to the ounce, to which he added one-quarter part of the sweet spirit of nitre; this seemed to exert a remarkably good effect on the ocular conjunctiva.

Dr. Richard Kalish said that in speaking of the statistics and treatment of eye diseases, we should separate institutional cases from those seen in private practice. By some, the terms trachoma and purulent ophthalmia were employed almost synonymously, and this had created a great deal of misapprehension and confusion. As to the communicability of trachoma, Dr. Kalish said the consensus of opinion among those who had most carefully investigated the subject was that it was not simply a local disease, due to an infection from some outside organism, but a local manifestation of a constitutional diathesis. Trachoma was not essentially a contagious disease, and the position taken by the Board of Health, declaring it to be such, and spreading broadcast the impression that a contagious eye disease was epidemic in New York City, was unjustifiable.

Dr. Alexander Duane said that in the treatment of eczematous affections of the eye, as well as in conjunctivitis and keratitis, both the local and general treatment were very important. As a local application, he depended largely upon calomel, dusted into the eye freely every other day or oftener, and in addition to this, particularly when the infiltration was marked, he used hot moist compresses, wrung out in plain water or boric acid solution, and applied every two or three hours for five or ten minutes at a time. When the irritation was pronounced, with blepharospasm and photophobia, he used atropine. He had never had occasion to use cocaine, and deprecated its employment, particularly as a routine home measure by the patient. Later on, when the irritation had begun to subside, he prescribed the yellow oxide ointment, beginning with one per cent., and gradually increasing its strength as the ulcerations became more sluggish. In the bad cases that went on to the formation of confluent ulcers on the cornea, he applied iodine directly to the surface, either in the form of the tincture, or in the 10 per cent. vasogen solution. Internally he favored small, repeated doses of calomel, continued for weeks or even months. If there was anemia, he gave the syrup of the iodide of iron, but the iodides should always be withheld when calomel was used locally. Proper dietetic and hygienic measures were also of the utmost importance.

Dr. John C. Lester favored the operative treatment of trachoma, and said he did not believe the disease could ever be eradicated by local applications of strong bichloride solution or similar remedies, which not infrequently gave rise to traumatic ulceration, entropion, etc. He thought the best treatment was by expression, squeezing out all the follicles, and then making one or two applications of a strong bichloride solution, followed by some antiseptic. In eczematous affections of the eye the hygienic and constitutional treatment should be instituted first, and the local treatment afterwards.

Dr. Silas F. Hallock said that in the treatment of follicular conjunctivitis and the milder forms of trachoma he had found a strong solution of tannin and glycerin very serviceable. True trachoma was usually very intractable, and expression was necessary, preferably under ether.

Dr. Charles W. Stevens said that certain races seemed to be immune from trachoma, and it was a curious fact that it was common among all races that had the mesocephalic type of skull, while among the brachycephalic and dolichocephalic types it was practically unknown, excepting as sporadic cases. This fact might have some bearing on the etiology of trachoma, as the type of skull had an important bearing on the axis of vision.

Dr. H. Davidson Saril thought that trachoma was increasing rather than decreasing in New York—at any rate, outside of the schools. The affection might involve the lower lid, or the upper, or both. He considered it intensely contagious. The best treatment was by expression, which should be done under a general anesthetic in young children;

under cocaine in adults. The question as to the identity of follicular conjunctivitis and trachoma was still *sub judice*, and there were certain borderline cases in which it was very difficult to differentiate between the two.

**Symptomatology of Acute Otitis in Children.**—Dr. Charles Gilmore Kerley presented this paper. He stated that acute otitis in the young was probably more frequently overlooked by the practitioner than was any other disease of children. This was through no fault of the physician, but because of the indefinite manifestations of the condition, and the faulty teachings as to its symptomatology. In most of the text-books on otology, pain was given as the most significant symptom of acute otitis, and was manifested in the very young by tossing the head from side to side, head-rolling, ear-tugging, crying out during sleep, pain upon manipulation of the ear—in fact, we had been taught that the most important and reliable symptom was some manifestation of pain located in the ear or in the adjacent structures. Dr. Kerley said that in 72 cases that had come under his observation, one symptom, and only one, was present in all, and that symptom was an elevation of the temperature above the normal. Every one of the children had fever. In those cases in which the otitis followed, but was not immediately associated with any preceding disease, which was the case in the majority, the temperature range showed no special characteristics. In some there was a morning drop and an evening rise. With but few exceptions, the otitis developed during the convalescence of an acute process elsewhere, and the ear involvement was suspected because of a persistent elevation of the temperature, for which no other cause could be discovered. In fifty of the cases, or 69 per cent., there was an absence of pain. In concluding, Dr. Kerley emphasized the fact that no examination of a sick child should be regarded as complete without a thorough investigation of the condition of the middle ear.

**Operative Interference in Diseases of the Ear in Children and Its Limitations.**—Dr. Arthur B. Duel presented this communication. He stated that in treating infants with aural disease, the attitude of the surgeon should be entirely different from that assumed toward an adult with a similar difficulty. From a diagnostic point of view one was dealing, in the case of an infant, with a lesion which was situated in a position that had entirely different anatomical relations. There was one large bony cell, the tympanum, connected by a wide passage (the aditus) with another bony cell, the antrum, lying, at this age, directly under the cortex, behind and above the tympanum, a position favorable for drainage. Dehiscences might exist in the tympanic and aural roofs, and one was certain to exist, namely, the Rivinian segment, which was so patent that pus, under pressure, often escaped to form a postauricular abscess before the drum was ruptured. In the recognition of ear trouble in infants, one had to go entirely on objective symptoms, and in the young child, peevish from pain or fear, statements regarding tenderness had to be discounted. Otitis was seldom present in infants or small children, excepting when complicated by adenoid vegetations in the nasopharynx, and usually by hypertrophied faucial tonsils as well. It was a frequent accompaniment of the acute exanthemata, whooping-cough, grippe, etc., and for that reason cases in which temperature alone could be looked upon as a sufficient cause for the mastoid operation were extremely rare. In every case of acute suppuration of the middle ear in infants and children, Dr. Duel said he would insist upon a very free incision of the drum membrane at the earliest moment, to insure the best drainage possible from the tympanum. If the lesion had appeared as a complication of pneumonia, the acute exanthemata, or some other affection which had seriously impaired the vitality of the patient, the operation, though very painful, should be performed without an anesthetic rather than to subject the patient to still further risk. When the child was strong and vigorous, and the local trouble was the only one manifest, humanity and thoroughness would suggest an anesthetic. When adenoids were present, the speaker said he had a growing conviction that they should be removed at the time of the paracentesis, provided the child was fairly vigorous, and was not suffering from serious concomitant disease. Otherwise, they should be removed as early as the general condition of the patient would permit. In regard to the indications for a mastoid operation, Dr. Duel said that on account of the anatomical relations in young infants, he would not operate on such patients if the subjective symptoms were the only ones to depend upon, excepting on the appearance of a postauricular abscess, unless symptoms of an alarming character, suggesting the involvement of the sinus or meninges appeared. In older children, however, where the cells beyond the antrum had begun to develop, and the involvement of which by a suppurative process meant that the sinus was in constant danger of infection, and where the danger to the patient was not so great from the operation itself, he was inclined to operate earlier. Up to five years of age, subperiosteal abscess often occurred early in the involvement of the mastoid; after five years it seldom occurred early.

Dr. James F. McKernon said he agreed with Dr. Kerley that a rise of temperature was one of the most important, and, in fact, often the only symptom of acute otitis in children, and it was especially significant of middle ear trouble when it remained elevated after convalescence from one of the acute exanthemata or other disease had set in. Pain, on the contrary, was a comparatively rare symptom of the condition in young children. After five years of age, pain became a more prominent symptom, but younger children rarely complained of pain in the affected ear, or showed any reliable manifestations pointing to it. In that class of patients, too, it was very difficult to determine whether the mastoid structure was involved simply from the standpoint of percussion and pressure. A more valuable guide in young children was an inspection of the walls of the external and middle ear canal. If the canal walls were more or less swollen, and its cavity quickly refilled with pus after careful cleansing, mastoid involvement should be strongly suspected. Dr. McKernon said he had never removed adenoids at the time of doing a paracentesis, and would probably hesitate to do so, although he saw no objection to it in an otherwise healthy child. Neither did he see any objection to the use of a general anesthetic unless there was a complicating respiratory condition.

Dr. Herman Jarecky said the satisfactory examination of the ear in young infants was not a simple matter. In operating on these cases, the speaker said he preferred ethyl chloride, used as a general anesthetic and applied with an ordinary mask; it was entirely effective, and he had found it simple and safe. He had never removed adenoids at the time of doing a paracentesis, and would prefer not to combine the two operations. Opening the ear drum in young children should be done early, as inflammatory processes extended very rapidly in these patients.

Dr. John Broadfoot Rae said he thought pain was a very constant accompaniment of acute otitis in children, but its evidences were easily overlooked. Often it was manifested by restlessness, or handling the affected ear would cause the child to wince. The speaker said he had never removed adenoids at the time of doing the ear operation, but he would not hesitate to do so in proper cases. A better time to remove them, however, was before the paracentesis was indicated. It might then serve as a prophylactic measure, and the local blood-letting might abort the attack. Postauricular swelling was an early symptom of mastoid involvement in young children, and one of great value.

Dr. Philip D. Kerrison said that at the Willard Parker Hospital over 300 cases of acute otitis were treated last year. The temperature seemed to be the most important symptom, and in many of them the only one. In a certain number of cases, however, there was no rise of temperature whatever. Of 648 cases of otitis observed between

1900 and 1904, 108 were cases of chronic suppurative otitis, and of that number 38 were in children under ten years of age. Of the adult cases, 36 gave a definite, reliable history of a chronic, persistent ear discharge which dated back to childhood. Thus 74 out of 108 originated in early childhood. These figures illustrated the frequency with which chronic otitis media, the most dangerous lesion of the middle ear, originated in early childhood, and the responsibility rested with the general practitioner and the otologist not only to cure the acute condition in children, but to prevent it from becoming chronic. Inasmuch as adenoids kept up the inflammation in the ear, it was a very sensible thing to remove them at the same time.

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### Pathological Society of Philadelphia.

At a stated meeting held May 11, Dr. W. E. Robertson exhibited a specimen of "Disseminated Carcinomatosis," presenting clinically symptoms of pulmonary tuberculosis. After death the adrenal glands were found the seat of the primary lesion, while innumerable metastases were present in many organs. An infected gland had ulcerated into the trachea and the right lung was the seat of extensive invasion. Dr. Robertson exhibited also the lungs from a case of pulmonary tuberculosis. The one lung was almost entirely replaced by an enormous cavity, while the other was infiltrated and contained smaller cavities. Dr. W. T. Longcope read a paper entitled "Tuberculosis of the Thoracic Duct." He presented an analysis of 26 cases of the disorder and discussed the mode of origin, the symptoms, and the sequels. Drs. L. Pearson and S. H. Gilliland presented a communication entitled "Additional Experiments upon the Immunization of Cattle Against Tuberculosis." It was found that the immunity conferred by vaccination with tubercle-bacilli of gradually increasing virulence was the greater the more frequently and the more recently the inoculations were made and the shorter the intervals between them. Dr. R. C. Rosenberger read a paper on "A Study of the Mesenteric Glands Especially in Relation to Tuberculosis." The observations were made in cases of typhoid fever and of tuberculosis. Dr. H. R. Alberger presented a specimen of "Anthracosis of the Liver in Pulmonary Tuberculosis." The condition is exceedingly rare. Dr. Russell exhibited a specimen of melanosarcoma of the brain and lungs. The patient had had a melanotic sarcoma of the eye removed five years before death, and during his last illness had presented symptoms of tumor of the brain.

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At a stated meeting held May 25, Drs. J. M. Anders and A. C. Callahan reported "A Case of Bilharzia Hematobium," and they demonstrated microscopic slides showing ova of the parasite. The life-story and the mode of dissemination of the parasite were described, together with the morbid anatomy and clinical phenomena to which its presence in the human body gives rise. In the case in question the ova were found in the centrifugated urine, which contained blood, and also in blood-clots discharged from the urethra. Dr. J. Funke presented a communication entitled "Thrombosis of the Superior Mesenteric Artery with Intestinal Perforation and Hemorrhage." He exhibited an illustrative specimen obtained from a patient who during life presented symptoms of intestinal obstruction, with the development of fatal peritonitis. On post-mortem examination there was found, in addition to the occlusion of the artery, a putrid peritonitis resulting from perforation of an ulcer of the ileum about one meter from the ileocecal valve. A second ulcer was present in the ileum, but this had not perforated. Dr. Funke discussed the etiology and symptomatology of the disorder. Valvular disease of the heart and atheroma of the vessels are the commonest causes. Infectious disease in the pelvis may give rise to venous thrombosis. The symptoms are generally those of intestinal obstruction with pain in the umbilical region, vomiting, and bloody stools. Dr. A. J. Smith presented a communication entitled "Hypertrophy of the Thyroid Gland in a Case of Hypotonia." The specimens came from a child 22 months old, presenting the rare condition of congenital myatonia, the muscles generally being enfeebled and flaccid during life, and after death exhibiting hyaloid degeneration. In addition the thymus gland was persistent and enlarged and it exhibited hyperplasia of the interstitial fibrous tissue and increase in number and enlargement in size of Hassall's corpuscles. Drs. J. F. Schamberg and R. Hirschler presented a communication entitled "Epithelioma of the Forehead Having Its Origin in a Papillary Nevus." The patient was a young man who had had a linear papillary nevus on the forehead since birth, and which exhibited increase in size and a tendency to ulcerate following irritative traumatism. A portion of the growth was removed and on histological examination was found to be epitheliomatous, the new process apparently originating from a hair-follicle. Dr. H. S. Wieder read a paper entitled "Intrahepatic Gall-bladder." He presented a specimen illustrative of this condition obtained from an infant and he referred to the few descriptions of the like anomaly recorded in the literature. The liver also presented abnormal fissuration. The gall-bladder was not entirely enclosed by liver-tissue, but a portion was exposed.

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At a stated meeting held June 8, Drs. J. D. Steele and W. R. Butt presented a communication entitled "The Tests for Occult Blood in the Feces." He pointed out the value of these tests in the recognition of various conditions attended with the escape of even small amounts of blood into the gastrointestinal tract not appreciable macroscopically. In the application of the tests it is to be borne in mind that the presence of meat in the diet, the administration of beef-juice, injury from the employment of enemata, the existence of hemorrhoids, must be excluded as possible sources of the blood. The most available tests consist in the extraction of the feces first with ether and then with acetic acid and ether, and the addition of an ethereal extract of aloin in the one instance and of an alcoholic solution of guaiac in the other instance. In the presence of blood the addition of hydrogen dioxide will develop a red color under the conditions first named, and the addition of old oil of turpentine a bluish tinge under the conditions second named. The tests are exceedingly delicate. Drs. D. L. Edsall and C. A. Fife presented a communication entitled "The Influence of *X*-Ray on Metabolism in Gout." Led by the success attending the employment of the *x*-rays in the treatment of some cases of leukemia and the profound increase in metabolic activity exhibited under such conditions, they were led to employ the same agent in the treatment of two marked cases of gout. The result was that no apparent influence was exerted upon the clinical course of the disease and likewise none on the metabolic activity. Dr. D. L. Edsall presented a communication entitled "Milky Non-Fatty Effusion in Hodgkin's Disease." He reported the case of a child presenting multiple glandular enlargement, with the histological features of Hodgkin's disease. General dropsy developed and the fluid effused into the pleural cavity on one side was found to be milky. Physical and chemical examination of this fluid showed that it contained only a small amount of fat and led to the belief that the turbidity was due to globulins. Dr. W. E. Robertson exhibited the specimens from this case. The retroperitoneal and mediastinal glands were enlarged and they contained three types of giant-cells. The spleen was enlarged and contained numerous accumulations suggestive of abscesses. Dr. G. P. Muller exhibited a specimen of "Cystic Sarcoma of a Metatarsal Bone." The condition is a rare one and is important clinically from the fact that it is relatively non-malignant and accordingly requires less radical surgical treatment than otherwise. Dr. David Riesman presented "Specimens from a Case of Hemorrhagic Infiltration of the Kidneys in the Newborn." There had been no difficulty at birth, but on the third day suppression of urine set in and death took place amid convulsions on the fifth day. Both

kidneys and one lung were found infiltrated with blood. Dr. Riesman had noted like lesions in a few other cases. Similar conditions have been described by other observers and they have been attributed to traumatism resulting from pressure, torsion, and traction in the act of parturition, but Dr. Riesman was inclined to consider the affection a morbid entity, perhaps dependent upon an infective agent.

## Therapeutic Hints.

**Inspissated Cerumen.—**

℞ Sodii bicarb. ..... 1.00
Acidi carbolic ..... 0.60
Glycerin .....
Aquæ .....āā 15.00

Sig. Twenty drops instilled into the meatus, several times before syringing, to soften the wax.—*Medical Review of Reviews.*

**Acute Dysentery.**—R. J. Windle recommends the following combination:

No. 1.

℞ Chloral hydrat ..... gr. xx-xxx.
Liq. opii. sed. ..... ɱxx.
Aq. ad. ..... 5i.
Syrup. aurant ..... 5ii.

No. 2.

℞ Pulv. ipecac. ..... gr. xx-xxx.
Aq. chloroformi ..... 5i.
Mucilag. tragacanth. ..... q. s.

No. 1 draught is given, and usually takes effect in from ten to fifteen minutes. When the patient is just asleep he is sufficiently aroused to take No. 2. It must be shaken up in a phial and poured out just before being taken. In many cases the patient will, after this treatment, sleep from three to six hours, and wake without experiencing any inconvenience. In some cases the ipecacuanha does produce sickness in spite of the chloral draft, but in these the author has not been known it to come on in less than one and a half hours, and in no case did the vomit contain ipecacuanha, showing that it had already been absorbed—*Journal of the Royal Army Medical Corps.*

**Warts.—**

℞ Sulphur. sub. ..... 5v
Ac. acet. glac. ..... 5iiss.
Glycerin ..... 5ii.

M. Sig. Apply the paste to the warts on small pieces of linen or spread with a brush at night. Wash off the next morning. Repeat till the wart drops off.—*The Surgical Clinic.*

**Bubonic Plague.**—The following is recommended by Nascarenhas:

℞ Pot. iodid. ..... gr. clxxx.
Pot. chlorat. ..... gr. clxxx.

Put into a bottle and shake for about five minutes, then add three ounces of pure hydrochloric acid and keep in a cool place for ten days. Then throw away the mother liquor, weigh the crystals, and dissolve in twenty times their weight of water. Dose for plague patients, 15 to 40 minims four to six times a day. For ordinary fever, 10 to 20 minims four times a day, and as a preventive 5 to 15 minims once a day. Of 127 cases treated with this solution, 61 recovered. It must be remembered that the solution is depressant and heart stimulants must be added when needed.—*Indian Medical Record.*

**Cold in the Head.**—Ten grains of sodium salicylate are given every four hours for six or eight doses, and a grain of calomel at bedtime the first night after the onset of symptoms. Meat and meat soups should be abstained from. The following lotion is used to irrigate the nares:

℞ Acid salicyl. ..... gr. ii.
Acid boric. ..... gr. xx.
Thymol. ..... gr. ii.
Ol. eucalypt. ..... ɱv.
Spts. vini rect. ..... 5ii.
Glycerin ..... ɱxxx.
Aquæ dest. ad. ..... 5i

Ft. lotio. Sig. The lotion to be mixed with two or three parts of tepid water and used with a glass nasal douche.—*Medical Times and Hospital Gazette.*

**Tonic After Pulmonary Ailments.—**

℞ Tinct. strophanthi.....
Quin. hydrobrom. ..... gr.ii.
Acid hydrobrom. dil..... ɱx.
Syr. aurantii ..... 5ss.
Aq. chlorof. ad. ..... 5i.

Sig. To be taken three times a day.

℞ Tinct. strophanthi ..... ɱv.
Tinct. nucis. vomic. ..... ɱv.
Syr. aromat. ..... 5ss.
Aq. dest. ad..... 5ss.

Sig To be taken three times a day.—*Beasley.*

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending August 12, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 178 | 9 |
| Diphtheria and Croup | 177 | 25 |
| Scarlet Fever | 37 | ..... |
| Smallpox | ..... | ..... |
| Chickenpox | 12 | ..... |
| Tuberculosis | 421 | 165 |
| Typhoid Fever | 254 | 26 |
| Cerebrospinal Meningitis | 26 | 19 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | ..... |
| Totals | 1105 | 244 |

**Some Symptoms of Cerebellar Tumors.**—J. Michell Clarke declares that affection of hearing often occurs in cases of cerebellar tumors because they exert pressure on the auditory tracts or nerves. It is either unilateral or is more marked on the side of the lesion. In some cases tinnitus aurium is associated with deafness. The writer, however, reports two cases in which absolute and complete deafness was accompanied by very distressing tinnitus aurium. It was on account of the deafness that advice was sought at first, for the deafness and tinnitus long preceded the pathognomonic symptoms of cerebellar tumor. Later, in one case, optic neuritis developed in one eye, and incoordination of movement showed itself in the other case. Until these symptoms appeared it would have been impossible to clinch the diagnosis. The writer points out the importance of bearing in mind the occurrence of deafness and tinnitus as occasional early signs of a cerebellar tumor. When a tumor grows in the corpora quadrigemina it may cause complete deafness. The average duration of all cerebellar tumors is two years. The cases here reported had a much longer duration, the first one being first seen by the writer in 1807, while death did not occur until 1904. The writer also refers to tremor as a symptom of cerebellar tumor, and reports a case in which this was a marked symptom. It resembled that of disseminate sclerosis.—*Friedel Medico-Chirurgical Journal.*

**Local Action of the Tuberculous Toxins.**—J. Auclair and P. Radiguer contend that the effect of tuberculosis is primarily a local one, the general effects being late and entirely secondary. When tuberculous cultures are injected under the skin of an animal there arises first an ulceration, then infection of the near, and later the deep lymphatic glands; if the injection was in the abdomen, infection follows of the omentum, of the liver, and the spleen, all local processes. The same takes place in the lungs, a local process that for long gives no marked symptoms. It is the same with the bones, and other forms of surgical tuberculosis: the patient's general condition is not at first affected, only after a considerable period are there general effects. We may go on to show the same facts with reference to the lungs, larynx, and other respiratory organs, whether the process be slow or rapid. The gravity of the case depends on the bacillus of Koch, acting by its toxins locally. Fibroid processes in phthisis should not be considered a form of healing; they go on not to repair, but to gradual destruction. The kidney may be the seat of this local poison; interstitial nephritis may result. As we progress in the knowledge of the tuberculous lesions the importance of the infection with its local intoxication increases. By its extension, the multiplication of its lesions, it goes on to destroy the organs of the body.—*La Bulletin Médical.*

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 9.
Whole No. 1816.

New York, August 26, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### ASTHMA.*

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It requires a degree of hardihood to appear before you with a paper on a subject so trite and yet so full of problems as asthma, but I am emboldened to the undertaking, first, by the circumstance that I have been especially requested to do so by the president of the society, and, second, by the fact that in the medical periodical literature of the day we rarely see articles on this subject. The study of asthma is of engrossing interest for the reason that nearly our entire knowledge of its nature and course is based upon clinical observation; the views, therefore, of different writers and observers are widely at variance and frequently seem to be in direct conflict.

It has no distinctive pathology; the lesions which actually cause the disease have not as yet been discovered, nor has bacteriology thus far shed any light upon it. In severe cases the patient seems to be on the verge of dissolution in the asthmatic paroxysm, yet, grave as the condition is, all authorities agree that death is extremely infrequent; therefore, very few autopsies on asthmatic patients are on record. We know that asthma is a disease characterized by attacks of paroxysmal dyspnea, occurring at all periods of life, from earliest infancy to old age; sometimes, in persons who apparently, to all intents and purposes, are perfectly healthy, and again, in such patients as are suffering from the results of cranial injuries, from neurasthenia, respiratory, cardiac, renal, gastrointestinal, skin, or uterine disorders, or from the diseases of metabolism,—rheumatism, gout, and allied disorders. Males are more frequently affected than females, in the proportion of three to one, approximately. Hyde Salter's statistics show that more cases originate between the first and tenth year, than during any other equal period of life; he has seen the disease in infants of 14 to 28 days, respectively. At this early period of life we must take care not to confound cases of thymic asthma (Koppii)—erroneously termed asthma—because due to a compression of the trachea by an enlarged thymus gland, nor with the rare cases of congenital laryngeal stridor, due to hypertrophied, redundant, and relaxed mucous membrane at the laryngeal entrance.

The dyspnea of asthma is characteristic. It is both inspiratory and expiratory, the duration of inspiration compared to expiration being as one to four. From the beginning of the attack, the patient's energies are directed to prolonging the inspiratory act, with the object of getting more air into his lungs; but the more laborious his efforts, the more futile they become, until finally, carbonic acid intoxication may become so deep as to paralyze or anesthetize the nerve centers governing respiration, and the attack comes to an end. This labored breathing may be attended by loud wheezing, due to the secretion of the bronchial mucous membrane, which is audible at a distance from the patient, or there may be an absence of moist sounds, and puerile breathing without râles may be heard over the whole chest on auscultation.

Now, what is the direct cause of this paroxysm of exaggerated dyspnea? Bronchial spasm causing an obstruction to the ingress and egress of air was the explanation advanced by Trousseau and later by Biermer—brought about by the contraction of the circular muscular fibers of the bronchial tubes—Reisseisen having demonstrated the presence of muscular fibers in the bronchioles and their contractility by galvanism.

Wintrich claimed later that spasm of the diaphragm was the sole cause of the asthmatic paroxysm, instancing its rigid position during the attack, its depressed position in clonic contraction, and also the contraction of the large abdominal muscles to a board-like hardness, and supported his theory with most convincing arguments.

Weber in 1872 advanced the theory that paresis of the vasomotor nerves supplying the bronchial mucous membrane is the real cause of the narrowing of the bronchial caliber—the blood vessels being deprived of the nerve supply which maintains their contractility, become so dilated that the mucous membrane is swollen, tumefied, somewhat edematous, slightly coated with a seromucous discharge as a result, and that thus an obstruction is offered to the passage of air during both inspiration and expiration. To account for the contraction of the bronchioles, Leyden, in 1871, published his article attributing it to a local irritation from peculiar crystals which he discovered in the sputum and which he claimed produced an exudative bronchiolitis. These crystals, now termed Leyden's crystals, are sharply pointed, octahedral; they have also been called Charcot's crystals; later, authorities claimed to be able to find them in any bronchial secretion which was stagnant for a length of time, as the result of fermentation. Later came the spirals of Curschman to explain the bronchial spasm. These again were proven to be of no direct import, as they were shown to represent simply plugs of fibrin from the finer bronchi, expelled by the expired air, to which a spiral or corkscrew motion is imparted by the ciliated epithelium of the air passages.

The theories which to-day are most generally accepted in explanation of the direct anatomical cause of the asthmatic paroxysm, are the bronchospastic, combined with the vasomotor paretic,

* Read before the Metropolitan Medical Society, April 25, 1905

these two factors being associated with spasm of the diaphragm from irritation of the roots of the phrenic nerve; the true basis of these conditions being that the respiratory and vasomotor centres are simultaneously affected by the causes to which I shall allude later. An important question to be considered at this point is, is asthma a disease *per se*, or is it a symptom? Authorities favoring either view could be cited. In order to reach a conclusion, let us consider its nature and etiology.

Experience has proven that the disease occurs principally in persons of a neurotic temperament, the predisposition being frequently hereditary. That the tendency to asthma, or to the asthmatic temperament, is often inborn, is proven by the fact that in some families it affects successive generations, and that in such families several children may be simultaneously afflicted. It has been noted by some of the older clinicians (Pridham and Aitken) that asthmatics possess great energy and ambition; that those in humble life are often possessed of intellectual gifts beyond their station, and excel in any calling they may be pleased to follow. The disease is said to occur comparatively more frequently among the upper than the lower classes. Asthmatics being possessed of this neuropathic temperament, are overanxious to accomplish things. They are pushing, enterprising, they spend more nerve force in accomplishing things than those whose nervous equilibrium is not so disturbed. The asthmatic, therefore, frequently achieves success where others fail, but, as stated, at the cost of his health. It is this circumstance perhaps which explains the claim of Soltmann that asthma occurs more frequently among Jews than among Christians, comparatively.

This excitable, high pressure, neuropathic temperament which is more frequently hereditary than acquired, forms the basis for the predisposition to the disease, and in some cases is, so far as is discoverable, its main cause. Many writers, basing their views upon the comparatively slight causes that can induce a paroxysm of asthma in those predisposed, state that pure asthma is a neurosis, analogous to urticaria, hyperidrosis, etc., and that the entire nervous system in asthmatics is so affected as to be beyond the control of the patient, that the will power becomes almost entirely abolished when any cause for the attack appears. Such is the condition which exists when the first cause for the asthmatic paroxysm manifests itself. The causes producing the first outbreak of the disease are to be sought in the bronchi, the nose, the upper parts of the respiratory tract, the gastrointestinal canal, the sexual or reproductive organs, the skin, etc., and will be found in irritations of peripheral nerve endings of the vagus or other nerves connected with it, which, conveyed to the centers in the medulla, there cause circulatory changes which, reflexly, through the motor fibers of the vagus and the sympathetic nerves bring about spastic contraction of the bronchioles and congestion of their mucous membrane, resulting in the asthmatic attack. The *essential* cause of the disease, that which constitutes the individual an asthmatic, is probably some organic lesion of the nerve centers of the medulla, but this has not yet been demonstrated. In children, the pressure of bronchial glands on the terminal filaments of the vagus may have an important bearing on the causation of the disease. Many cases are on record in which repeated attacks of bronchitis in the young, an attack of measles or whooping-cough, have resulted in producing the first asthmatic paroxysm.

In 1871 Voltolini published eleven cases of asthma which he claimed to have cured or relieved by the removal of nasal polypi. This publication marked an epoch in the literature and led to the belief that finally the real cause of asthma had been discovered. This hope was soon shattered. Well-known writers in Germany, England, France, and America, basing their conclusions on the apparent analogy between asthma and hay fever and upon their prolonged success in the treatment of asthma directed to the nose, unqualifiedly endorsed Voltolini's views, going even further than he in their enthusiasm for the new method (Hack, Schmiegelow, Heymann, Lublinski, Greville MacDonald, Bosworth). Bosworth, in 1886, after long and painstaking observations, went further than any other writer, in claiming that almost every case of asthma is due to nasal disease or deformity, and hence, that virtually every case is curable by removing the polyps, sawing off exostoses, straightening septal deformities, or treating hypertrophies or sinusoidal disease by appropriate methods.

The success of the treatment of the nose in the relief of asthma was explained by pointing out the important secretory function of the healthy nasal mucous membrane, the enormous extent of its surface, the turbinates being considered as bodies of coiled mucous membrane—which, besides removing dust and other foreign particles that act as irritants upon the bronchi from the inspired air, impregnate it with moisture or watery vapor to the extent of sixteen to twenty ounces per day. Again, the difficulty in breathing experienced by those suffering from obstructive nasal disease, lent the nose great importance as an etiological factor; and the writers named, when they published their brilliant results in the cure of asthma by the abolition of pathological nasal reflexes, through operative procedure or local treatment, undoubtedly believed that they had at last solved the vexed question of the real causation of asthma.

Before long, came the revulsion, and we find that Böcker states that in 360 cases of nasal polypi he found only 9 cases of asthma; Hering found 7 asthmatics in 200 cases of nasal disease. In view of such statistics, it was not to be believed that the nose is the seat of the main cause of the disease. Other writers, again, presented statistics to show that in a majority of cases of asthma no nasal disease could be found. Francis made the surprising statement that the removal of nasal polypi or other obstructions frequently aggravates the disease by enlarging the caliber of the nares, thus permitting more irritants to reach the bronhci. In 402 cases of asthma Francis found the nose normal in 346. But he made the further claim that better results in the cure of asthma are achieved in treating the nose, in which *no organic lesions* are present, by using the galvano-cautery on that portion of the nasal mucous membrane covering the upper portion of the triangular fibrocartilage of the septum, on the ground that this is the most sensitive area of the organ; this area is termed by Brügelman one of the asthmogenic areas of the nose. By this method Francis claims to have cured 60 per cent. out of 600 cases; to have obtained marked relief in 27 per cent., and in only 5 per cent. to have had no improvement.

Such opposing views did not tend to strengthen the hope that the vexed questions of etiology and treatment had been solved; it was at about that

time that Morell Mackenzie was led to ask the question, somewhat humorously, as to what really constituted a healthy nose? And this question has not yet been answered. Replying to Mackenzie, Francis stated, given an asthmatic with an apparently healthy nose, galvano-cauterization in the asthmogenic area will effect a cure, and there seems to be some ground for the belief that this may, in some cases, be true. Lublinski in 500 cases of asthma found 143 with some pathological condition in the nose in which only 8 were cured of their asthma by nasal treatment alone and 4 were relieved. The writer has seen in clinics and in private practice, many hundreds of cases of nasal disease, including polyps, exostoses, hypertrophies, septal deformities, sinus disease, etc., and though he has made no statistics, he can assert with absolute certainly, that the occurrence of asthma concurrently with these diseases of the nose is infrequent—very infrequent—and this is probably the experience of every rhinologist of to-day.

On the other hand, cases of asthma will be found now and then, to be associated with nasal disease, the proper treatment of which undoubtedly will favorably affect the course of the asthma, but can only rarely cure it absolutely and permanently, for the reason that the basic cause lies in certain changes in the nerve centers governing respiration, and for the further reason that other causes may be present in the system besides the nasal disease. The clinical course of hay fever lends much color to the belief that the nose may be the starting point for asthma; we have, at the outset the protracted attacks of sneezing, associated with succulent swelling of the nasal mucous membrane occluding the nares; coryza, which in turn gives place to general bronchitis and finally to attacks of asthma; the nasal occlusion results in rarefaction of the air in the bronchi and alveoli, similar to a dry cupping,—and in this way, congestion of the entire respiratory tract is produced; this certainly presents a pathological picture resembling true asthma. Again in some persons, touching the sensitive areas of the septal mucous membrane with a probe, will produce an attack of bronchial spasm. These sensitive areas may be found in the mucous membrane of the entire respiratory tract, in the pharynx, larynx, and trachea, and even in the bronchi, and are termed asthmogenic areas. Bosse claims in all such cases to have traced the nerve connex between the trigeminus or other sensitive nerve, and the vagus. All these cases, depending upon nasal disease, have been classed under the generic head of nasal asthma.

Patients suffering from stomach disorders frequently show a marked predisposition to asthma (asthma dyspepticum), and appropriate treatment—lavage, etc., of the stomach—has resulted in marked amelioration of the disease. Many such cases, due to absence of free hydrochloric acid in the stomach, are to be found described in the literature (Murdoch, *Pittsb. Med. Jour.*, Jan. 12, 1901; Einhorn); the irritation of the gastric filaments of the pneumogastric is evidently the cause of the paroxysm. During pregnancy, paroxysms of asthma may occur, due to achylia gastrica or to hyperchlorhydria. On the other hand, cases are recorded in which asthmatic women remain free from attacks, during pregnancy.

It is sufficient to mention cardiac and renal asthma to indicate the connection between the heart or kidney disease, and the asthmatic paroxysms; the distinction must be made, however, between cardiac or renal dyspnea due to disturbances in the circulation simply, or to uremic intoxication, and essential asthma which is a disease *per se*. The dyspnea dependent on insufficiently compensated valvular disease, or through the poisoning of the blood from improper or insufficient functionlizing of the kidneys, is entirely separate and distinct from true asthma, occurring under these same conditions.

Among other causes which may induce asthma, are inflammatory ethmoidal disease, atelectasis of the lungs, repeated attacks of catarrhal pneumonia and mediastinal tumors. Pawinski (*Rev. de Med.*, No. III, 1899) describes a "blasen asthma" due to enlarged prostate in which the paroxysms could be terminated by catheterizing the bladder. Gout, rheumatism, obesity, and the other diseases of metabolism undoubtedly often lead to attacks of asthma. Cases are recorded in which attacks of gout alternated with paroxysms of asthma, the patient being free from the one when the other appeared. Patients suffering from eczema, psoriasis, and urticaria may have attacks of asthma alternating with the eruptions of these skin diseases, but just as is the case with nasal disease, only a small percentage of sufferers from these cutaneous disorders have asthma, and *vice versa*. The occurrence of these eruptions seems to be due to the same neurotic influences that are at work in the production of asthma. To the variety of this disease produced by the presence in the blood of irritants to the nerve centers directly, the name hemic asthma has been applied.

There remains to be mentioned asthma due to traumatisms of the skull, producing such changes in the cerebral circulation as to affect the respiratory center; neurasthenia, uterine and sexual causes, and finally toxic asthma, under which may be mentioned "*asthma saturninum*," described by Levy (*Oesterr. Zeitsch. für Heilkunde*, XVI, P. 6, 1890), occurring in chronic lead poisoning. Brügelmann (Wiesbaden, 1901), who has written copiously on this subject, sums up by saying that the sole and only way in which asthma can be produced is by irritations of the nerve centers, be they somatic or psychic, reflex or toxic.

The writer has gone to some length for the purpose of showing that although the views of causation especially as regards the nose, are very divergent—the fact which stands out distinctly, in all that has been written, is, that peripheral or central irritations, be they in the nose, throat, bronchi, skin, viscera, or in the circulatory media, or in the brain itself, in certain individuals of a neurotic temperament produce a characteristic, distressing, periodic dyspnea which is *sui generis;* it is unlike the dyspnea of destructive lung disease; it is entirely different from cardiac or uremic dyspnea; it is well defined and unmistakable in the suddenness of onset of the paroxysm, the seeming gravity of respiratory insufficiency that makes those about the patient fear that death is imminent, and in the more or less rapid return to a normal condition. It is the consensus of opinion, that this uniformity entitles asthma to be considered as a disease and not as a symptom. Scanes Spicer denominates pure asthma as the "original sin" or "the deep depravity of the nerve center;" and Colin Campbell has no doubt that a germ or a bacillus not yet discovered, is at bottom the cause of the disease, basing his view on the observation that the dyspnea continues to grow worse so long as the mucous membrane remains dry, and commences to relax as soon as expectoration of the secretion sets in.

Aprosexia nasalis, so named by Guye of Amster

dam, which is a rare variety of vertigo produced by intranasal lesions, is said by this writer to be sometimes associated with asthma.

*Exciting Causes of a Paroxysm.*—In cases of so-called pure or essential asthma, the paroxysm comes on without any apparent reason, usually towards morning, awakening the patient from a sound sleep. The most trivial causes are usually assigned therefor, as, for example, that the room was too dark; that it was not sufficiently ventilated; that the patient had changed his room from one part of the house to another; that the heat from the furnace had vitiated the atmosphere. Overindulgence in food or drink the preceding evening is frequently blamed; an indigestion due to indulgence in cheese, nuts, raisins, candy, malted liquors, salt or bickled meats, heavy wines or champagne. But even with this knowledge, asthmatics repeat these errors in diet time and again, showing that they are either forgetful or, what is more probable, that they have a very weak will power. Those predisposed may be stricken by an attack during the day from causes relating to the olfactory, respiratory, or psychic centers, for example, the odor of a drug store, of ipecac, violets, emanations from a cat, a horse, a rabbit, dog or duck; fog, smoke, or pollen may cause an attack in some persons; the dust of flour or meal in the air, or a strong wind blowing dust into the lungs will cause it in others; an attack of coughing or laughing unpremeditatedly, or physical exertion, all of which induce prolonged inspiration, and a slight overaccumulation of waste products in the blood may induce a paroxysm. Running, jumping, inordinate laughing, running up a flight of stairs, a severe attack of coughing, come under this head. Under psychic causes may be mentioned mental excitement, fright, rage, great joy, or profound mental preoccupation. Austin Flint the elder had an attack whenever he smelt feathers. Constipation is frequently the cause of an attack. Fear of an attack (*angst neurose*) plays a great rôle in keeping these patients in a condition of constant susceptibility to any cause which presents itself. Hyde Salter mentions a case in which the application of cold to the instep brought on an attack of asthma.

*Symptoms.*—As stated, the paroxysms occur periodically, either daily, weekly, monthly, or annually, or at irregular periods; in some patients asthmatic breathing in a mild form is constantly present, and becomes severe when any irritation presents itself; while in some, the attacks occur only at night; in others they may occur at any time of the day. In some patients the nocturnal attacks are preceded by premonitory signs; drowsiness, dragging in the limbs, joints, or testicles, pains in the back or loins, or there may be mental buoyancy and activity and cheerfulness; the presence of these forerunners has been considered by some writers as similar to the aura, and has led Burney Yeo to draw comparisons between the asthmatic paroxysm and the epileptic convulsion. The dyspnea or oppression in breathing which awakens a patient from a quiet sleep and which rapidly gains in intensity because of the absolute lack of will power in the patient to control it, causes the patient to jump out of bed and to assume the position in which he finds himself best able to conduct his struggles for air; most patients sit down near a table upon which they plant their elbows, holding the head with both hands firmly; breathing is most laborious and is attended by loud wheezing; inspiration, which is attended by intense muscular exertion on the part of the intrinsic and extrinsic respiratory muscles, grows shorter and shorter as the attack progresses; the muscles passing from the head to the shoulder, clavicles, and ribs, are tonically contracted and almost entirely motionless; the muscles attached to the lower ribs show only limited movement; the diaphragm seems to be immovable; the abdomen distended and its broad muscles tense and board-like. The attempts of the patient to get air into his lungs are attended by the most meager results; his face becomes pale, perspiration breaks out all over his body, his mouth opens wide with each inspiration; ofttimes in the coldest winter nights he rushes to the open window and thrusts his head out to get more air. The face becomes livid, the eyes stand out congested, the patient can talk only in monosyllables, and is afraid to undertake the slightest muscular exertion; and the condition is one that arouses the anxiety even of the physician. The attacks may continue to grow worse until death seems imminent from carbonic acid intoxication, but this very condition blunts the nerve centers and ends the attack. It may, however, become so severe that consciousness becomes lost; tetanic spasms, opisthotonos and facial twitchings may be present; or, a slight cough may set in, at first hacking and very dry, but later attended by the expectoration of small pearl-like pellets of mucus, and this marks the starting point for the amelioration of the paroxysm, which may last from one-half to three or four hours. The expectoration may be jelly-like, transparent, or may be streaked with blood. Sometimes a true hemorrahge from the upper air passages or even hemoptysis may take place. Some patients stand up during the paroxysm, finding this position the only one they can endure. Hyde Salter relates the case of a man who for two days and nights stood immovable in one position.

Naturally, such attacks are attended by insufficient aeration of the blood, the heart's action becomes markedly interfered with, at times slowed and again accelerated, but always weakened. Passive congestion of the viscera sets in, and symptoms attributable to this, anorexia, headache, flatulence, highly concentrated urine, ensue; in some cases incontinence of urine and feces may take place.

In some patients, as the result of treatment or a change of climate, the attacks may become less frequent or may cease altogether; in others the disease continues to harass the patient until he becomes prematurely aged, or some intercurrent illness puts an end to his sufferings.

*Anatomical Changes.*—The anatomical changes in the lungs, which are responsible for this superlative respiratory difficulty, may be summed up in the words "*lungen blähung*," as the German writers have termed it; in other words, dilatation of the alveoli of the lungs. During the attack this dilatation grows more marked, the more strenuous the patient's efforts to force air into the lungs become; for the reason that the bronchioles being spastically contracted, very little air can get into the alveoli; and what air is therein contained becomes rarefied because the forced inspiratory act causes still further alveolar dilatation. The chest in asthmatics consequently becomes barrel-shaped from these oft-repeated attacks of labored respiration and lung dilatation. The alveolar walls in time lose their elasticity from the repeated strain upon their elastic fibers, and well marked emphysema may follow; when this is the case the asthma moderates in severity and may leave the patient altogether.

Expansion of the lungs, it has been claimed, is inconsistent with bronchial obstruction. This is perfectly true when the pulmonary alveoli have lost their elasticity completely; so long as this is not the case, the reciprocal effect of the atmospheric pressure, the forced attempts at inspiration, and the spasms of the muscles of the bronchioles is to produce rarefaction in the residual air of the alveoli by narrowing of the bronchioles.

With these changes in the lungs and as a result thereof, we find the liver depressed to quite a considerable extent, sometimes three fingers below the free border of the ribs. Sihle of St. Petersburg calls attention to this depressed condition of the liver as one of the characteristic pathological conditions in asthma. In addition we have a simple hyperplastic or fibrinous bronchitis, although pure or essential asthma may exist without the slightest sign of bronchitis, either as a concomitant or a sequela; in this case, the asthma is simply the manifestation of a highly deranged functionalizing of the respiratory center. These changes in the lungs, while they are regarded as part and parcel of the pathology of asthma, are rather the result than the cause of the disease. The writer has been able to find the record of only three autopsies on asthmatics, made respectively by Schmidt, A. Frankel and B. Levy. None of these investigators found anything characteristic on autopsy. Thus far no change in the nerve centers has been discovered to which the disease can be positively attributed; we are consequently driven to the hypothesis that there must be a molecular change in the nervous centers or a periodic disturbance in their vascular supply, and that, as stated, the asthmatic attack, like that of urticaria, migraine, or epilepsy, is the culmination of a series of irritations transmitted to the nerve centers, which finally result in the explosion which, in this case, is the asthmatic paroxysm.

Sihle of Odessa (*Russ. Archives of Pathology*, etc., Dec. 31, 1902) adds a fourth to the three etiological factors in asthma; these are, first, spasm; second, specific catarrh; third, congestion, and fourth, a general vasomotor insufficiency as exhibited in the lower blood pressure; the venous stasis in the liver is not due to a weakened heart action, but to lowered blood pressure in the arteries. With Gärtner's tonometer, this lowered blood pressure has been demonstrated by Sihle.

There are changes in all the other organs of the body depending upon the frequent disturbances of respiration and circulation, in the heart, the kidneys, skin, hair, nails, etc., which it is not the province of the writer to describe in this paper.

*Diagnosis.*—The diagnosis of essential asthma is not difficult; a consideration of the family history, of the symptoms and course, and a careful examination of the patient will not leave much room for doubt. And still, a thorough examination not only of the thorax, but of the entire body should be made for the purpose of ascertaining, if possible, the cause of the disease, and for the further purpose of excluding thoracic growths, aneurysm, or glandular enlargements. A laryngoscopic examination is necessary to exclude a posticus paralysis which may at times give rise to dyspnea simulating asthma, but which is peculiar in that the inspiratory dyspnea predominates over the expiratory. The nasopharynx should be examined for adenoids; the nose and pharynx should be thoroughly explored and probed for the purpose of finding asthmogenic areas. Due attention should be paid to the heart, stomach, and kidneys so that, if needful, treatment may be directed to these organs. Hysterical patients sometimes develop a dyspnea much resembling asthma, which is readily relieved by the ordinary appropriate treatment for this condition. The uterus and adnexa and the sexual organs should be thoroughly looked after. Sigismund Goldschmidt (München, 1898) draws a distinction between emphysema and asthma, claiming that in the dyspnea of emphysema marked cyanosis is present, while in asthma it is absent. Then there are those rare cases of some unusual peripheral irritation keeping up the asthmatic paroxysm—*e.g.* St. Clair Thompson reports a case in which stretching of the sphincter ani brought about a cure in an obstinate case, while McKay McDonald reports two cases in children about the age of ten years in whom a forcible digital examination for adenoids brought about a complete cessation of the attacks.

All of which shows the necessity for a careful, complete, thorough, and painstaking examination of every part of the body, before making a diagnosis of pure, essential asthma, and before deciding upon the treatment which is appropriate to the individual case. Montcarge claims that increased knee jerks are present in asthmatics. And finally we must exclude thymic and thyroid hypertrophy, spasm of the vocal chords, adenoids, and collapse of the lungs from rachitic conditions of the chest.

*Physical Signs.*—Between attacks, the only signs to be observed are, on inspection, the enlarged barrel-shaped chest in chronic asthmatics, which in those only recently affected is absent. On auscultation, there is a soft respiratory murmur all over the chest, and here and there slight râles may be found, showing the presence of bronchitis; although, as stated, this may also be absent. On percussion, tympanitic resonance all over the chest. During the attacks the chest shows much diminished respiratory movement, especially in its lower parts; all the muscles of respiration are tensely contracted; large and small mucous râles, sonorous and sibilant, are to be heard over every part of both lungs, causing a sound similar to that made by a music box. In the rare cases of pure, essential asthma, there may be puerile breathing over both lungs, and no moist sound whatever may be heard. The area of precordial dullness is diminished because of the expanded lung tissue encroaching upon the heart area. The right heart is hypertrophied, and sometimes dilated from engorgement. The diagnosis of bronchial glands in children may sometimes be made from a venous hum heard in the descending vena cava or in the innominate veins, produced by pressure on the veins, and interference with the circulation.

*Prognosis.*—Although the prognosis as regards life is good, the same cannot be claimed as to cure, unless the patient is so circumstanced as to be able to follow every recommendation of his physician. While there is no immediate danger to life, the disease, in a severe form, is a dire calamity to the individual, interfering with his progress, material and mental, in every way. Death during the paroxysm is extremely rare, and many writers deny that it ever occurs. The chief danger, unless the disease is checked by treatment, is the establishment of chronic bronchitis and emphysema, with the long train of pathological changes in the other organs of the body which these diseases involve. If the disease remains unrelieved for a long time the disturbances in the circulation, the strain on the mind and body, so weaken the patient that he is liable to fall a victim to some intercurrent disorder.

Pure uncomplicated essential asthma occurring in the young, is amenable to treatment, and the prognosis is good—that is, in children or young adults who show absolutely no signs of disease of any other organ; in fact, at puberty the disease in many cases ceases spontaneously.

In those whom the disease attacks after the thirtieth years or who suffer from bronchitis either simple or fibrinous, cardiac or renal disease, the prognosis as to complete recovery is unfavorable. And still, cases are reported in which the paroxysms remained absent for a long time in adults, only to return upon some slight irritation; and cases are recorded in which recovery occurred spontaneously.

*Treatment.*—The physician who would successfully treat asthma, must thoroughly understand the disease and its causation, and should be fairly well versed in all the specialties. He should understand laryngology, gynecology, neurology, dermatology, and, besides, he should be a good general practitioner. The treatment has for many years been along lines of such parallelism, and has been of so little efficacy in many cases, that asthma quacks the world over have thrived like the green bay tree. Dr. George Avellis (*Munch. med. Woch.*, October 25, 1904), in an article on the quack treatment of asthma, has taken pains to expose the methods of all charlatans, classifying their treatment as follows: First, by stramonium and allied drugs; second, by the compounds of iodine carefully disguised; third, by weak solutions of atropine; fourth, the periplocin treatment, which had a great vogue in Europe, and which is a combination of pyridin; fifth, inhalation of various sedatives and narcotics, including opium, camphor, ether, and chloroform; sixth, ordinary cathartics, sudorifics, diuretics, etc. He gives a long and detailed account of the Buffalo treatment, showing it to consist in the administration of turpentine emulsion, iodide of potassium, iron, cinchonidia, sulphur, opium, and ammonia in varying doses, according to the requirements of each individual case, which is ascertained through correspondence. The Tucker treatment, which gained a great vogue here and in England, has for its basis atropine used in spray, and nitrite of sodium, internally. Dr. Cholewa's treatment, apnol, consists of iodide of sodium, spirits of peppermint, pyridin, in solution in a spray.

We may divide the regular methods of treatment in use, at present, roughly into the following classes: (1) climatic; (2) hygienic; (3) symptomatic; (4) gymnastic; (5) psychic; (6) hydrotherapeutic; (7) medicinal; (8) operative; (9) institutional.

It has been the experience of physicians for years, that as a rule a high altitude relieves asthmatic patients of their paroxysms and of their disease, because of the rarefied air of the higher regions; and there is no doubt that on the high plateaus of New Mexico and Colorado these patients can live comfortably. But such is not absolutely the rule. Some patients, a small minority it is true, seem to get the most relief from the moist air prevailing at the seashore. Again, removal from the city to the adjacent suburbs where the air is not contaminated, will serve to give some patients the desired relief, and, on the other hand, as Salter has pointed out, asthmatics who live in the country sometimes get relief in the crowded city, and he instances a number of cases in which asthmatic patients from the rural regions obtained the greatest relief from a sojourn in London. An ocean trip has been known entirely to suspend paroxysms in some cases, and the value of a sojourn in one of the American or European mountain resorts is undoubted.

The hygienic treatment consists in seeing to it that the functions of the skin and excretory organs are regularly performed; in regulating the metabolic functions; in modifying the diet according to indications; forbidding overindulgence in food and drink, especially at night, and in interdicting all rich and fancy dishes and indigestible food. Malted liquors, heavy wines, and champagne should be strictly forbidden. Light alkaline mineral waters like those of Saratoga, seltzer, vichy, or Ems, should be used in moderation to keep the renal functions active. The baths of Saratoga or the Virginia Hot Springs, or in Europe those of Kissingen and of Marienbad, are to be recommended.

Under symptomatic treatment I refer to meeting the indications in each individual case, as, for example, in a patient with rheumatic symptoms, we should use the salicylates; in the gouty, colchicum; in the anemic, iron, arsenic, the glycoephosphates, etc.; in those of a marked nervous or hysterical disposition, valerian or the valerianates. Indications pointing to uterine, cardiac, renal, traumatic, or other causes should be treated accordingly.

The gymnastic and respiratory, and also the pneumatic cabinet treatment have found many advocates in Germany; as also the treatment by compressed air, as advocated by Waldenburg many years ago. This treatment by the pneumatic cabinet or compressed air is best adapted to cases of bronchial asthma in which some lung dilatation has already taken place. The main object that is sought to be achieved thereby is to prolong expiration, as by this means it is thought the alveoli become contracted and regain their elasticity. The forms of exercise vary, from simple calisthenics systematically employed, to walking long distances in the fresh air, and to keep breathing exercises in a chair especially constructed for the purpose and called the "asthma chair." One writer advises that patients be treated by exercises in breathing, which consist in counting slowly during each expiration; at first count up to five with each expiration, for about five minutes morning and evening. The next day count six, the following day seven, and so on until the patient can count up to twenty with each expiration. These exercises should not be overdone; finally, ten minutes morning and evening should be devoted to the purpose. Other methods have been described for prolonging the expiratory act, as, for example, breathing in expiration, with the lips so drawn together as to leave only a small opening

Dr. Benedetto di Luca (*Riforma Med.*, Dec. 6, 7, 9, 10 and 11, 1901), basing the utility of his treatment upon the theory that the paroxysm of asthma is due to a temporary state of irritability of the bulbar centers, particularly the vasomotor center supplying the bronchial muscles, recommends a measure for the purpose of depressing this irritability—stimulation of the nerve endings in the labyrinth, by means of vibrations of the body transmitted through the endolymph to the nerve endings of the acoustic nerve, the effect of which is to produce a vertigo similar to Menière's disease. To this end rapid rotary movements of the head or of the whole body should be made, until the patient becomes dizzy and nauseated; this is attended usually by perspiration, pallor, a rapid weak pulse; the author claims that a few minutes spent in these exercises will avert the paroxysm of asthma. I have had no experience with it.

Brügelmann lays much stress on the value of what he calls "education asthmatique," that is, in enlightening the patient upon the nature of his disease, and to teach him that by an effort of the will, asthma can be considerably ameliorated, and to

show the patient the necessity of leading a perfectly well regulated life: the importance of proper diet, sufficient sleep, of out-door exercise, principally walking long distances or horseback riding, breathing exercises with inspirations as deep as possible; keeping the functions of the skin and bowels regulated. He claims that by these methods alone, employed in sanitaria, the condition of asthmatic patients is very much improved without the use of any drugs. He strives further, by psychic methods, to strengthen the will of the patient by means of hypnotism and through suggestion, claiming to have achieved most excellent results in his own sanatorium in cases of pure nervous asthma by these means, without the use of drugs or any other means whatsoever. There can be no question but what autosuggestion plays a most important rôle in the cure of the disease, as it does in its production.

Hydrotherapy is of undoubted value in the treatment of selected cases, especially those of a purely neurotic character without bronchitis; but this method of treatment should be used with great care, because of the sensitive peripheral nerves of these patients and their great reflex irritability. The lukewarm shower daily is recommended, followed by friction with warm towels; douching of the nape of the neck with cool water; where patients cannot stand the shower the lukewarm pack for three or four hours at a time every day, may be tried. Massage of the chest, especially of its lower part, in the region of the attachment of the diaphragm, is sometimes productive of the very best results.

Under medicinal treatment we should distinguish between the palliative and the curative, the former being directed simply to the treatment of the attack and of the cough, the latter being made use of during the intervals between attacks. For the attack, the narcotics and analgesics—opium, morphine, chloral, chloralamid, bromide, and phenacetin may be given; morphine is given hypodermically during very severe attacks; but the administration of morphine or opiates should be a last resort, because worse even than asthma is the morphine-habit combined with it, which is rapidly acquired by these patients. The same is true of all other narcotics. Touching the pharynx with a mild solution of ammonia has been recommended for cutting short the asthmatic paroxysm, and, in some cases, is of value. A hypodermic of 1-150 of a grain of atropine is sometimes of value. The inhalation of a few drops of ether or chloroform sometimes causes an attack to subside, but frequently the relief is only temporary; and, finally, burning of the well-known stramonium and saltpeter powder, producing a dense smoke, is a specific in many cases for the attack; bibulous paper saturated with saltpeter which is allowed to burn slowly, producing a strong smoke, also will produce relief in some cases; but the smoking habit grows on these patients to such an extent that if possible we should discourage it and try to make use of other methods. Nitrite of sodium, in doses of two or three grains hourly, has been used with good effect, as also the inhalation of a few drops of nitrite of amyl. In some cases the inhalation of pure oxygen gas has proved very beneficial.

The treatment by drugs during the interval varies according to the individual case and according to its etiology; but, generally speaking, it seems to me that in the vast majority of cases the preparations of iodine have the most supporters, and in my practice the best success that I have achieved has been by the use of iodide of potassium. The dose in the beginning of the treatment should be very small—about one grain given in milk three times a day, and should be gradually increased, noting carefully whether the patient bears the drug well. If no symptoms of iodism and no derangement of the stomach ensues, the dose should be increased daily until the patient takes from twenty-five to thirty grains a day. It has been my experience in cases of pure asthma or bronchial asthma that by this means the number and the severity of the attacks are markedly diminished, and that finally the patients remain entirely free from attacks. As to the physiological action of iodine in these cases, time will not permit me to go into the question; suffice it to say that it stimulates gland secretion and lowers arterial pressure.

Frese (*Munch. med. Wochenschr.*, Dec. 14, 1898) praises iodipin in doses of one to three drachms three times a day. The iodide of sodium, or iodide of strontium may be tried where iodide of potassium is not well borne. Since the days of Trousseau, atropine has had innumerable advocates as a remedy for asthma. Dr. G. Campanella (*Gazzetta degli Ospedali*), June 22, 1902, on the ground that atropine diminishes reflex excitability, and reduces spasm, and secretion, recommends that this drug be given in increasing doses during the whole course of treatment, and claims the most excellent results. The experiments of Rossbach show that atropine, by inhibiting the secretory function of the bronchial glands and diminishing the reflex irritability of the vagus, exercises a marked curative effect; he gives atropine constantly during the disease, and even during the paroxysms, giving as much as one-eighth to one-sixth grain during the twenty-four hours.

The other drugs recommended in the treatment are arsenic given in gradually increasing doses, nitroglycerin, quinine, belladonna, iron, strychnine, and the other tonics.

For the cough, in place of narcotics, tincture of quebracho and tincture of grindelia robusta are recommended by Penzoldt; creosote and its allied preparations are sometimes of value. A prescription very much used for the cough in asthma is the tincture of lobelia combined with heroin, ammonium muriate, or the compound spirit of ether.

Glascow, having found on laryngoscopic examination during the attacks, marked anemia of the larynx and trachea, advises that the nitrites be given in large doses. Bullowa and Kaplan (*Med. News*, Oct. 22, 1903) describe the favorable effect of adrenalin administered hypodermically and by the mouth during the asthmatic attacks, upon patients in the Montefiore Home. They explain the rapid subsidence of the asthmatic paroxysm after the administration of adrenalin upon the ground that the blood vessels of the bronchi are in an angioparetic condition and that adrenalin acts by contracting the blood vessels and by restoring the caliber of the bronchi and their normal tone: they claim that from three to six minims of a 1 to 1,000 solution, either by the mouth or hypodermically, cut short a paroxysm in from three to six minutes, but admit that the attacks recurred at the regular time; hence adrenalin can be regarded only as a palliative measure. This treatment has been described before by Cohen of Philadelphia.

Various other organic extracts, like extracts of the thymus gland or of the thyroid in small doses, have been recommended in the treatment of asthma, and in appropriate cases are undoubtedly

of value. The local treatment of the trachea by a solution of menthol in solution, by instillation through the larynx has been recommended by Abrams.

From all that has been stated as regards treatment it will be understood why the operative treatment of the nose for the cure of asthma cannot possibly be of such widespread utility as its supporters originally claimed, although Francis, Bosworth, Schmiegelow, and Heymann claim to have cured the majority of their asthmas by nasal operation; it seems to me, in view of the prolific literature on the treatment by other methods, and in view of the neurotic nature of the disease that the claims of these authorities are somewhat exaggerated, and that a permanent cure of old cases is scarcely possible by treatment directed solely to the nose. There must be treatment by internal medication directed to the underlying cause, which, as has been stated, is in the brain, in the respiratory and vasomotor centers. In recent cases it is possible that treatment of the nose either by spray with liquid, or oily solution, or by galvanocauterization of the asthmogenic areas in the nose may result in cure, but when the disease has existed for some years, I cannot believe that this treatment alone will succeed. Every asthmatic patient should have his nose and throat thoroughly explored and cocainized, to note the effect upon his breathing, for diagnostic purposes; obstructing growths or exostoses should be removed, the nares should be made patent, purulent nasopharyngeal catarrh or ozena should receive appropriate and energetic treatment daily; in the nose which seems healthy, asthmogenic areas should be looked for with a probe, and if found should be treated carefully either by cauterization with chromic or trichloracetic acid, or galvano-cautery, lightly applied. It must be borne in mind that the asthmatic is such not because of some abnormality in his nose, bronchi, or in some other organ, but because, at bottom, there is a derangement of his entire nervous system and an irritable condition of his nerve centers with explosions in the domain of the vagus nerve.

We come now to the institutional treatment, which in Germany has many advocates; it is claimed that in a sanatorium for asthma, equipped with all the necessary aids to diagnosis and treatment, such as baths, pneumatic cabinets, compressed air apparatus, gymnastic and electric appliances and all other necessary instruments of precision, the best results can be achieved, especially, when to all of these means is added the constant supervision of physicians who thoroughly understand the disease and its causation. The moral or psychic effect upon an asthmatic on entering such a sanatorium with its iron-clad rules and regulations and its systematized treatment is excellent; the knowledge that he is under the care of physicians, expert in the treatment of his disease, is, in itself, apt to have a very salutary effect. In this way autosuggestion plays a great rôle in relieving the patient of his sufferings; and if there is any recommendation that I would make, as a result of my studies on the subject, it is that just as we have sanatoria for nervous diseases or diseases of women, there should be such an institution created for the treatment of this most obstinate and baffling disease.

13 East Seventy-fifth Street.

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**Cocaine Addiction** is very prevalent among the Southern negroes, according to the Atlanta *Constitution*. The drug is taken usually in the form of snuff.

## FREEDOM FROM URIC ACID, AND HOW TO OBTAIN IT.

By ALEXANDER HAIG M.A., M.D., Oxon., F.R.C.P., London

The title of this paper does not, of course, mean that absolute freedom from uric acid can be secured, for this is impossible. Roughly speaking, everyone forms day by day about one grain of uric acid for every twelve pounds of body weight, this being a necessity of life. The freedom of which I speak is comparative, and may be obtained by excreting this quantity daily and regularly so that none of it accumulates in the system, and by cutting off all uric acid from external sources, so that there may be none to collect in various organs, and thus form a focus of retention both for the uric acid introduced and for that formed in the body. I propose in this paper to consider how this freedom, one of the most vital of our necessitites, may be obtained.

The problems concerned in the exclusion of extraneous uric acid I have treated at length elsewhere, and I shall therefore, confine myself here to those points connected with the daily and hourly excretion and elimination from the body of the urine acid formed within it.

A man of 140 pounds in the middle period of life will form, let us say, each day about 12 grains of uric acid. The problem to be considered is how to secure the daily excretion of this amount beyond the possibility of accumulation.

The physiology to be dealt with is briefly this: Uric acid is a substance soluble in alkalies; the solubility being somewhat increased by heat; it is insoluble in acids, the insolubility being somewhat increased by cold. The blood is practically an alkaline solution, but the ratio of alkali fluctuates; is is higher in certain hours of the day and lower in certain hours of the night, higher in certain conditions of nourishment and lower in others, higher (generally speaking) in debility and lower in high nutrition and in fever. The alkalinity is increased by heat and diminished by cold, for heat increases the elimination of acids from the body in perspiration, and cold diminishes it.

Cold and heat have thus a double action on the solubility of uric acid; a direct influence and an indirect one, through their effects on the alkalinity of the blood.

In the acidity of the urine we have a more or less exact indication of the alkalinity of the blood, for the more acid the urine the less alkaline the blood, and *vice versa*.

Practically, all conditions diminishing the alkalinity of the blood, and all substances (*e.g.* the metals), forming insoluble compounds with uric acid, cause its retention and lead to accumulation in the body.

In this paper, however, I am chiefly concerned with physiological conditions, the action of which is constant, and shall not devote much space to metals and other substances where the action is more or less temporary and accidental.

The chief physiological conditions diminishing the alkalinity of the blood are: (1) High nutrition, for a large metabolism of nitrogenous compounds means a coincident formation of acid substances corresponding with a large formation of urea; hence the gouty man is often the well-nourished man with good digestive power. (2) Cold, as from life in a cold climate, a cold house, sedentary occupation, or deficient clothing. Therefore, gout is a disease of the cold months of the year and its pathological antithesis, mental depression, is found in the warm months, and especially in the early warm months. Hence, "May is the month of suicides and murders,"

as a result of the circulation of the uric acid which was retained and accumulated in the previous cold weather, when gout prevailed from November to February.

Spring depression, anemia, lethargy, and debility are accordingly the consequences of the resolution and clearing out, or (to use a homely illustration), of the "spring cleaning" of uric acid retained in the preceding. Obviously, if the miseries of this spring cleaning are to be evaded, we must have no retention in the cold season, and my object in this paper is to discuss this question and consider the best methods of preventing, as completely as may be, all retention.

I write specially for those persons who have completed the first stage and have avoided all unnecessary ingestion of uric acid. These have only to deal with the uric acid of formation and provided this is not retained, they have practically the utmost freedom possible from uric acid and its ill effects. But people whose diet is uric-acid-free and those who live in the ordinary way will alike have less in their blood in May if there has not been any retention in the previous November, though it is much harder for those who swallow uric acid to avoid winter retention since their food is itself a cause, uric acid being a precipitant of uric acid and every focus of accumulation acting as a center of attraction to each particle of the same substance which is brought past it in the blood. And not only so, but each accumulation previously formed will increase as opportunity offers, so that persons who introduce uric acid have a much harder task to prevent accumulation than those who do not, and those who have already accumulations in the body will accumulate further quantities much more readily than people who have taken the trouble to clear out previous accretions.

As high nutrition produces low alkalinity of the blood, one simple way out of this difficulty is to underfeed, to take the smallest possible amount of food, and to secure thus a diminished formation of acids in the body and increased alkalinity of the blood. This is, no doubt, under certain conditions a useful method of dissolving accumulated uric acid, but it is nevertheless a dangerous plan and one not to be continued beyond quite a short period, or it leads to difficulties frequently much greater than those created by the cause it seeks to remove.

In the old textbooks of physiology from which I had to learn when I was a student a quarter of a century ago, it was stated that a vigorous and active adult would produce each day from 3 to 3½ grains of urea for every pound of body weight. Now, 3 grains of urea is produced from 9 grains of albumin. My rule (to which I have always held) is that to obtain sufficient food an adult must take the body weight in pounds and multiply by 9 to get the grains of albumin that he should consume daily. This produces somewhere about three grains of urea per pound, and if he is very active and has a keen appetite, he may take a little more than this from time to time when exercise is hard and appetite more than usually good. I have never seen any reason to alter this rule, but have, on the contrary, seen many reasons for relying upon it; both in myself and in hundreds of others I have carefully tested from time to time the possibility of living on less food, and have found that it is often dangerous to attempt to do so.

It has lately been asserted by various writers and experimenters that we eat too much food, and that it is possible to live on considerably less than the old physiological standard, but I can only say that I myself have never come across any conclusive evidence that this is the case. Professor Chittenden in his recent book, "Physiological Economy in Nutrition," points out that a number of men at various times of life and under varying conditions of activity, have been able to live and do good work on quantities of albumin below the German standard. But those who will take the trouble to look into this matter, will see that the quantities he mentions are but little below my standard above given, and in so far as they come short of it I believe (if continued for a sufficient length of time) they would lead to difficulty and even to danger, though, because the quantities were only fractionally below those I have used, these bad results might be imperceptible until they had been watched for periods of from eighteen months to two years. Mr. Horace Fletcher in a recent edition of his book, "The New Glutton and Epicure," (p. 278) cites me as a convert to his belief that if people chewed carefully they could live on less food; but I have never altered the opinion already expressed in the last edition of my little book on "Diet and Food," that, though it is undoubtedly important to eat slowly and to chew carefully, I see no evidence whatever that the exercise of even the greatest care in these matters will enable anyone to live on less albumin than that mentioned in the above rule. When I saw Mr. Fletcher some years ago, he acknowledged that his temperature was always subnormal, and I saw for myself that his blood color was defective and circulation slow, nor have I reason to think he is in any better condition to-day. I must express my decided opinion that those who have constant subnormal temperature, slow circulation, and a deficient quality and color of the blood, are always in a condition of possible danger, and in a position which I have always done my best to guard against personally, and for all who have trusted me with the direction of their diet. It is true that people thus circumstanced may, for some months at least, be capable of considerable exertion; they often feel lighter and better for some little loss of superfluous fat, and when underfeeding they, of course, swallow less uric acid and may indirectly derive some benefit in this way. But, if underfeeding is persevered with and, as I suggest, a gradual increase in the defects of circulation, blood color, and temperature follows, there will eventually come a time when they are within measurable distance of debility and collapse. And long before that they will have been to a very considerable extent in danger of attacks from the various microbes which are always seeking for the debilitated and undernourished on whom they may settle and flourish. Among such microbes I may mention those of boils and carbuncles, that of diphtheria, and (more important still because more widely spread), that of tuberculosis. All or any of these fastening upon an undernourished individual with subnormal temperature, defective circulation, and deficient blood color will readily obtain an entrance and may flourish at his expense; and it is germane to the matter to point out in passing that the only treatment of tuberculosis considered of any real use to-day is that of fresh air combined with a double allowance of food.

It is not necessary to underfeed because the ingestion of uric acid is discontinued. The natural amount, or double the natural amount of food (albumin), may be secured on uric-acid-free lines, but it should be remembered that if double food is taken a double excretion of acid in the urine and a correspondingly diminished alkalinity of the blood must be expected, and then very great precautions become necessary in other ways to prevent retention and accumulation of the uric acid of formation. With urea thus double, there will be also (we must remember) a double formation of uric acid, so that if a man on ordinary food forms 12 grains a day, on the above treatment he will form 24, and, while adding no uric

acid from outside sources, will still, from his increased formation and increased tendency to retention be in considerable danger of storing and accumulating some of this substance in the skin and tissues.

It is not denied that if such a course leads to the destruction of the microbe and consequent escape from tuberculosis, a patient may well put up with the lesser evil of some accumulated uric acid, but it is certainly no uncommon circumstance for those who have undergone this treatment for tuberculosis to suffer afterwards from a temporary excess of uric acid in the blood, and from its results.

The conclusion is, I think, that it is an error to take too much food except as a temporary remedy for serious disease, and that it is wrong to take too little food because we are thus exposed to the risks of debility and the wandering microbe. The right course is to secure just that quantity of nourishment which will keep the temperature normal, the circulation normal, and the blood color at the highest attainable level, and such a useful and natural condition may then be expected as will ensure the daily excretion and final riddance of all the uric acid of necessity formed in relation to the amount of albumin swallowed and the amount of urea thus produced.

Having thus settled the quantity of food required, we may notice shortly the other conditions necessary to be observed in order to pass out day by day all the uric acid formed in the body. These may be briefly stated: We must live warmly. No doubt man in his natural condition is fitted for a life in the warmer regions of the earth where nuts and fruits, his natural foods, grow in profusion, and if he has wandered away into the cooler regions where these foods grow with greater difficulty, he has always done so at his own peril. In this climate, therefore, it is necessary to clothe very warmly and to live in warm houses during a considerable portion of the year. It is also necessary to live a fairly active life so as to get rid of a certain quantity of the acid products of combustion through the excretions from the skin. A laboring man, from the conditions of his exertion has summer all the year round; and the sedentary suffer far more from climatic cold than those who live in circumstances which require natural efforts.

It may be of assistance if I mention the practices which have commended themselves to me and which I myself follow with regard to these matters, commenting briefly on each point, and giving my reasons for selecting the course I have chosen and for refusing any other.

And firstly, I clothe very warmly indeed. I live in a warm house in the center of London, which, in itself, is much warmer than the country round it. This fact may easily be recognized on a winter day when the snow melts and disappears in London in a few hours, but may lie on the banks and hedges of the surrounding country for more than a week, thus indicating that London is at least two or three degrees warmer than the surrounding country. There are some who believe it is so important to get fresh air that they must of necessity expose themselves to cold in its pursuit; but this is an opinion which I by no means share. Fresh air is said to be productive of a large number of good things, including splendid blood color, but, as a matter of fact, if people live on the right diet they can maintain the best of blood color in London and under conditions of ventilation which some extremitists would possibly characterize as defective; for the truth is that uric acid controls the condition of the blood and a little extra oxygen of the air (though it is, of course, a prime necessity of life), affects it only to a small extent. I hope no one will misunderstand me; I would say to everyone —by all means get all the fresh air you can, but do not imagine that good can be secured by exposing yourself to cold for the purpose. Far more harm will be done by exposing yourself to cold than will be gained from any good the slightly fresher air will do you. It is quite true that oxygen is a necessity, but only one-twentieth or one-thirtieth more oxygen is obtained by flooding a room with cold air, and such a fractional addition does little good. While, if the cold air causes the retention in the body of uric acid in the winter, that uric acid, coming through the blood next spring, will produce far more anemia than would have resulted if the cold air had been excluded and the room properly warmed in the cold weather. It often appears in these matters that people neglect the essential and pay an enormous amount of attention to minor points, not only in the matter of which I am speaking, but throughout the whole of life and in great things as in small.

I, therefore, (as I say) clothe warmly; I live in warm rooms, and though I gain all the fresh air possible, I refuse to live in the open air in the cold weather, looking upon this exposure to cold as a greater evil than a small diminution in the supply of oxygen can possibly be. In the same way it is a wrong course to take a morning cold bath which not only chills temporarily, but for some hours afterwards. This cold comes exactly at the time of the day when the greater part of the uric acid of formation is passing through the blood on its way to the kidneys, and is almost certain to check this excretion and to cause retention. It will thus be seen that cold, and bracing climates, and all tonics, have the same action; they all clear the blood of uric acid and cause its retention. But, if we remember that this is merely "put off, not let off," that every up is followed by a down, and that the retained uric acid must return into the blood at some future time, we shall realize that no permanent good is ever gained by cold baths or any exposure to cold or bracing climates or by tonics, and that our present dependence upon these things is wrong—fundamentally and absolutely wrong, and extremely foolish into the bargain. No doubt those who suffer from collemia as a result of mistaken diet will assert that it is impossible to live without the morning cold bath, the occasional tonic, and the yearly trip to Norway or Switzerland. I thought so once myself, and my life, in my meat-eating days, compelled dependence on stimulant tonics and a yearly holiday at a bracing place. Yet, even then, I could but notice how constantly illness supervened on the return from this holiday, so that the balance of advantage was not unusually on the wrong side. More was lost than gained, and the loss unfortunately came last and produced the more lasting effects. A much better standard than this has since been attained with the knowledge that the previous call for the bracing action of cold, for tonics, and for the spur of stimulants, was nothing but a result of the collemic condition produced by unnatural food, and the simple object now is to be and remain so well that none of these adventitious aids are ever required. This is real health; the other was but disease and the conditions which lead to it, for the tonics and cold bracing climates in curing collemia produce in its place, arthritis, lumbago, or sciatica, and when these are cured in turn by warmth and alkali, the collemia returns with its headache, lethargy, and mental depression. This is a vicious circle from which there is no escape; it is only the swing of the pendulum from one thing to the other, and in the distance bronchitis, Bright's disease, apoplexy, diabetes, or cancer, is the almost certain result. We have yet but a small knowledge of cause and effect, and the

truth is easily missed until ignorance is emphasized by suffering, which enforces a lesson to be learnt on pain of fatal disaster. As it is practicaly impossible for me in normal conditions to live a naturally active life, I am obliged, in addition to these precautions, to take some alkali every day during the cold season of the year. This I take in the form of a bicarbonate of sodium, of which I consume in the coldest weather some 15 or 20 grains in the morning before breakfast, and some 5 to 10 grains in the evening before dinner. In warm weather this is reduced to almost nothing, though even then I often continue a small dose, especially when the mornings are cold.

Some persons have been surprised at my using a drug in this manner, because they believed it was my object to live as far as possible a natural life. To this I can but reply that if, under the unnatural conditions prevailing in this country, and especially in the part where my work must be done, the possibility of a really natural life could be demonstrated, I should pleased to pursue that course, and to give up all drugs, even the bicarbonate of sodium just mentioned. For the same reason that I refuse tonics, I also take little or no salt. It is true that some salt is required in the body to help in digestion, but nature provides for this when it is necessary by creating a crave, and this I always satisfy, though it is only occasionally present. Apart from this I take no salt, for it (chloride of sodium) introduces a powerful mineral acid into the body, and this, diminishing the alkalinity of the blood, tends to retention of uric acid in the body just as do other acids, all metals, and practically all tonics.

But how may a natural life be defined? I think for provisional purposes I should define it as one in which the hours of the working day are evenly divided between bodily activity and sedentary mental work. Many people have too much bodily and no mental activity, and others suffer from too much of the latter and not enough of the former. It seems to me that the natural life should, as far as possible, be the mean between these two, and thus not only proper development of muscles (and hence the best balance of mind and body and the best and most steady nutrition) would be secured, but an increased alkalinity of the blood, and the least possible tendency to retain or hold back in the body the poisonous uric acid would also be obtained. What a pity the poor and the rich cannot each give to the other of their superfluity!

With regard to quality of food I exercise here also, an important precaution. I am careful to eat potato (which contains a considerable amount of alkali), at least three times a day, the potato at breakfast being the most important, though not the most nourishing, item of the meal. I am one of those who do not think it a mere chance that the lowest cancer death rate in the United Kingdom is to be found in association with the largest consumption of potatoes in some of the country districts of Ireland. Cancer, as I have elsewhere pointed out, is associated with retention of uric acid in the body, and next to warmth and natural activity, there is nothing which is more likely to prevent this retention than the humble potato. On the other hand, I am careful to avoid an excess of fruit, for the acids of fruit have, at least for a time, an action exactly the reverse of that of the potato; they cause the retention of uric acid in the body, and, if taken in cold weather, will produce a store of this substance. The rule I follow is simply this—in warm weather and when fruits are in season in this country, take them in reasonable quantity as sauces to the foods, but in cold weather and when there is practically no fruit in season, it is best to abstain from it altogether, and to use potatoes and alkaline vegetables as sauces to the foods instead.

No doubt some will ask at this point, whether fruits and nuts are not the natural food of man? To this I reply that the natural climate of man is in the tropics where fruits and nuts abound, and where it is, therefore, safe to eat them, but by those living in this country, fruit must not be eaten out of season; and since, in addition, all the conditions of life are unnatural we must even condescend to take drugs occasionally rather than set up in the body a store of uric acid.

As I write, I see in one of the daily papers (under the heading "To Stave Off Old Age"), a lavish and somewhat indiscriminating recommendation of an abundance of fruit, and among the fruits so recommended I see citron, lemon, lime, and orange. None of these fruits grow in these latitudes and none of them should, in my opinion, ever be taken here except in the warm season. Yet, there are hundreds and thousands of people who eat these fruits freely in the coldest season of the year. To these I can only say that they must not be surprised when the spring weather brings them debility, lethargy, mental depression, iritability, or even (in some special cases) insanity. If a wrong and unnatural course is pursued, suffering necessarily results. In this country nature has not provided the fruits natural to others where the temperature is warmer, nor do I think it will tend to delay old age to eat these fruits at all seasons, and to store up in the body as a consequence larger or smaller quantities of uric acid, which, coming into the blood later on, must produce high blood pressure, and thus strain and bring about degeneration of the vascular tissues of the body. I venture, on the other hand, to say that if people will follow the course I recommend and practically abstain from fruit from October to April; if they will clothe warmly by night and by day, live in warm houses, exercise reasonably, take potatoes freely in cold weather, and will further, when especially exposed to cold, take a few doses of bicarbonate of sodium, they will pass out day by day all the uric acid they form. And further, never having any excess of this substance, they will avoid undue strain of their vessels, or defective nutrition of the said vessels from that malnutrition of their walls, which is produced by defective circulation from excess of uric acid. They will, therefore, ensure natural and healthy lives, and will do far more to stave off old age and render it useful, beautiful, and natural when it comes than if they use in this temperate region many of the fruit acids of the warm climates.

We may recapitulate the points here brought forward by saying that the greatest freedom from uric acid is obtained by introducing none, and by passing out each day regularly and punctually, all that is formed in the body, and that this regularity of excretion may be attained by clothing warmly, by avoiding exposure to cold in every form, by eating freely of potatoes (especially in cold weather), by avoiding fruits that are out of season, and indeed by never taking fruit[1] to any large extent, except in very warm weather. It is also advisable to secure the proper distribution of time between bodily and mental exertion, and to dispense with dependence on tonics, stimulants, and bracing climates. The result will be a better balance of mind and body, and a more healthy, natural, and useful existence than has been generally experienced either by ourselves or by our ancestors in the previous century.

[1] These rules are for those in a more or less satisfactory physiological condition and have no bearing on special diets, such as that of bread and fruit, given in special conditions of disease and for a short time only.

# LONG ISLAND APPENDICITIS.*

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Why Long Island appendicitis? Because in the cases under consideration the patients were all residents of Long Island. Because the diagnosis was made by a Long Island physician, who prepared the patient for and assisted at the operation, the anesthetic being administered by a Long Island practitioner, and the after care carried out by the Long Island family physician, with a mortality so low as to compare very favorably with any and speak very highly for the Long Island doctors' exercise of good judgment during convalescence, leading to an early return to health and strength.

The cardinal symptoms of an acute attack or acute exacerbation of appendicitis are pain, nausea and vomiting, fever, right-sided abdominal rigidity, and tumefaction. The pain, nausea, and vomiting, and fever are always present the first day, and in 2,000 cases reported by J. B. Murphy in the *American Journal of the Medical Sciences,* CXXVIII, 1904, p. 187, always presented in the order named.

The onset of appendicitis is first announced by sudden and severe abdominal pain, general throughout the abdomen, rapidly growing worse, attaining its maximum within a few hours, followed by general abdominal tenderness, with localization of the pain in the right iliac fossa. This pain may gradually diminish, and the patient recover without further difficulty until the next attack. A sudden cessation of pain takes place (*a*) after the appendix empties itself into the caput coli, (*b*) after rupture, or (*c*) gangrene of the appendix; but the absence of pain must not lead to the false idea that the danger has passed. The recurrence of pain in the right iliac fossa during the second day or later shows that the infection has extended outside the appendix, that the process is progressing, and that the appendix, if not removed, the sooner the safer, will endanger the life of the patient. Every hour's delay can only add to the difficulties when removing the diseased organ and diminish the chances for ultimate recovery.

Next in order after the initial pain, perhaps within the second or third hour after its onset, at latest during the first day, vomiting or attempted vomiting may occur for a few times, then cease and never recur. Should it do so, it will indicate that rupture with leakage has taken place or that the general peritoneum has been infected, and if unrelieved a fatal issue may result.

Soon after the primary pain of appendicitis begins an elevation of temperature can be determined. This is always present, and the earlier the temperature the more acute the infection. The higher the fever the greater the absorption of toxins, indicating that the pus is *for the time being* walled off under great tension, and liable to rupture at any moment or on the application of injudicious pressure by the examiner's hands. After the appendix empties itself into the cecum the temperature may not rise again; after rupture or gangrene the temperature may suddenly drop, and later run up to 102° to 103° F., in which case the gangrenous process is extending, the pus has become walled off, or the infection has spread throughout the peritoneal cavity—in either case a condition indicative of serious lesions and demanding operative interference.

A normal temperature and slow pulse after the primary elevation has subsided do not always indicate freedom from danger, as shown by the case of my own brother, who for three days prior to operation had a temperature of 98.6° F., pulse 60, and was walking about the room, complaining only of a little soreness in the right iliac region when using the leg, yet we removed from the fossa a gangrenous appendix, which had sloughed entirely off and was embedded in a considerable mass of exudate. He recovered without any rise of temperature.

When called upon to decide at once the question "to operate or not to operate?" my chief reliance has been on the information derived from abdominal, abdominopelvic or abdominorectal palpation most carefully carried out. In many instances one can determine the specific variety of the disease he is dealing with before opening the cavity, and decide upon the most advantageous position for the incision, a point that is especially important in women, in whom it is often necessary to operate upon the uterine adnexa when removing a diseased appendix.

As you are well aware, the position of the appendix has much to do with the location, feeling, and size of the tumor, as determined by palpation and percussion, as in the following instance:

Case I.—Miss S. M. Right iliac fossa filled by a mass lying obliquely toward the symphysis and median line; tympanitic on percussion. McBurney incision disclosed the caput coli displaced forward and inward from behind, the false pelvis filled with white exudate, forming a mass the size of a mandarin. Caput lifted up and the perforated appendix found curled up behind. No pus pocket found. Sterile gauze packed to the outer side for drainage. One week later the exudate had softened and was rapidly absorbed. Temperature 98.8° F., pulse 84.

Owing to rigidity and distension it is not always possible to locate a tumor, and one must be guided by the history and the general condition of the patient and the findings after anesthesia has been induced as in this case:

Case II.—Retrocecal appendicitis: Master O. M., 6 years old. Very ill for several days; abdominal pain and distention, constipation, temperature 103° F., pulse 120 for past two days. Bowels have not responded to calomel taken last night. Vomitus green. Abdomen, especially on right side, very tense, tympanitic. Just prior to etherization, temperature 101.4° F., pulse 120. The boy looks septic. Under ether a mass can be made out extending from the pelvic brim upward along colon; this gives a tympanic note. McBurney incision through the skin shows edema of the subcutaneous tissue. Considerable serum escaped before cutting through the muscles. On worming the index finger between the caput and the fossa, an abscess cavity was opened, exposing considerable exudate and sloughing material, among which the appendix could not be found, but its former site was traced by the longitudinal colonic band, as it had been entirely destroyed by the gangrenous process. The cavity was wiped dry, irrigated with peroxide of hydrogen, and packed with sterilized gauze. The abdominal wound was partially closed by tier sutures.

Under some circumstances the presence of a tumor cannot be positively defined, and in children at times it must be determined by rectal or vaginal examination (if old enough) after anesthesia has been established.

Case III.—Perforated, gangrenous appendix, with pelvic abscess. J. McN., 7 years old. Examination of the abdomen demonstrates general distention and tympany; enlargement of the veins of the lower right quadrant, but neither a mass nor the appendix can be made out. The child looks decidedly septic. Under ether, through the rectum a mass

*Read by invitation before the Suffolk County Medical Society, Riverhead, L. I., April 27, 1905.

can be felt on the right side of the pelvis, and on bimanual examination it is distinctly fluctuant. The appendix was found hanging down in the pelvis, 3½ inches long, curled on itself, with three points of gangrenous perforation. While following the appendix into the pelvis the finger passed into a pus sac containing more than two ounces of very foul smelling pus. Dressed in the same way as the preceding case.

Case IV.—C. G. There was a well-marked tumor visible through the abdominal wall, most prominent at McBurney's point, which was made up of omentum, the curled appendix and exudate lying in front of the cecum. The omentum was ligated and cut away, the appendix excised, the exudate wiped away, the cavity washed out with peroxide and saline solution, and the abdomen closed. Eleven hours later his temperature was 98.4° F., pulse 68.

In women the diagnosis of appendicitis is at times obscured by pelvic disease, especially in those not uncommon cases in which the ovaries and tubes have developed high up posteriorly at or above the brim.

Case V.—When first seen by the writer this patient was thought to be suffering from appendicitis, but on palpating the appendix nothing active could be made out, and as there was a history of old pelvic disease, it was deemed advisable to defer operation. Two months later she came to the city, and I curetted the retroverted uterus, removed a cystic appendix, and suspended the uterus through a median incision. The appendix was attached normally; the right ovary and broad ligament were held by firm bands to the right pelvic brim.

*Mortality.*—Up to August, 1904, it was my good fortune not to have lost a patient upon whom I had operated for appendicitis, and it seemed that every case of Long Island appendicitis cared for by a Long Island physician would recover. From this pleasant dream came a rude awakening.

Case VI.—Gangrenous appendicitis, general peritonitis, intestinal obstruction, death. E. M., 3 years old. During past five days has been ill in bed with "stomachache." Had complained of some tenderness for a week before going to bed. Vomited yesterday after enema, but bowels did not respond, nor had they moved prior to operation. Abdomen distended, fairly soft on left, rigid on right; a large mass occupies the right iliac fossa and extends obliquely inward and downward toward the symphysis pubis. Through an oblique incision the lower part of the ileum was found against the anterior wall, securely walled in by exudate. A finger passed along the outer side of the caput entered a sac from which there escaped six ounces of thin, yellowish pus, of a distinctly fecal odor. With considerable difficulty, owing to the short mesoappendix, the appendix was removed. After clearing away the exudate, freeing adhesions, and saline irrigation, the wound was closed without drainage. Prognosis good if bowels move. This did not take place, and she died the second day after operation.

Case VII.—Gangrenous appendicitis, congenitally displaced ascending colon; spastic contraction of the colon; death. M. S., 16 years old. Five days ago not feeling well; pain in abdomen, constipation, very nervous, nauseated. On third day vomited. Temperature 102° F., pulse 110. Fourth day, expulsive vomiting, abdomen tense. Fifth day, tympany and tenderness over whole abdomen, lower half rigid, especially the recti, behind which lies the displaced colon. Nothing made out in either iliac fossa. Temperature 102° F., pulse 110. Through an oblique incision the ascending colon was found lying in the median line, attached to the right ilium by a mesocolon six inches long (congenital). The gangrenous appendix, which lay behind the caput coli, had broken off and communicated with the cecum, though no intestinal contents could be seen in the abdominal cavity. The gangrene involved all but a half-inch of the appendix, had extended to the adjacent structures, and was not walled off by any adhesions. The intestines were of a very dusky hue, the ascending and transverse colon were markedly distended, the middle of the descending colon was in spastic contraction, and the peritoneum covering the small intestines was markedly injected, but free from exudate. The stump was inverted, the gangrenous area treated with hydrogen dioxide, the cavity with saline solution, and the abdomen closed. After operation the symptoms of peritonitis continued, and she died the following night, thirty hours after operation, six days after the onset of the disease.

*Interval Operations.*—When, in 1899, the writer first began to operate on Long Island, the mortality from appendicitis was said to be quite high, due in part to late recognition, late operation, or failure to operate at all. The more careful study on the part of the physician, that has made him feel positive as to his position in making a diagnosis and insisting on early operation, coupled with the dearly bought knowledge on the part of the layman that early operation is the one thing which can with certainty save him when he is attacked by acute appendicitis, has brought about such a change that during 1904 the writer removed the appendix in several instances shortly after mild or recurrent attacks. The wisdom of this course is shown by the fact that these patients convalesced without temperature, remained in bed only seven to ten days, and returned to business in two weeks. When we compare this result with the risks incident to a severe infection in an appendix, the seat of changes, due to recurrent attacks, one cannot wonder that our patients soon come to accept and demand the removal of the appendix as soon as the first mild attack has subsided, for each succeeding attack is more likely to be more serious than its predecessor.

*Complications Following Appendectomy.*—Operations during an acute attack must at times be carried out under unfavorable circumstances.

Case VIII.—Grip, appendicitis with abscess, hypostatic pneumonia, empyema, recovery. F. H., 19 years, has had several attacks of appendicitis, and was advised to submit to interval operation, but procrastinated. Examination shows a large mass filling right iliac fossa, plainly visible through the wall. For past few days has been troubled with grip cough; mucous rattling can be heard in chest. Through a McBurney incision a sickle-shape appendix was found lying between the abdominal wall and the caput coli, with several ounces of foul-smelling pus. Peroxide and saline irrigation. Wound closed in layers. About four months later he came to town, and after resection of two ribs, made a slow but very satisfactory recovery. What a striking commentary on the wisdom and advisability of interval operation and the unwisdom of disregarding that advice!

If handled properly, fecal fistula usually can be closed at the original operation, or they contract and close without secondary operation, but this did not occur in the following case:

Case IX.—Fecal fistula, end-to-end anastomosis, recovery. The original operation, in one of our Brooklyn hospitals, left a fecal fistula still discharging at the end of six weeks. After dissecting the tract down to the gut, it was found necessary to excise two inches of small intestine and suture it

end to end, with closure of the abdominal wound in layers. This child made the most satisfactory recovery it has ever been my good fortune to observe—painless throughout—and after the second day it was difficult to keep her in bed. She did get out of bed on the seventh day, and walked about the ward on the tenth day.

When the appendix opens on the skin and its lumen is shut off from the bowel at its proximal end, we shall be troubled by a mucous discharge or the intermittent escape of muco-pus, as in this instance:

Case X.—Appendicular fistula, excision of appendix, recovery. This boy of 9 years was operated on for an appendicular abscess about eighteen months ago, and since then two attempts have been made to close a sinus at the site of the primary incision. On dissecting around the fistula it was found to consist of the appendix, which communicated with the surface. On account of the great amount of cicatricial tissue from the previous operations, the wound was closed with difficulty, but it healed kindly, though I feared a hernia might follow.

After you have listened thus patiently to this simple repetition of "the old, old story," permit the writer to enumerate the rules which, from a considerable personal experience and the study of many thousand cases recorded by other observers, he has formulated for his guidance when called upon to decide "when to operate for appendicitis."

1. With a history of sudden, sharp abdominal pain, soon followed by nausea and vomiting and fever, appendicitis may be surmised, and if a little later the pain becomes localized or most intense in the right iliac region, with right-sided rigidity, the diagnosis stands confirmed.

2. The "safe" treatment of acute or recurrent appendicitis during the attack is operation within the first forty-eight hours following the primary pain.

3. If toward the close of the second day, in spite of an icebag continuously applied over the appendicular region and free castor-oil evacuation of the bowels, the pain and rigidity, with or without nausea and vomiting, temperature and pulse elevation, continue or return, to delay operation under such conditions can only subject the patient to the danger of rupture, extensive gangrene, general peritonitis, intestinal obstruction, and a fatal issue.

4. In the presence of a mass or of tumefaction delay is dangerous—operate at once.

5. Interval operation is free from danger, requires but seven days in bed, two weeks from business, and gives freedom for life.

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## LACERATIONS OF THE CERVIX UTERI.*

By ARTHUR H. GARDNER, M.D.,

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Most obstetricians agree that laceration of the cervix occurs to a greater or less extent in nearly every labor. This idea is so firmly fixed that if a cervix is seen without some sign of laceration it is believed to belong to a nullipara. Bernhardy has said that about 25 per cent. of all of these lacerations heal spontaneously. In 75 per cent. the women are either operated upon or the laceration remains.

As to the amount of harm resulting from unrepaired lacerations, there is a great diversity of opinion. Emmet said that at least one-half of the ailments of women who have borne children were to be attributed to lacerations of the cervix uteri. Although it was Emmet who first realized the train of symptoms which may arise, and although his statement was made years ago, in the enthusiasm of having found a remedy for a very frequent cause of suffering, the more mature judgment and experience among gynecologists teach that although there is exaggeration in this statement, there is much truth.

Hirst says that "the result of a bilateral or stellate tear, or of extensive cicatricial infiltration, is a never-ending local irritation, leading to chronic congestion, not only of the cervix, but of the whole uterus; to endocervicitis and endometritis; to cervical catarrh and a consequent leucorrhea. There is always danger of epithelioma from the constant and long-continued irritation, the vast majority of these growths having their origin in an old injury of the cervix. . . . It is possible also to witness a varied train of neurasthenic and reflex symptoms, referable to these lacerations, only disappearing after repair; but the influence of cervical injuries has been much exaggerated in the past, and the physician must guard against attributing too much importance to the local lesion, in a neurasthenic individual with impairment of the general health."

Taylor says that "the lacerated cervix, although minor gynecology, has an important bearing upon what is, perhaps, still the gravest disease to which a woman is subject—puerperal septicemia. Death may be a not infrequent consequence of acute septic laceration of the cervix. Laceration may: (1) interfere with proper involution, which causes the sensation of weight, menorrhagia, backache, etc. (2) Interfere with the position of the uterus, causing a sagging to one side when the laceration extends into the broad ligament, thus creating a dragging pain. (3) Have an effect upon the nutrition of the cervix. Everted mucous membrane becomes irritated and infected, resulting in endocervicitis, pain on coitus, sterility, abortion, etc. (4) Have an effect upon the wall of the uterus at the angle of the tear. The wall becomes thin and yielding. Epithelioma is rarely a result. Lacerations of a minor degree are of no importance."

Baldy has no sympathy with views attributing reflex symptoms to these lesions. He believes that the symptoms from laceration are essentially local—constant leucorrhea, feeling of weight and uneasiness in the pelvis and about the rectum, which is due to the size and inflammation of the cervix itself. "This is not infrequently added to by a displaced fundus, an endometritis, prolapsed ovaries, an inflammation of the ligaments radiating backward from the cervix, or by a general sagging downward of the uterus, with relaxation of its supports. When these complications occur, and the patient has been a long sufferer, it is easy to understand how she may become neurotic and a sufferer from all the ills of chronic neurasthenia."

Craig says that "American authorities unanimously agree that local traumatism predisposes to future malignancy, and the exceptions seem to prove the rule. In England the statement should be exactly reversed. At least 90 per cent. of the cases of cervical carcinoma occur in previously lacerated cervices remaining unrepaired." He says that he is convinced that irritation of the cellular elements on the everted, eroded lips of a laceration, predisposes to cancer.

Morse says: "Looking at the sequelæ of laceration from another point of view, we find that carcinoma of the cervix is far more frequent in multiparæ than in nulliparæ, while carcinoma of the body of the uterus is about of equal frequency in both."

* Read before the Society of the Alumni of the Sloane Maternity Hospital, January 27, 1905.

Palmer says: "The relation between laceration of the cervix and malignant disease of the uterus (where it is detected five times more frequently than elsewhere in a woman's body except in the mammary gland) is so forcibly demonstrated as cause and effect that all physicians should recognize it."

Godson, on the other hand, does not believe that lacerations of the cervix have any predisposing influence in the etiology of cancer, and Baldy says that no one has, to his knowledge, as yet produced a single scientific fact which would uphold such a theory.

Nearly all accoucheurs agree that cervical tears, resulting in hemorrhage, should be immediately repaired by means of suture. Some writers on the subject, even within the last few years, consider styptics and tamponage as means of controlling such hemorrhage, but it hardly seems good surgery to depend upon these, when it is so easy to apply a few sutures.

In regard to the repair of moderate and severe lacerations not resulting in hemorrhage, it has been amazing to me to find so much indifference and divergency of opinion. In reviewing the text-books on obstetrics of the last fifteen years, I find that the following writers do not discuss nor even consider the repair of cervical tears which do not result in hemorrhage: Playfair, Parvin, Norris, Martin, Ribemont, Dessaignes, G. Lepage, Reynolds and Newell, Pozzi, Vogel, Runge, Spiegelberg and Wiener, Schroeder, Gallabin, Tarnier and Budin, Fothergill, Evans and Gallaudet, Kaltenbach, Dakin, Bumm, Manton and Bushong, Olshausen and Viet, and Lusk consider only the repair of extensive lacerations. Cragin says that unless there is hemorrhage, suture is seldom resorted to. He thinks that if immediate or intermediate repair were done by skillful hands in a well-equipped maternity hospital, good results might be obtained.

Among obstetricians who recommend repair of the cervix, a terminology relative to the time of operation has come into general use within the last few years. By immediate repair, we mean a suture of the laceration directly after delivery, or within an hour or two. By intermediate repair is meant a suture of the laceration five days after delivery, or later during the puerperium. The term *remote* repair is applied to a suture any time after the puerperium.

The writers who recommend immediate repair are Newell, Grandin and Jarman, Davis, Coles, Jellett, Bacon, Palmer, and Stone.

Those recommending intermediate repair are Hirst, Dickinson, Goodell, and Norris.

Those who recommend a remote repair are Haven and Young, Jewett, Webster, Warren, Müller, Craig ("American Text-Book of Obstetrics," 1895), Dorland, Baldy, Cragin, Burtenshaw, Edgar, Williams, Wakefield, and Holmes.

Let us consider the advantages and disadvantages of the different times for operation, as set forth by their respective advocates and opponents.

*Advantages of the Intermediate Operation.*—1. It requires but a few minutes, which can easily be added to a labor, no matter how long the labor has taken.

2. If the woman has come out from the effects of her anesthesia, a few whiffs of chloroform is all that is necessary. If none is given, and it is particularly desired to give none, the operation is almost painless.

3. It does not make a secondary operation necessary, thus causing less inconvenience to patient and surgeon.

4. It can be done at home or in the hospital.

5. It prevents sepsis by closing an avenue of entrance to bacteria.

6. It removes the most frequent cause of subinvolution.

7. No particular operation, device, or instrument is necessary.

8. It gives almost as good a result as we get from suturing perineum, pelvic floor, or anterior vaginal wall.

9. It has usually proved successful in the hands of able surgeons.

*Disadvantages of Immediate Repair.*—1. In perhaps 25 per cent. of cases no repair is necessary, as healing takes place spontaneously in about this percentage of cases (Bernhardy).

2. The cervix is "swollen, distorted, and stretched beyond recognition" (Dickinson); this makes suture difficult.

3. "Bleeding obscures field of work" (Dickinson).

4. "Puncture points of needles bleed about as freely as do the torn surfaces" (Baldy).

5. "Sepis may be carried by fingers, sutures, and instruments."

6. "Traction upon the uterine ligamentous supports at this time may be productive of uterine prolapse and retroversion."

7. "Manipulation at this time may cause embolism."

8. "When shrinkage takes place the wound surfaces are exposed to infection just the same as before suture" (Baldy).

9. "Sutures in the swollen cervix hang like rings after contraction and involution, and thus do no good" (Hirst).

10. "It may interfere with drainage."

11. We must have assistance.

12. Deliberation and due care are impossible at this time.

13. There is a bad effect upon the morale of the patient.

Some of these reasons are evidently prejudiced and the objections are palpably puerile.

*Advantages of Intermediate Repair.*—1. Less danger of infection. Hirst says that previously to his advocating intermediate tracheloplasty, when he was suturing after delivery, he had an occasional infection. He feels from his experience that there is much less likelihood of introducing sepsis if the operation be done five days after delivery.

2. The swollen and edematous cervix has contracted by this time, so that approximation is more accurate and permanent.

3. The woman is in better condition.

4. The accoucheur can arrange time and assistance to suit all concerned.

*Disadvantages of Intermediate Repair.*—1. A secondary operation breaks into a woman's convalescence in a most unpleasant manner. She has to take an anesthetic, with its possible train of discomforts, at a time when the milk secretion is fairly established, and the baby is nursing well.

*Advantages of Waiting for Symptoms and of Remote Repair.*—1. By waiting we will not find suture necessary in the approximated 25 per cent. of cases, which heal spontaneously.

2. Some women, with moderate tears, never have any symptoms.

3. Sometimes treatment will relieve symptoms, making it possible to do without the dreaded operation.

4. It is easy to choose time, place, and assistance.

*Disadvantages of Waiting for Symptoms and of Remote Repair.*—1. Many women will bear pain and suffer for years before consulting a physician.

2. The long train of nervous and hysterical symptoms, arising from laceration, with their complicating pathological pelvic conditions, may so undermine a woman's health before she seeks advice, that it may require a long time for restoration to a normal condition, even after the tracheloplasty has removed the cause.

If it be true, as Bernhardy has said, that about 25 per cent. of all lacerations heal spontaneously, the question naturally arises, why do not the other 75 per cent. heal spontaneously? There are probably at least three reasons. (1) Lacerated wounds of the cervix, as in other parts of the body, may, with no interfering factor, as sepsis, heal by granulation, and more or less eversion of the wound edges, depending upon the tension in the parts divided. (2) Sepsis entering the divided surfaces causes suppuration and necrosis, with slow exuberant granulations, and eversion of the edges. The ultimate result in both of these conditions will be a formation of scar tissue, which is generally believed to be a factor in producing morbid conditions. (3) The introduction of the douche nozzle, tampons, etc., prevent approximation of the wound surfaces.

A prominent gynecologist recently told me that he believed that it was not the laceration itself which caused the symptoms usually ascribed to it, but the concomitant sepsis, with its resulting pathological changes. If no sepsis enter, will all lacerations heal? If it be sepsis which prevents healing, there must be an enormous number of puerperal cases, which have been more or less septic.

It will be noticed that both those who recommend immediate and those who recommend intermediate suture, claim advantage in preventing the entrance of pathogenic bacteria, on one hand, by closing the avenue, and on the other, by not introducing instruments, catgut, etc., which may carry infection. The obstetrician who understands asepsis does not fear carrying infection with his instruments.

Should students be taught to repair a lacerated cervix immediately after delivery? Hirst feels that students should be taught to do their obstetrical work as it ought to be done. Cragin does not sanction its being taught to students. It seems inconsistent to teach medical students to do all sorts of operations on other parts of the body, and yet not to approve of their learning the value of placing a few sutures in the puerperal lacerated cervix.

But the facts remain that the family physicians always have, and perhaps always will, practice obstetrics, and that the family physician is often one who does not understand, nor practice asepsis. Without absolute asepsis, it would be criminal to attempt any post-partum surgical procedures upon the parturient canal, as much so as to attempt to do a laparotomy without such precautions.

The method of procedure in immediate repair is very simple. The patient should be placed upon a table, and in proper position, so that the cervix can easily be drawn down into good view with volsellum forceps. With the wound sponged and exposed, a few plain catgut or chromicized gut sutures can easily be inserted, and we have finished the simple operation.

*Conclusions.*—1. Many ills are the result of unrepaired lacerations of the cervix.

2. The frequency and extent of these tears may, to a certain extent, be lessened by allowing more time for dilatation in the first stage of labor; by a more judicious use of the forceps in time and force; and by the proper use of podalic version.

3. The most frequent cause of subinvolution of the uterus and prolonged convalescence is unrepaired lacerations.

4. In all probability many of the frequently quoted morbid conditions ascribed to lacerations are the result of infection of the lacerated surface rather than the laceration itself.

5. Many cases of severe hemorrhage are due to unrecognized cervical lacerations.

6. Immediate repair in the hands of an able surgeon-obstetrician is the best means of controlling such hemorrhage, and also of preventing infection of the torn surfaces.

7. Primary tracheloplasty is easily and quickly done, but a secondary repair is a difficult and tedious procedure.

8. In case of failure in obtaining union in the primary operation, the condition of the woman is none the worse, while if successful, which is usually the case with skillful surgeons, the patient is spared many of the ills which lacerations of the cervix sooner or later entail.

9. In regard to teaching medical students, it seems as if the matter should be fairly placed before them. Where hemorrhage persists with a well contracted fundus, they should be taught to look for spurting vessels in the lacerated cervix, and to suture. As to immediate repair without hemorrhage, they could be taught its advantages, and as in other departments of surgery, they should have deeply impressed upon their minds the evils which might arise from poor technique and lack of asepsis.

## CASE OF DELAYED MENSTRUATION; FLOW ESTABLISHED AT FIRST SPONTANEOUSLY, SUBSEQUENTLY BY TREATMENT; CONCEPTION.

BY B. P. HIRST, M.D., AND HERBERT FOX, M.D.,

PHILADELPHIA.

We present the notes of a woman who had no menstrual flow until the thirty-fourth year, then menstruated spontaneously three times. After an amenorrhea of five months she responded to treatment, and shortly conceived. We have found only one more remarkable case than ours. Wolfe (*Lancet*, ii, 1898, p. 323) reports the history of a woman who married at 34, menstruated first at 45, conceived, and was delivered at 46 years. The first bleeding followed immediately upon a fright.

The late institution of menstruation, after the 30th year, is very rare. Winckel (Handbuch der Geburtshülfe, I, 1, s. 94) states that it occurred only once in 34,000 cases in which the date of the first menstruation was obtained.

A. A., housewife, æt. 35, white, married ten years, German. Her mother died of some lung condition at 54. Father at 76, of senility; three brothers died in infancy; three half-brothers living and well. She came to America in her seventeenth year; she was always healthy. Six years ago she fell downstairs, a newel post striking the abdomen over the liver, rupturing its superior ligament, producing a hepatoptosis of five finger-breadths and considerable muscular bruising. She was kept in bed for six weeks, during which time, and for two months later, she was firmly strapped from the crest of the ilium to the lower margin of the breast, and received frequent light massage. She wore a belt after that for about a year. There were no uterine disturbances or hemorrhages from any organ. She never had a sign of menstruation until she was 33 years

old, when, in April, 1903, without apparent cause, she bled profusely for five days, with dull pain in the lower abdomen the first day. Four months later she had a period of eight days' duration, accompanied by severe abdominal and sacral pain, the flow consisting of dark, thick fluid blood. Six weeks later she was again unwell, without pain, for four days; the discharge was bright fluid blood. In February, 1904, there having been no menstruation for four months, Dr. Girvin, at the Presbyterian Hospital, found the following condition: Vulva and vagina normal; cervix small and soft; uterus infantile and soft, freely movable, in good position; right adnexa not palpable; left adnexa normal. He advised a general tonic and a daily borax douche for leucorrhea. This discharge had been present for fifteen years, and was yellowish, slightly foul, and quite irritating. It was always worse after exertion or excitement; it had stopped for a few days after each of the three periods.

The blood examination showed the following: Hemoglobin, 76 per cent.; erythrocytes, 3,800,000; leucocytes, 7,800. She was given a pill of arsenic, quinine, and strychnine, and a pill containing aloin, extract of belladonna, and strychnine, for persistent constipation. At the same date in each of the two months preceding this treatment she had experienced peculiar symptoms of dizziness, backache, and dull abdominal pain. Assuming that at these dates a normal menstruation should have occurred, we introduced a boroglyceride tampon a few days before the corresponding date of March, 1904, with the result of a painless menstruation of bright fluid blood, lasting eight days. In April, however, no bleeding occurred, although the same treatment was administered. In May a menstruation appeared at nearly the correct time, accompanied by moderately severe pain the day preceding and on the first and second days. Treatment was continued until, in October, her blood examination showed hemoglobin, 87 per cent.; erythrocytes, 4,400,000; leucocytes, 7,200; but since June there had been no menses. A pelvic examination discovered pregnancy, apparently about the fourth month.

She was admitted to the Maternity Department of the University Hospital on March 4, 1905. The date of expected delivery could be set only approximately in March, since the date of conception could not be determined. She was delivered on the 8th of April, which would indicate that conception occurred probably in July, more than a month after the last menstruation. Quickening was observed about four and one-half months before labor. The labor, which began at 8 P. M. on April 7, progressed slowly but steadily until the descent of the head to the pelvic floor, at 12 M. on April 8. After waiting four hours, the Sawyer forceps was applied, and delivery was completed without difficulty.

## SERUM THERAPY IN ERYSIPELAS; RESULTS IN THIRTY-THREE ADDITIONAL CASES.

By JAMES C. AYER, M.D.,
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Some months ago I reported my observations on a series of fifteen cases of erysipelas treated by antistreptococcus serum; and in this paper I shall give the results obtained by the same treatment in thirty-three additional cases.

In tabulating the data of these cases, I have laid especial stress upon the following points: Treatment begun (day of disease); desquamation begun (days after first dose of serum); duration of disease; number of injections and total amount of serum given; initial leucocytosis; leucocytosis at desquamation; initial albuminuria present, and day of its disappearance after first dose.

Of the thirty-three cases, three patients died (9 9/10 per cent). One, an infant, died on the eighth day of the migratory form of the disease; the second, of lobar pneumonia, and the third, of wet brain.

Only those patients received the serum who were admitted to the hospital on or prior to the third day of the disease, as I regard its administration after that period as useless. The average duration of the disease under these conditions was 6 8/10 days; and, based on the period at which treatment was begun, was as follows:

| | | |
|---|---|---|
| First day, | .... 2 cases.. | duration, 7½ days. |
| Second day | .... 10 cases.. | " 7 days. |
| Third day | .....21 cases.. | " 6 9/10 days. |

The desquamation began on an average of 3 6/10 days after the first dose of serum.

The amount of serum used in each case averaged about 20 c.c., given in one or two doses.

The initial leucocytosis was uniformly high, averaging 17,540, while the counts made on the day of desquamation showed an average of only 8,500.

An initial albuminuria was present in 40 per cent. of the cases, over one-half of which cleared up by the second day after receiving the serum. In the remainder, the albuminuria still persisted at the time of the patient's discharge from the hospital.

Of these cases, thirty-two were of the facial type, and one migratory. Most of the latter type of cases which I have encountered have been in infants, and they almost invariably terminate in death.

I have also remarked that the facial types predominate in the winter, while in the summer the disease is located on the extremities in a considerable number of cases.

In this last series, the average duration of the disease was 6.8 days, as against 7.6 days in my previous series. In my first series of 79 cases treated by the older methods, the average duration was 9.4 days.

This shortening of the average duration of the disease by 2.6 days about expresses, to my mind, the value of this form of treatment. The general amelioration of all the subjective symptoms following its employment is also in its favor, as is the apparent beneficial effect on the febrile form of albuminuria which is present in such a considerable percentage of the cases.

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**Is Tuberculosis a Causative Factor in the Production of Cancer?**—A. Hamilton Levings reports sixty-one cases of cancer, 70.2 per cent. of which gave a distinct family history of tuberculosis. In the majority of the sixteen cases in which the reports did not show tuberculosis in the families, the histories were incomplete. The writer believes that the theory held for centuries, that there is a distinct antagonism between tuberculosis and cancer, must, in the light of present knowledge, seem disproved. For, he adds, the two diseases may attack not only the same patient, but lie side by side or intermingle. The writer is impressed with the seeming fact that malignancy never attacks perfectly healthy and normal tissue. It makes its inroads rather on tissues that have a lessened vitality, and which have been weakened by inheritance, by traumatism, or by chronic inflammation. He thinks that at the end of the next hundred years or two, tuberculosis will practically have disappeared in consequence of improved hygienic conditions, and man, having become then stronger and more resistant, will not be attacked by malignant disease to nearly so great an extent as he now is.—*The Clinical Review.*

MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

THOMAS L. STEDMAN, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, August 26, 1905.

## BASIC PULMONARY TUBERCULOSIS.

WE believe it was Gerhard who used to make a point of constantly admonishing his pupils to keep in mind the fact that rare conditions, although of exceptional occurrence, were really encountered from time to time, and must be looked out for. The law of probabilities always plays a great part in deciding doubtful questions of a medical diagnosis, but if followed too inflexibly it sometimes leads to grave mistakes. It is natural, for example, to associate the thought of incipient pulmonary tuberculosis with an apical lesion, and in the vast majority of cases the disease does begin at one apex. It is, nevertheless, true that in a certain small percentage of consumptives the morbid process starts at the base of the lungs, instead of in the upper portion of the upper lobe, and it is well not to lose sight of this possibility.

This mode of origin of pulmonary tuberculosis is made the subject of a contribution by Dr. Herbert C. Clapp and Dr. George N. Lapham (*New England Medical Gazette,* August, 1905), based on the statistics of the Massachusetts State Sanatorium for Consumptives, at Rutland, Mass. The authors first say that in calling attention to the base of the lung as a location for the deposit, they wish to have its exceptional character prominently brought forward. This fact is emphasized particularly because of the knowledge, gained in teaching, that the human mind, by a queer process, unless it is warned is very apt to remember exceptions almost as well as the rule, and sometimes even better. A paper on this subject would therefore be worse than useless, unless by calling attention to the extreme rarity of the exceptions it served to prove the well-nigh universal application of the rule. As to just exactly how rare this form of the disease is, the few statistics which are accessible do not agree. Louis, in his classical work, "Recherches sur la Phthisie," reported two cases out of 123. Dr. Walsh gave one in sixty or eighty; Dr. Cotton two in 1,000. Dr. Pollock, in his famous "Prognosis in Consumption," gave sixty-four cases in 4,530 (or one in seventy) in which the physical signs were most marked at the base from the commencement. He states that just one-half, or thirty-two, had also signs of incipient disease at the apex when examined. It must be remembered, however, that all of these investigators lived and wrote before the discovery of the tubercle bacillus, and undoubtedly from the symptoms often considered cases as tuberculous which we now should class as non-tuberculous on account of the negative results following repeated examinations of the sputum during life, or on account of the absence of the bacillus in the tissues post mortem. Four years after Koch's discovery, Dr. Percy Kidd published an interesting article on this subject (*The Lancet,* 1886, ii, pages 615 and 665), in which he very properly refused to classify as basic those affections of the apex of the lower lobe which are not infrequently met with. He reports two cases with autopsies as the only examples of true basic tuberculosis he met with in 412 cases, in all of which he made the post-mortem examinations himself. This would give one in 206. He thought it very likely, however, that a larger number of autopsies would still further reduce this proportion, and that probably one in 500 would not be far wide of the mark. The authors then go on to discuss the statistics recently gathered from the records of the Massachusetts State Sanatorium. This institution has treated 3,252 patients during the six and one-half years of its active existence. Among these were but five patients whose disease, as indicated by the physical signs, was located only at the base of the lung, and in whom at the same time the tuberculous nature of the process was satisfactorily proven—in four by finding tubercle bacilli, and in one by the tuberculin test. A number of cases of what at first seemed to be basic tuberculous disease were excluded from the list because, although the symptoms and physical signs of phthisis were present, one could not, in the absence of tubercle bacilli or of a positive tuberculin test, be really sure of their tuberculous nature, as would have been possible had the diseased portion been apical.

Some of the basic diseases which simulate tuberculosis are unresolved chronic pneumonia of the lower lobe, the pneumonic condition and bronchiectasis resulting from a foreign body in the bronchi, collapse of the lower lobe, and cirrhosis following pleuritic effusion, empyema opening into the lung, etc. Any one of these, however, may subsequently receive tuberculous infection, so that the search for the bacilli should be continued at proper intervals. These five cases out of 3,252 give a ratio of one to 650. Thinking that this proportion might be a little unfair, owing to discrimination against basic cases in admitting patients, on account of a feeling that their prognosis is less favorable than that of the commoner kind, the authors counted up the number of basic cases among the 6,769 consecutive applicants for admission during the last four years and six months. Out of these 6,769, they found thirty-two cases in which the physical signs indicated basic trouble. Of these thirty-two, however, only eight showed tubercle bacilli in the sputum, although eight more had had hemoptysis in connection with other phthisical symptoms. Subtracting the eight with bacilli from the thirty-two basic applicants above mentioned, there remain twenty-four with sputum not examined or reported negative. Some of these twenty-four probably had bacilli. Assuming that at least one-quarter, or six, out of this number would have shown them if repeated examinations of their sputum had been possible, we have fourteen tuberculous basic cases out of 6,769, or one in 483 applicants. These considerations lead Drs. Clapp and Lapham to conclude that tuberculous disease of the lungs begins at the base instead of at the apex in one case out of 500 or 600, roughly speaking. Although very few general practitioners, even among those who lead busy lives, treat more than this number, and therefore have little occasion to dread the danger of making a mistake from this cause, the careful diagnos-

tician will not forget that even if the apex is clear there may be a tuberculous process developing at the base of the lung.

## A PROBABLE MODE OF COMMUNICATION OF LEPROSY.

It is well known that the human tissues furnish a poor soil for the planting of the leper bacillus, however ineradicable the latter may be once it has become firmly rooted, as it were, in the skin or deeper structures. So true is this that many leprologists—trained observers and logical thinkers—have denied the contagiousness of the disease, and have sought with much ingenuity to explain the facts of the spread of leprosy or some other hypothesis than that of personal contact. The best known of these hypotheses, and the least accepted, is the celebrated fish theory of Hutchinson. According to this doctrine, leprosy is spread through the medium of fish, and as proof thereof is alleged the undoubted fact that the disease prevails more in maritime nations than among dwellers in the interior. The fact is, however, ignored that among many fish-eating peoples—whether fresh or salted fish, good fish or putrid fish—leprosy is unknown, while it is not unknown in certain places where fish forms an insignificant part of the dietary. An almost fatal objection to this theory is that the lepra bacillus has never been found in fish, either salt or fresh, and the only condition on which it can be accepted at all is that in some way a diet of sea food renders the human tissues vulnerable to the bacillary attack. The truth unquestionably is that leprosy is contagious, but contagious to a very slight degree. Mere contact with the specific germ, even of a raw surface, is insufficient; the contact must be prolonged and intimate, and every opportunity must be given the bacillus to become acclimated and to make the beginnings of growth undisturbed by outside influences.

It has been thought that possibly the disease is spread by means of the bites of fleas and other insects, but among the most plausible and satisfactory of the theories thus far suggested is that the itch mite is the inoculator. We do not know by whom this was first advanced, but Dr. Mugliston, Colonial Surgeon of Penang, has recently returned to the subject, adducing some rather strong testimony in support of the itch theory. Writing in the *Journal of Tropical Medicine* for July 15, 1905, he says that he had for many years noted the almost universal occurrence of itch in lepers, but until a few years ago looked on this only as one of the dirt conditions which might be expected in those who have little to look forward to in life, and so get careless of their surroundings. In connection with this he found that of 400 patients in the Pauper Hospital, twenty-five had itch. Later, as he began to recognize from various facts the communicability of the disease, it occurred to him that there was here an almost ideal method of inoculation, and he began to make inquiries on these lines. He found that of seventy-seven lepers, admitted from January 1 to May 31, 1905, forty-four had itch on admission, eleven more remembered having itch, and twenty-two could not remember. "When we take the life history of the *Acarus scabiei*," he adds, "we see that the way it burrows under the cuticle and remains in a position for a considerable time where the conditions are most favorable for the growth of the leprous bacilli with which it is covered, coming as it does from the part of the leper where the leprous bacilli are most numerous and vigorous, it is, I think, fair to assume that this is a possible way of communicating the disease."

As the lepra germ is a bacterial and not a protozoan parasite, it is improbable that an intermediate host is necessary for the development of an extra-human cycle. Therefore, it may be assumed that there is no specificity in the acarus mode of transmission, analogous to the rôle of the mosquito in malaria, but that the parasite acts merely as a very efficient inoculator because of its burrowing beneath the cuticle. This is doubtless only one, but perhaps the most effectual, of the various modes of transmission of the lepra bacillus.

## THE TREATMENT OF GONORRHEAL RHEUMATISM.

Gonorrheal rheumatism represents one of the most unwelcome complications in the domain of genito-urinary surgery. It is rebellious and uncertain rather than actually dangerous, but in order to appreciate its true character the fact should always be borne in mind that it is a systemic infection, the source of which is genitourinary. The infection may be, and probably is, a mixed one, but it bears no relation whatever to acute inflammatory or to muscular rheumatism. Just what rôle the gonococcus itself plays has not been fully decided, but it is assumed by many capable observers that the local inflammatory reaction which arises from its presence in the mucous membrane allows other germs to enter the system.

Eugene Fuller (*Annals of Surgery*, June, 1905) now brings forward the claim that gonorrheal rheumatism, so-called, can exist independently of the gonococcus, and that another agency may be present which can play the minor rôle assigned to the gonococcus of allowing other germs to enter the system from a genitourinary source. If so, then the common appellation is a misnomer.

The author of the paper referred to has made a special clinical study in order to determine whether the systemic infection in these cases entered from some specific source or from the general mucous surface. In the male this special focus he believes to be represented by a seminal vesiculitis. In fifteen cases of gonorrheal rheumatism, the only existing gonorrheal lesion in twelve was found in these organs. He then determined to remove this focus by operative means and thus to check the disease. This he did in four cases. Almost immediately the active symptoms of the trouble subsided, the joint movements being possible in from 24 to 48 hours, and the patients were up in two weeks.

These are striking results and apparently demonstrate the correctness as far as they go, of the author's theory. But the operation is a most difficult one, as the writer admits; it depends for its success largely on the sense of touch, since instrumental exposure of the organs is a dangerous procedure. Hitherto this region has been looked upon as quite inaccessible, and has, therefore, not been made the subject of any extended surgical interference. The success attained by Dr. Fuller in this field will undoubtedly stimulate others, and reports from these investigators will be awaited with interest.

### An Arctic Sanatorium.

It was announced early in the summer that an expedition was about to set sail for the Far North in search, not of the Pole, but of a cure for tuberculosis. The scheme progressed so far, at least, as the sending of an agent to Halifax to negotiate a charter for a vessel, but whether or not the party was organized and actually set sail for Greenland we are unable to say. The originator of the project was Dr. Sohon of Washington, who had been with Peary to Greenland, and was struck while there with the suitableness of the Arctic regions for the climatic treatment of tuberculosis. Writing on the subject in the *Washington Medical Annals,* he prefaces his argument with a statement of the generally admitted fact that the danger in a given case of pulmonary tuberculosis is, as a rule, not from the tubercle bacillus, but from the resulting mixed infection with pyogenic organisms. He believes that a summer spent in Omenak Fjord or Inglefield Gulf, in Greenland, would serve to establish a cure, or insure its accomplishment afterward, in nearly all cases in which the disease is not already completely overbalanced by septic complications. Four tuberculous patients who have gone to these places have been cured promptly and effectually. In other words, 100 per cent. in four cases have been cured. This evidence is not conclusive, and still this list includes all the known cases. The natives of Northern Greenland do not have tuberculosis, although there has been ample opportunity for infection from visiting whites. The greatest single drawback in the treatment of tuberculosis is the continual occurrence of unavoidable exacerbations of a catarrhal, pneumonic, or septic nature. Catarrhal conditions do not exist in the Arctic, and septic bacteria are not native. In the summer months all life is forced and stimulated; men and animals quickly recover from the winter anemias, and there is just such a forcing of vitality that consumptives especially need. Patients here would be removed from all influences which favor an extension of the disease or militate against an improvement. The never-setting sun unintermittently imparts energy; the atmosphere is dustless and sterile; there is entire freedom from danger of colds and other ills which cause setbacks. The sailing distance from New York to the extreme end of Baffin Bay is about half that between New York and Europe, and from the Northern railroad connection at Sydney, Nova Scotia, to the Arctic Circle the distance is approximately that between Boston and Key West. The waters are usually smooth. From the zeros of the mornings in May there is a constant rise of temperature until past the midday, or, as we should say, midsummer, and then a decline toward the evening in September. During most of this long day the temperature is above the freezing point, and rises in the forties and fifties after the snow melts in the spring and the rocks are sunwarmed. The usual fluctuations in any twenty-four hours do not equal the changes which occur in the single hour following our sunrise and sunset. The question of a proper food supply in the Far North is not radically different from the same question here. In that region the time required for a cure of tuberculosis is far shorter than in other climes, and so the summer voyage might suffice; at least it would lay a good foundation for a permanent cure. The writer urges that consideration be given to the dedication of a hospital ship for the purpose of carrying patients to the favored spots in the North which hold the complete essentials to a cure. Here is an opportunity, he thinks, for some philanthropist to give a sum sufficient to purchase and equip a vessel for an experimental voyage to the North.

### A Setback to Reciprocity in Medical Licensure.

Quite recently the New Jersey State Board of Medical Examiners decided that, for the future, they would not endorse the medical licenses issued by the New York State Board of Medical Examiners. For many years New York physicians have been able to practise medicine in New Jersey without having to undergo the ordeal of a further examination, but during this same period the New Jersey physicians have not been accorded similar privileges in this State. Hence the new decree on the part of New Jersey. Much as we may deplore the step as retrograde, and as antagonistic to general interstate reciprocity, New Jersey is not only acting within her undoubted legal rights, but has been driven to take this stand in self-defense and as necessary to maintain her self-respect. So far as we can see, the action of the New York Board has, for many years, been unreasonable. The New Jersey standards, both for preliminary or academic education and for medical education, are quite as high as those in force in this State. Her medical examination for the license to practise has one more paper than is set in New York; and as the examination questions on the remaining subjects are of about the same standard of difficulty in both States, New Jersey would seem to have the higher standard. Hence she has every right to expect that the courtesy which she has been in the habit of extending to New York should be reciprocated. It is up to the New York State Board to explain wherein the New Jersey requirements are in any way inferior to our own; for to the general medical public it is not apparent. Perhaps, however, some good may come out of this evil. Possibly the stand taken by New Jersey may cause such a careful comparison of and investigation into the licensing conditions existing in these two neighboring States as to bring about a mutual recognition, so that in the near future the holder of either license may practise in both States. We know of no two States wherein the conditions for medical practice are so similar, or where the reasons for reciprocity are more apparent. Here, then, is an opportunity for some medical diplomatist to show the advantages of arbitration, and for Peace to reap one more of her renowned victories.

## News of the Week.

**The Yellow Fever Situation.**—The mosquitos in New Orleans are being reduced in numbers by energetic and repeated attacks as never before in the history of the city. They are now so few that it is possible to sleep in comfort without a mosquito netting over the bed, Culex and Anopheles sharing the fatalities with Stegomyia, against which the attack is primarily directed. On Sunday last nearly every house was thoroughly fumigated to destroy the sleeping insects, and with cisterns screened and drains and pools oiled, there is little chance for reproduction on a large scale. There is a gradual abatement in the yellow fever epidemic, with an occasional temporary increase in the daily total of reported cases. The total number of cases up to and including Tuesday of this week was 1,503, with a total of 214 deaths. There will be a second general fumigation next Sunday, by which it is hoped to kill those few mosquitos that have escaped thus far. It is now believed that the fever can be got rid of in three weeks, in consequence of the drastic measures being taken. It is believed that the fever is under control, for the last two weeks of August are usually the worst weeks of the year in a yellow fever visitation. The deaths for

these weeks in August, 1855, were 1,500 a week, and in 1878 the mortality increased twelvefold between the first and last weeks of August. This year, however, the number of cases is diminishing during this period of normal exacerbation, and diminishing at the same time with, and doubtless in consequence of, the reduction in the number of mosquitos.

**Mortality Statistics of Immigrants in Transit.**—Acting Secretary Murray of the Department of Commerce and Labor has received a report from Collector Stranahan of New York, showing that during the past three fiscal years, ended June 30, 1905, from the ports of Europe 1,932,934 steerage passengers embarked for New York, of whom 423 died on the voyage, or about 22 deaths per 100,000 passengers. Allowing twelve days for the average voyage, the rate is equivalent to an annual death rate of about six and one-half (6.56) per 1,000. (The last Federal census shows the annual death rate per 1,000 in 1900, in New York City, was 20.4; in Washington, 22.8; and the lowest rate for large American cities, St. Paul, Minn., 9.7, and Portland, Ore., 9.5. The Federal census gave the death rate for Hungary at 30.3; Italy, 24.6; Germany, 22.8, and Norway, 16.5.) The highest monthly rate for the three years was January, the month of smallest travel, 38 deaths out of 87,260 in the steerage; the lowest rate, also 38 deaths, out of 256,838 steerage passengers, was May, one of the months of heaviest steerage travel to New York. From Northern Europe there were 242 deaths out of 1,351,221 steerage passengers; from Southern Europe, 181 deaths out of 581,713. Of the steerage passengers, 31,873 were babies under one year, and 116 more were born in the steerage, two mothers dying in childbirth; 126,993 were children over one and under eight years, and 1,774,068 passengers were over eight years. Under eight years 211 died; over eight years, 212. The census figures for 1900 give deaths under nine years in the United States, so exact comparison is not practicable. In the steerage, one and one-third died out of every 1,000 children under eight years. Only one steerage passenger out of nearly two millions died on shipboard from accident, and only one from yellow fever. Twenty-three committed suicide and seven disappeared (suicide, accident, or murder). The principal causes of death were heart failure, 75 (20 children); pneumonia, 64 (37 children); inflammation of bowels, 40 (all children but five); meningitis, 34 (14 children); convulsions, 28 (children); apoplexy, 17; alcoholism, 17; marasmus or weakness, 17 (13 children); tuberculosis, 16 (8 children); bronchitis, 15 (12 children); congestion, 10; five children died from scarlet fever and five from measles. The remaining forty-seven deaths were due to twenty-seven miscellaneous diseases.

**Mr. Christopher Heath,** F.R.C.S., Emeritus Professor of Clinical Surgery in University College, London, and a past-president of the Royal College of Surgeons of England, died on August 8. He was born in London in 1835, and was educated at King's College School, and at King's College and King's College Hospital, London. He served as a surgeon with the Baltic fleet during the Crimean War, in 1855. In 1856 he was appointed demonstrator of anatomy at Westminster Hospital, and six years later he was made lecturer on anatomy and assistant surgeon at the same hospital. In 1866 he was appointed assistant surgeon and teacher of operative surgery at University College Hospital, and in 1875 he became Holme professor of clinical surgery and full surgeon at the same hospital. In 1897 he delivered the course of Lane lectures at the Cooper Medical College, San Francisco, and for so doing was severely criticised by some of his enemies, of whom his polemical methods of argument had created not a few. He was the author of a number of works on surgical and anatomical subjects, the most widely known and popular of which was his "Practical Anatomy," first published in the '60s and reaching a ninth edition in 1902.

**Trouble Over Bellevue Bids.**—An application has been made to the Supreme Court for an injunction restraining the trustees of Bellevue Hospital from awarding the contract for Pavilions A and B of their new building. The contract was awarded to a firm of builders in this city, and the present action is brought by a taxpayer, who sets up in his complaint that the company securing the award, whose total bid was $645,526.95, is not the lowest bidder, as another contractor submitted a bid of $639,949.17. The bids were divided into several items, and the contract was awarded on the first two, on which the bids of the successful company were lower. The plaintiff asserts also that the award is illegal, because it was not made at the regular time and place of meeting of the board of trustees at Bellevue Hospital, but was made at a luncheon held at the Lawyers' Club.

**Gift of a Hospital to Utica.**—On St. Luke's Day, October 18, there will be opened in Utica, N. Y., a new St. Luke's Hospital, which is the gift to the city of Mr. and Mrs. Frederick T. Proctor. The building throughout is constructed of the best materials obtainable, and in every particular it will be furnished with the latest conveniences for taking care of the sick. The cost of the building, exclusive of the furnishings in wards, private rooms, and surgery, will not be far from $260,000. The building stands on high ground in the western part of the city, not far from the State Hospital for the Insane. Every modern device has been employed to make the building fireproof.

**Improving the Nassau Hospital.**—Mrs. William K. Vanderbilt, Jr., has stated that she will provide a children's ward, diet kitchen, dressing room, and more private rooms for the Nassau Hospital at this place. The hospital was established through the efforts of a number of prominent residents of Nassau County and the members of the Meadow Brook and Rockaway colonies, who some years ago gave a horse show and a series of races in order to raise money for it. Mrs. Clarence H. Mackay built and furnished the nurses' home, which adjoins the hospital, and also had a landscape gardener lay out the grounds and plant shrubbery and trees on the premises. Mrs. O. H. P. Belmont has established the Belmont Ward, where women patients are cared for without expense.

**Transferring Insane Patients.** — Fifty insane women patients from the Long Island State Hospital, at Flatbush, were taken a few days ago by the Lehigh Valley Railroad to the Willard State Hospital. These women form the first section of 400 patients who are to be moved within a few days, because there is no room for them in Flatbush. More will be taken to Willard, and another section will go to Rochester. The remainder will be cared for in the hospital at King's Park, L. I.

**Arrested for Striking Patients.**—Two of the attendants at the Morris Plains State Hospital for the Insane were recently arrested on the charge of slapping two of the patients in the face. The men pleaded guilty, but denied beating or otherwise maltreating the patients. No similar charge had been made against an attendant in this hospital for years, for the rule against striking a patient has always been strictly enforced here.

**Attempt to Burn a Hospital.**— A patient who was enraged because he had been shut up in a room alone

when drunk and abusive tried to set fire to St. Joseph's Hospital, in Paterson, N. J., a few days ago. He had been out of the hospital and returned in an intoxicated condition, and soon after being confined in a basement room was discovered applying lighted matches to his cot and the woodwork of the window. There were nearly three hundred inmates of the hospital—patients, sisters, nurses, and servants. The fire was quickly extinguished and the patient arrested on the charge of arson.

**The Norman Kerr Memorial Lectureship.**—Dr. T. D. Crothers of Hartford, Conn., superintendent of the Walnut Lodge Hospital, has accepted an invitation to deliver the first oration of the Norman Kerr Memorial Lectureship, at London, England, October 10, 1905. Dr. Kerr will be remembered as an eminent London physician, who made a special study of alcoholism and other drug disorders. He wrote several excellent books on this subject, including the article on Alcoholism and Drug Habits in the "Twentieth Century Practice," and was instrumental in securing the enactment of laws for the control of inebriates, and the promotion of hospitals for their care throughout Great Britain. He founded the British Society for the Study of Inebriety, in 1884, and this society and his friends have organized a memorial lectureship for yearly orations on his life and work. It is a very pleasant recognition of the progress of medical science in this country that an American physician should be invited to deliver the first lecture.

**Proceeding Against Abortionists in Indiana.**—A dispatch from Indianapolis says that in a recent decision one of the circuit judges took occasion to score the Indiana State Board of Medical Examiners for the methods stated to have been employed by some of its members to secure evidence against a physician who had been brought to trial for alleged criminal abortion. It was admitted in the argument for an injunction which the accused had applied for that the Board employed a woman to visit physicians and endeavor to get them to perform an illegal operation, and if they consented she would then file charges against them before the Board. She was accompanied by a man, and both of them, after filing a number of affidavits against reputable physicians, left the State. It was upon this evidence that the Board was proceeding against one of the accused when he filed suit for an injunction, which the court granted, thus preventing the Board from proceeding on the woman's testimony.

**Ambulance Collision.**—An ambulance of the Long Island College Hospital was struck by a trolley car last week at Columbia and Degraw Streets, and hurled some distance to the top of a pile of sewer pipes. The surgeon, Dr. John W. Goldsmith, and the driver were stunned, and had to be taken to the hospital in another ambulance, and a policeman, who was accompanyng them, was badly bruised, but the patient, a 'longshoreman, whose foot was hurt, escaped further injury.

**Philoprogenitiveness in Zion.**—First Apostle Dowie of Zion City has not only directed that hereafter all members of his church who marry must first have his written consent in order that the union may be recognized by the church, but has also issued a command that in future every couple married in Zion must increase the population by one child each year. Before marriage, however, even the chaste kiss is forbidden the engaged couple.

**Texas State Medical Department Short of Funds.**—The State Board of Health of Texas has exhausted its financial resources, and the various counties along the eastern border have been notified that they must bear the expenses of the quarantine against Louisiana themselves. The legislature cut down the allowance of the department and directed that no deficiency warrants should be issued, so that in case of an epidemic the State would be in a difficult position.

**Upper Peninsula (Mich.) Medical Association.**—At the recent annual meeting of this association, held at Houghton, the following officers were elected: *President,* Dr. I. A. Lawbaugh of Calumet; *First Vice-President,* D. E. S. Cruse of Iron Mountain; *Second Vice-President,* Dr. A. F. Snyder of Escanaba; *Secretary,* Dr. H. W. Long of Escanaba.

**Tennessee Medical College.**—At a recent meeting of the directors of this institution it was decided that the Tennessee Medical College should become the medical department of the Lincoln Memorial University of Cumberland Gap, Tenn., and that the new hospital now being built by the college should be known as the Lincoln Memorial Hospital.

**International Congress of Hydrology.**—The seventh meeting of the International Congress of Hydrology, Climatology, Geology, and Physical Therapeutics will be opened at Venice on October 10 under the presidency of Professor A. De Giovanni of the University of Padua. The general secretary is Dr. Fausto Oreffice, S. Stefano 2,803, Venice, to whom all communicantions should be addressed.

**Smallpox in Valparaiso.**—Smallpox is spreading with much rapidity through this city, and the new cases average 180 daily. The authorities are beginning to realize the necessity for universal vacination, but the supply of vaccine is limited. One hundred students from the Santiago Medical School have been sent to the city to serve as public vaccinators.

**Many Failures at State Examinations.**—Of fifty-eight applicants taking the examinations before the Oregon State Board of Medical Examiners in July, only about one-third passed.

**Hospital Records Demanded.**—In certain divorce proceedings at Wooster, Ohio, the Court has ordered the records of Christ's Hospital, Cincinnati, to be brought before the Court, to determine the condition of the defendant during her stay in the house. The attorneys for the hospital have refused to allow this. The Court threatens contempt proceedings if the records are not produced.

**Arrests for Milk Adulterations.**—Seventeen grocers and dairymen have been arrested in Cincinnati for milk adulteration. Some are charged with selling milk below standard and others with using formaldehyde as a preservative.

**The Fire at the University of Pennsylvania.**—The burning of Logan Hall, containing the anatomical and surgical departments of the medical school of the University of Pennsylvania, on August 14, did damage to the extent of $40,000. The greatest loss was entailed by the destruction of microscopes and other instruments used for histological purposes.

**Typhoid Fever in Columbus, Ohio.**—The health authorities of Columbus are investigating an outbreak of typhoid fever in one street, where members of a dozen families are down with the disease. The authorities are of the opinion that the disease is the result of drinking "tainted" milk, all those ill having used milk from one dairyman.

**Branch Hospital, Cincinnati.**—The Board of Public Service of Cincinnati have asked the Council of the city for a bond issue of $225,000 for the building of a new and larger pest house for contagious diseases and also a new consumptive pavilion.

**An International Congress for the Study of Radiology and Ionization** will be held at Liége, Belgium,

on September 12 to 14. The work of the Congress will be divided into two sections of the physical and the biological sciences. The program of the second section includes a study of the physiological properties of radioactivity, as well as its therapeutic and diagnostic uses. The Secretary-General of the Congress is Dr. J. Daniel, Rue de la Prévôté, 1, Brussels, Belgium.

**American Association of Railway Surgeons.**—The First meeting of this association will be held in Chicago, October, 2, 4, and 5, at the Northwestern University Building, under the presidency of Dr. John E. Owens, of Chicago. At a joint meeting of the American Academy of Railway Surgeons and the International Association of Railway Surgeons, held last year, these two associations dissolved, and then formed an association under the name of the "American Association of Railway Surgeons."

**Measles in Evanston.**—A correspondent writes that an item regarding the prevalence of measles at Evanston, near Chicago, published in the issue of August 12, was incorrect so far as present conditions are concerned. There were a number of cases of measles in that city in the spring and early summer, but at present there is very little sickness there of any kind.

**Obituary Notes.**—Dr. Samuel Sherburne died at Philadelphia on August 14, at the age of seventy-two years. He was a direct descendant of Henry Sherburne, who came to this country from England in 1631, and was the first settler at Portsmouth, N. H. Dr. Sherburne was born in Auburn, N. Y., and was graduated from Long Island College Hospital in 1862. He was an assistant surgeon in the United States Army during the Civil War.

Dr. Robert J. Clark died at Chestnut Level, Lancaster County, Pa., on August 18. He was graduated from the medical department of the University of Pennsylvania in the class of 1868.

Dr. A. C. Kemper of Cincinnati died August 17, at the age of seventy-three years. He was born July 11, 1832, in that city. He received his medical education in Dublin, Ireland. In the Civil War he served on the staff of General Halleck, with the rank of captain.

Dr. Frederick C. Hall died at Scranton, Pa., on August 14, as a result of septicemia, acquired in the course of an operation for appendicitis six years ago. He was graduated from the Medico-Chirurgical Hospital, Philadelphia, in the class of 1894.

Dr. Clarkson Crosby Schuyler died at Plattsburg, N. Y., August 16, aged fifty-five years. He was born in Troy, and was graduated from the Albany Medical College in the class of 1875. He was surgeon of the Troy Hospital for fourteen years. He was appointed State Forest Commissioner in 1893 by Governor Flower, serving two years. He was a member of many medical and other associations.

Dr. Charles H. Andrus died at Enfield, Mass., on August 13, at the age of eighty-one years. He was born in Windham, N. Y., and was graduated from the College of Physicians and Surgeons in this city in 1845. He practised in Poughkeepsie before the war. He was for four years a surgeon in the Civil War, serving in two New York regiments. From 1873 to 1893 he practised in Metuchen, N. J. Since then he had made his home with his son in Enfield.

Dr. Horace Laidlaw of San Francisco died on August 4, at the age of forty-six years. He was born in Milwaukee, and was graduated from the Medical Department of the University of California in 1880. He held the position of chief surgeon for the Oceanic Steamship Company for five years, and was also surgeon for the Spreckels at the Island of Maui, Hawaii, for a period of three years.

Dr. Frank A. Foster died in Boston August 9, after an operation for appendicitis, at the age of fifty-four years. He was born in Belmont, N. H., and was graduated in medicine from the University of Michigan in 1879. He practised for twenty-one years in Waltham, Mass., and later removed to Boston.

Dr. E. R. Weaver of Johnson Grove, Tenn., died at Chattanooga on August 4. He was a graduate of the Tennessee Medical College in the class of 1893.

Dr. Edward W. Doty died August 20, at Dover, N. J., at the age of forty-nine years. He was born in Newark, and, after engaging in various enterprises, began the study of medicine, being graduated in 1886 from the Long Island College Hospital. He practised for many years in Paterson, N. J.

## Correspondence.

### OUR LONDON LETTER.

(From Our Special Correspondent.)

BRITISH MEDICAL CONVENTION NOTES FROM LEICESTER—HOSPITALS AND RATES—LIVERPOOL TROPICAL WORK—NURSES.

London, August 4, 1905.

The Leicester meeting of the British Medical Association has joined its predecessors as something past, but here in London we are still talking of it when we meet those who attended. However, we do not meet them so frequently as you may suppose, for a considerable number started on their autumnal holiday from Leicester, and others who returned only delayed their trip for a day or two, and are now gone. Some of the points commented on may interest you. The reorganization of the society, which gave so much hope to many, is scarcely as satisfactory as it has been officially asserted to be. The "representative meetings" were diligently attended, and got through a great amount of business, but those not specially interested complain that the decisions taken were not all representative of general opinion, and at times much confusion prevailed. Much time was consumed in discussing the standing orders, which seemed as complex and difficult to alter as those of Parliament, which afford opposite parties such ground for delaying proceedings they dislike.

The proposal to apply for a royal charter was vigorously opposed on several grounds, but was eventually adopted after a vote by cards. The duties of delegates were so onerous in these "representative" meetings that they were unable to take the part they might desire in sections and general sessions. It was therefore proposed that they should in future be held in the week preceding the annual meeting. No decision was come to, as next year the annual meeting is to be held, as I told you, in Canada, and consequently the "representatives" will meet beforehand in England. For the 1907 meeting an invitation from Bradford was received with favor, but in accordance with custom, cannot be accepted until next year.

There was a great deal of talk about the annual report of the Council, and whether certain resolutions proposed could properly be discussed by the meeting, as they seemed to tend towards alterations of the by-laws, and would therefore be out of order. The report on contract practice prepared by the Medico-Political Committee, which is perhaps the best bit of work that committee has done, was discussed at great length in its various bearings, and eventually referred to the divisions, with a recommendation to hold an early special meeting of each "division" to consider separately each proposal made in the report.

Provident Dispensaries, Death Registration, the Midwives' Act, Medical Defense, and other similar subjects occupied no like attention.

As to questions of more general interest in connection with the meeting, of course the addresses in medicine and surgery occupy the first place. But any discussion or criticism of these would be out of place in view of the full reports you present to your readers.

A report on the coordination of the scientific work has been referred to the divisions—not without a *caveat* as to the amount of money being spent on scientific work and a plea for more being done for the general practitioners.

During the week the Council of the Association passed the following resolution: That Mr. Andrew Clark be instructed to inform His Majesty's Government that the British Medical Association cannot allocate any of its funds towards the support of any teaching appointment in a university or medical school.

At a largely attended meeting of the Council held on Friday, a comprehensive vote of thanks was passed to the Mayor and Corporation, and to every one concerned in making the affair a success, and a special vote of thanks to Mr. G. C. Franklin for his able and courteous presidency. This vote enumerated no less than twenty-six persons or societies. This day was also a full one from the more popular side, and the sections were somewhat depleted. One party journeyed to Belvoir Castle, the Liecestershire seat of the Rutland family.

In the afternoon Mr. Samuel Faire, J. P., and Mrs. Faire gave a garden party, and in the evening the Mayor and Mayoress of Leicester gave an evening fête in the Abbey Park, when there was a brilliant scene, the grounds being illuminated. This evening, also, the popular lecture was given by Prof. Stirling.

On Saturday a large party made an excursion to Buxton, with side excursions to Hope, Haddon Hall, and Chatsworth, and Makock. This, I am assured, was one of the best excursions, and those who went, to the number of about 150, were sumptuously entertained, though the hosts must have been somewhat disappointed, 300 having been expected. It seems too bad, and it is to be hoped such an occurrence will not be repeated.

Another party made a visit to Charnwood Forest, one of the most charming spots in Leicestershire.

During the week the annual meetings of the New Sydenham Society, the United Kingdom Police Surgeons' Association, and the Continental Anglo-American Medical Society were held.

The Dean of Canterbury, preaching in the Cathedral to the benefit clubs, put in a plea for hospitals. He said the progress of surgery had been so great that the time might come when all but the richest classes would resort to hospitals for treatment they could not have in their homes. Hence the support of these hospitals was a duty for all, and unless that duty was carried out voluntarily, compulsion would become necessary. There were those who would throw the support of hospitals on the rates, and that would be better than that they should not be supported at all. But there were overwhelming reasons which ought to save us from such a course.

At a meeting of the Liverpool Institute of Tropical Research, Sir A. Jones, who was elected chairman, emphasized the necessity for all interested in British commerce to encourage the application of scientific methods as much as their continental competitors are doing. The work of the institute would entail, as a main duty, the dispatch of research expeditions, and he guaranteed £1,000 a year for the next four years for this work. Mr. Lever guaranteed a similar amount, and other contributions were promised.

The report of the Select Committee on Nurses has been issued. It favors the registration of individual nurses and of training schools under a central body appointed by the state, and which should also license institutions and societies which supply nurses.

## Progress of Medical Science.

*Boston Medical and Surgical Journal, August* 17, 1905.

**A Case of Lymphatic Leukemia in a Child.**—John Lovett Morse reports such a case occurring in a child three and a half years old. This case was of interest in that it afforded an opportunity to study the development of the changes in the blood and lymph nodes during a considerable time, and that although it was most carefully studied, the correct diagnosis could only be made a comparatively short time before death It shows that the character of the blood changes may not develop to a degree sufficient to justify a positive diagnosis for many months. It also shows that the changes in the lymph nodes may be, not only at first but even for a considerable time, materially different from those which are usually considered to be typical of this disease. It is noteworthy that the characteristic changes in the blood and lymph nodes appeared at essentially the same time. The only inference that can be made from the histological study of these tissues at different stages of the disease is that lymphatic leukemia may have its origin in a malignant growth affecting the lymphoid tissues more or less generally, and that not until there is a secondary proliferation of the lymphoid cells do we get the typical tissue picture and blood condition which is characteristic of lymphatic leukemia. It suggests that leukemia pseudoleukemia, and malignant lymphoma cannot be separated as three distinct entities, and that they do not always differ characteristically in the histological structure of their lymphoid tissues; and that the microscopical sections in these cases will be often wrongly judged in the absence of complete clinical data as regards the distribution of the process and the examination of the blood. In short, this case emphasizes again our ignorance as to the development of the pathological changes in the diseases of the blood and lymph nodes.

*New York Medical Journal, August* 19, 1905.

**Some Remarks on the Epiphyses of the Long Bones, and Their Bearings on the Operation of Resection.**—John Knott says that the diaphysis of the clavicle is usually the first to appear in the skeleton, and the union of its solitary epiphysis is the last to take place. The peculiar tenuity of this unique epiphysis is such as to render the preservation of any portion, or even of its subjacent epiphyseal cartilage, in the operation of excision of the sternoclavicular articulation for well-pronounced disease, an utter impossibility. The upper epiphysis of the humerus is limited by an epiphyseal cartilage which forms a small segment of a hollow sphere, whose convexity is upward, and whose circumferential margin occupies a horizontal plane when the limb is held in the vertical position. On the under side it approaches the obliquely placed articular cartilage, and it is here only that its presence need be remembered in connection with the operation of excision of the joint. The lower epiphysis of the humerus has such an arrangement of ossific centers, in connection with epiphyseal fractures, that such an accident produces but an extremely slight diminution of the prominence of the external condyle in any case, while it removes the small tip of the internal epicondyle from the shaft or not, according to whether it takes place before or after the separation of the ossific center from the rest of the epiphyseal plate. In short, in the occurrence of the epiphyseal fracture of the lower end of the humerus the lower fragment carries with it but a minute portion of the external epicondyle, while it removes either the small projecting tip of the internal epicondyle, or more probably none at all, according to the age of the patient. The extreme thinness of the stratum between the articular cartilage and the epiphyseal cartilage in this position renders it, of course, absolutely impossible to remove more than a thin articular slice from the lower end of the humerus without removal of the epiphyseal cartilage itself and consequent arrest of longitudinal growth at the lower end of the bone. The upper end of the ulna presents an epiphysis of considerable vertical extension. It also presents a supplemental epiphysis placed over the main one, occupying exactly the position of the insertion of the triceps tendon, and presenting the general appearance of a liliputian patella, thus introducing a hitherto unrecognized item of homology between the knee and elbow joints. The upper epiphysis of the radius is of moderate thickness, and limited by a horizontal epiphyseal cartilage. The epiphysis of the lower end of the femur is a very large one, and its ossific center is generally the only one to form within an epiphysis during intrauterine life; as it normally appears within the last week or two of that important period of existence, its presence is the most reliable item of evidence of the maturity of the fetus which can be procured in a doubtful or disputed case. The union of this epiphysis with the shaft of the femur is the latest of any in the bones of the limb, and, as growth proceeds while the epiphyseal cartilage remains unossified, the future gigantism or dwarfism of the otherwise normal individual depends more upon the behavior of the epiphysis of the lower end of the femur than upon all the other segments of the human skeleton. The upper epiphysis of the tibia forms a comparatively thin lamina, so that it would not be possible to save a portion in excision of the knee joint, if this part of the bone was at all diseased. The epiphysis of the lower end of the fibula is noted for its breach of the osteological commandment—to the effect that "that epiphysis of a long bone toward which the nutrient artery is directed shall be the last to ossify, and the first to unite with the diaphysis." The lower epiphysis of the lower end of the fibula breaks the first part of this; it ossifies first.

**The Employment of the Dry Cups in the Treatment of Herpes Zoster.**—Medwin Leale desires especially to emphasize the fact that the careful and scientific application of dry cups has proved of great value in his hands in the treatment of herpes zoster, shortening the disease and ameliorating the symptoms. He gives a diagram to show the localization of the sensory functions of the segments of the spinal cord as laid down by M. Allen Starr, and which serves as a guide in the application of these cups. The dry cupping is done just to the affected side of the spinous processes of the vertebræ over the area determined, several cups being applied and allowed to remain long enough to insure their maximum suction power. Then a few cups are applied to the location of the emergence and over the course of the nerve or nerves involved, being guided by the seat of the pain and hyperesthesia and by

the location of the eruption. He finds it best to repeat the cupping once every twenty-four hours.

**A New Method of Extirpating the Internal Saphenous and Similar Veins in Varicose Conditions.**—W. L. Keller thus describes the operation: The vessel to be removed is exposed by a short incision near the femoral opening of the fascia lata (if the internal saphenous), and is dissected free from its sheath for about one inch, and ligated as high up as possible. The lower end of the vein is exposed and treated in a similar manner. The vein is now cut below the proximal end and above the distal end, thus leaving the section to be removed free and ready for removal. The upper end of the section to be removed is now split for about three-quarters of an inch on its anterior wall. A strong ligature is then tied to the upper end of the vein, care being taken not to include more tissue in the ligature than will pass through the lumen of the vessel. A wire loop or probe is then passed through the lumen of the vessel from the lower opening and the ligature is threaded through the eye of the loop or probe; the probe is then withdrawn and the ligature brought out upon the surface at the point where the probe entered. Gentle traction is now made upon the ligature, the edges of the vein being inverted into its own lumen by an assistant. Traction is continued until the vein is completely extirpated by being turned inside out and withdrawn from its sheath.

*Medical News, August* 19, 1905.

**The Impossibility of Differentiating So-called Paratyphoid from Typhoid Fever Except by a Bacteriological Examination of the Blood.**—Warren Coleman says that if cases of infection by intermediate members of the typhoid-colon group of bacilli, when pursuing a typhoidal course, cannot be distinguished from typhoid fever without the aid of laboratory methods, the introduction of the term "paratyphoid fever" is clearly unjustifiable, and he attempts to prove that so-called paratyphoid and typhoid are identical clinically, and that they can be differentiated only by the recovery of the bacillus concerned from the blood. In 1902 he took the ground that paratyphoid infections did not constitute a clinical entity, and that there was as great diversity among the different types of typhoid fever as between typhoid fever and paratyphoid infections, and that the idea of the specificity of typhoid fever should be abandoned and that the scope of its etiology should be broadened to include *Bacillus alkaligenes fæcalis, B. typhosus, B. paratyphosus,* and certain others of the paracolon group. He at present sees no reason for modifying that view. His conception of the subject follows with a brief review of the bacilli constituting the typhoid-colon group. He concluded that (1) paratyphoid infections cannot be distinguished from typhoid fever except by the recovery from the blood of the bacillus concerned and its proper identification; (2) that the present state of our knowledge makes it advisable to consider typhoid fever clinically as a disease which may be caused by several members of the typhoid-colon group of bacilli; (3) that the term "paratyphoid fever" is not only unnecessary but misleading. In further substantiation of his position he calls attention to the fact that the term "paratyphoid fever" has been discredited in Germany, Belgium and Russia.

**Suprapubic Prostatectomy.**—A. I. McKinnon says the constant use of the catheter is invariably followed by dangerous complications and not infrequently periods of complete retention, with all the dangers and discomforts of distention, supervene. This symptom he believes to be an absolute indication for radical procedure. Too often mere suprapubic aspiration is selected as the best means of securing relief in this condition, and he wishes to protest against such procedure, as tapping an infected bladder with thickened walls is liable to cause a leak at point of puncture. The judicious plan of treatment is to perform suprapubic cystotomy, and this should be done at once and drainage of the bladder instituted. Various methods have been described or devised which narrow down to those (1) which are partial with knife or cautery, palliative in their intent, and not to be recommended because they have all the disadvantages and none of the advantages of the complete operation; and (2) complete enucleation of the gland, which is the operation to be recommended in every case of hypertrophy with symptoms, an operation which he describes, calling especial attention to the distending the bladder with a large amount of iodoform gauze, after the manner of a Mikulitz drain. This packing prevents hemorrhage, ensures antisepsis, and drains away the urine as soon as it accumulates. It also prevents the ammoniacal odor of the urine. The points emphasized are: 1. Suprapubic cystotomy under local anesthesia instead of aspiration as an emergency measure in cases of complete retention from enlarged prostate. 2. The simplicity and freedom from complications and sequelæ of the operation when performed by the suprapubic method. 3. The virtue of packing the bladder with iodoform gauze after the method pointed out.

**Prevention and Treatment of Puerperal Sepsis.**—L. C. Fischer emphasizes the following points: The careful preparation of the bed and woman before the birth of the child, with especial attention to the hands of the physician. The examination of the placenta and membranes. After birth of the child examination of the perineum for tears, and if they are present repair them at once. In case there is a rise of temperature start at once with treatment. The importance of making careful digital examination, the use of the dull irrigating curette early, where the temperature is not reduced by douches. The importance of the normal salt solution to dilute the toxins, and to aid absorption. The preference of tube over gauze drainage in these cases; the absolute avoidance of gauze in the uterus after curetting. The importance of opening and draining the abscesses as they form in the pelvis or any pelvic organ.

*American Medicine, August* 19, 1905.

**The Matas Operation for the Cure of Aneurysm.**—John H. Gibbon says this operation consists in controlling the flow of blood in the diseased vessel by compression; free incision of the sac from end to end; evacuation of its contents; closure by suture of the arterial openings in it; and then obliteration of the sac by plication and infolding of the skin. In the case of a sacciform aneurysm but one opening requires closure, and when this is done the caliber of the vessel is reestablished. In the fusiform aneurysm there are two courses open to the operator—one of closure of the two openings of the artery into the sac, and of any collaterals which might originate within the sac, and then the entire obliteration of the sac by continuous rows of sutures; or, he may follow the suggestion of Matas of reconstructing the arterial caliber by utilizing a portion of the aneurysmal sac and suturing it over a catheter which is withdrawn before the last sutures are tied. Even when it is impossible to reestablish the vessel itself, this procedure of Matas possesses great advantages. The aneurysmal sac is as completely done away with is if it were extirpated, and there is less interference with collateral circulation than by any of the various methods of ligation. The operation of Matas is applicable to all aneurysms in which there is a distinct sac, and in which the cardiac end of the main vessel can be thoroughly controlled. The case reported is that of a negro, aged 31, who suffered from a large popliteal aneurysm. The sac was laid freely open and the arterial openings sutured. The sac was then obliterated by repeated rows of plicating sutures. The wound was closed without drainage. Suppuration took place, but the patient made a complete recovery after superficial drainage was established. Some months after the operation there was no evidence of a recurrence. Suppuration has occurred in a number of cases reported, but does not in any way seem to interfere with the cure. Dr. Gibbon says that in another case he would introduce a superficial drain.

**Treatment of Chancre and Chancroid.**—David E. Wheeler, in discussing this subject, classifies venerial ulcer into (1) simple uncomplicated ulcer, treatment consisting of frequent irrigation and wet dressings. (2) Ulcer complicated by phimosis. If attempts at reducing the phimosis fail, lateral incisions and secondary circumcision should be done; primary circumcision is contraindicated. (3) Ulcer complicated by paraphimosis. If seen early, immediate reduction is imperative; if not seen until sloughing has relieved the strangulation, expectant treatment should be instituted. (4) Phagadenic ulcer. Irrigation should be done every two hours, day and night, and iodoform used Escharotics are positively contraindicated.

**The Elimination of Endogenous Uric Acid in a Case of Chronic Gout.**—A. T. Laird reports two series of tests made while the patient was on a special diet. Together they cover about five weeks and include two periods during which the symptoms showed acute exacerbations. In the first series the diet was strictly "purin-free" after the sixth day and practically so (vegetable diet) from the start. During the second series it was "purin-free" throughout. Estimation was made of the daily excretion of uric acid and of phosphoric acid. The acidity of the urin was also determined and a series of leucocyte counts were made. The elimination of "endogenous" uric acid was found to be below the amount considered normal by Burian and Schur and others. The values found were lower than those recorded by Kaufmann and Mohr and in a similar study of five cases of chronic gout. The phosphoric acid elimination was also low, but no constant parallelism was found between it and the uric acid excretion. The leucocyte counts were within normal limits and did not vary with the uric acid excretions. No digestive leucocytosis was noted. The acidity was at all times low. The highest values for acidity were those obtained during an acute exacerbation of symptoms.

**Treatment of Infected Otitis Media.**—J. G. Huizinga concludes that chronic suppurative otitis media is an infectious condition of the entire auditory tract. It is impossible to

disinfect this tract in its entire length simply by means of syringing as ordinarily performed. No cure can be expected unless this tract can be made surgically clean by forcing the antiseptic fluids through from end to end of the entire tract. It is necessary to have a large opening in the drum and a thoroughly dilated condition of the eustachian tube, both for the purpose of drainage and of efficient cleansing. It is important to have a continuous current of antiseptic vapor passed through a eustachian catheter into the eustachian tube both for cleansing and dilating purposes. This is best accomplished by connecting a vaporizer containing iodine, menthol, and creosote in oil, with a large air tank, having the air compressed up to 30 pounds. The valves are opened and a continuous current of antiseptic air is forced through the catheter and into the eustachian tube until the pressure goes down to 20 pounds; this requires several minutes. By this method thorough and complete dilatation and the cleansing and disinfection from the use of the antiseptic solution are accomplished and the danger of driving infected material that may be present in the eustachian tube into the deeper parts of the middle ear is avoided. It is necessary to treat the parts sufficiently often ot maintain as nearly as possible a condition of antisepsis. No treatment can be considered thoroughly that does not recognize the relation existing between pathological conditions in the nose and nasopharynx and the ear.

**Enterotoxismus.**—Harris A. Houghton calls attention to the fact that the word "autointoxication" as is now used has many different meanings, leading to considerable confusion and inaccuracy. According to the dictionary definitions and common usage, the word may indicate the toxemia following cellular malactivity, as lithemia, the acidoses of diabetes and allied conditions, and secondly indicate intoxication of enteric origin, which has its chief clinical manifestation in an increase of the urinary ethereal sulphates. These are two distinct conditions and probably of different etiology. Houghton suggests that autointoxication of enteric origin be designated by another name, viz., "enterotoxismus," and gives the following definiton—that morbid condition characterized by the absorption of substances from the gastro-intestinal tract which are toxic by virtue of their quantity or quality and which are produced therein by the disintegration of food-stuffs through the perverted or prolonged action of enzymes or the activity of entophytes.

*Journal of the American Medical Association, August 19, 1905.*

**The Medical Relations of Mouth Conditions.**—L. Duncan Bulkley remarks that in the course of his dermatological practice, he has had frequent occasion to note oral conditions, and has become much interested in the subject. The importance of proper mastication is emphasized, and incidentally he emphasizes the very great advantage of thorough mastication in seasickness. The remarkable vitality of the oral tissues is also noted, and is explained in part by the character of the saliva, which is affected to a very large extent by various bodily conditions. We must look, therefore, to the constitutional condition of the individual as modifying the saliva, or soil in which the microorganisms of the mouth are bathed, for the cause of many of the disorders that may affect the parts. Any diminution of vital resistance has its effect on the structures of the mouth as elsewhere. Dyspepsia is a fertile source of mouth trouble, as constantly observed in the case of so-called "canker sores," and dental decay may follow and vary with the condition of the stomach. Bulkley has also often noticed the effects on the gums and teeth of the acid state associated with gout, rheumatism, and rheumatoid arthritis, and has seen Rigg's disease markedly benefited by a purely antacid treatment. He asks why should not the dentists more often seek the aid of a physician in some of these cases. Syphilis, of course, is the most frequent cause of buccal lesions, and it is very important that dentists should be able to recognize the effects of the disease in this location. This is a matter on which he had before addressed the dental profession, and he repeats his warning here. Aside from canker sores due to disordered digestion, leucoplakia is probably the next most frequent diseased condition found in the mouth, usually in men and principally in those who have used tobacco. It is comparatively harmless, though it may be the starting point of epithelioma if injudiciously treated, but it is often perplexing on account of its resemblance to the lesions of syphilis, and many a patient has been long under needless specific treatment because of this innocent local affection. Epithelioma is the most important disease of the mouth, as elsewhere, and here the dentist can be of service in many ways. In many cases, it is started and kept up by irritation by ragged, decayed teeth or by amalgam fillings, and these should be sedulously looked to and corrected. With any suspicion of epitheliomatous conditions, competent medical counsel should be advised, and any meddlesome procedures avoided. Lupus sometimes affects the mouth, but it is so rare in this country as hardly to need consideration. Localized tuberculosis, however, is not so rare, and is often mistaken for syphilis. Patients should be warned against neglecting this. Lastly, Bulkley mentions the reflex disorders due to bad or to imperfect teeth, and the frequent need of the dentist's assistance in such cases, also the derangements of digestion and nutrition due to imperfect oral antisepsis.

**Medicine in the Philippines.**—J. R. McDill describes the condition of medical affairs in the Philippines. He does not believe that the climate is necessarily fatal or unduly enervating to Americans, especially as the Benquet Sanatorium will soon be available. He describes the work of the Board of Health and the laboratory facilities which it affords, and speaks especially of the need of general and special hospitals. The history of the medical organizations since the American occupation and the status of medical education in the islands are also noted. It appears that as yet there has been no marked affiliation between the native and American physicians, and McDill thinks this will hardly occur till a new generation, educated in English and in modern methods, has arisen. At present the ratio of physicians to population outside the city of Manila is 1 to 51,786, or one physician to each 430 square miles, and to supply the medical and sanitary needs of the country 2,000 or 3,000 native physicians and sanitarians should be educated there during the next twenty years. There is a unique opportunity for the establishment of the ideal university and affiliated professional schools in the Philippines, and there will be no lack of earnest, capable students. The medical profession is waiting for some one to contribute for the establishment of a Philippine university and medical school.

**Urinary Diagnosis.**—Benjamin Tenney describes the symptoms and diagnosis of urinary disorders at considerable length. He finds that while occasionally there may be reflex symptoms due to some outside condition, when the three symptoms, localized pain, altered function and hematuria, are met togther, little doubt exists of the presence of some surgical condition in the urinary tract. With only two of these present, surgical disorders of the urinary tract should be excluded before attention is directed to other organs, or the patient left to nature somewhat upset by the various so-called urinary antiseptics and sedatives. Tumor, tenderness, and residual urine, he says, do not require complicated apparatus for their recognition, and their presence or absence can be determined by any physician who will take the trouble to examine his patients carefully. These preliminary points are simple, usually sufficient for a correct diagnosis and always trustworthy in indicating the urinary tract as a source of trouble. A complete and correct diagnosis of the exact local conditions, however, as a preliminary to operation, calls for as much attention and accurate observation as anything else in surgery.

**Lateral Tendon Insertion Displacement for Strabismus.**—E. Jackson describes the mechanism of the action of the tendons of the recti on the movements of the eyeball and advocates the operation of partial tenotomy to modify the direction of their pull in cases of strabismus. In partial tenotomy, the division of the tendon begins at one edge of the insertion and extends beyond the middle. To have very much effect almost the whole breadth of the insertion should be divided, but in any case sufficient tissue should be left to keep the uncut margin of the tendon perfectly firm. In making such a partial division, therefore, the whole tendon should be raised on the strabismus hook and drawn round so that the operator can see just how far the firm tissue of the tendon extends. Jackson has practised this operation on the superior and internal recti tendons chiefly for excessive convergence. He gives his method in detail, and describes the operation of extended tenotomy consisting of the division of the internal rectus with lateral displacement of the superior and inferior recti, which he finds simple and effective in some cases. No unfavorable results have been encountered, and no protrusion of the eyeball, which sometimes occurs after imperfectly performed tenotomies.

**Sympathetic Inflammation Following Panophthalmitis.**—W. Zentmayer calls attention to the fact that until a comparatively recent period it had been held that eyes which had been the seat of purulent panophthalmitis did not excite sympathetic inflammation. He enumerates the authors who have reported cases of sympathetic inflammation from this cause, and briefly analyzes the fifteen cases that he has found recorded. He also reports a case of his own personal observation with pathological findings, and concludes that, while rare, they may occur, and that in such cases the microscopic changes are analogous to those found in other exciting eyes. Most generally the preceding clinical picture is that of a mild form of purulent uveitis. Only after the virulent form of panophthalmitis should the resultant shrunken globe be considered harmless. When the panophthalmitis has been of a low grade or whereas a result of treatment, the inflammation has not been of a virulent type,

the eye should be considered a dangerous one, and should be enucleated. It is possible that the original injury or disease may be the responsible exciting cause in some cases. Whether the histologic findings are to be considered in most panophthalmitic eyes as a terminal stage of the inflammation or as the evidence of a mixed infection is undecided. Zentmayer gives several reasons why panophthalmitic eyes may be harmless. Many of the noxious germs are extruded with the pus, and those retained become inactive through the enormous suppuration which, by blocking the posterior lymph spaces, also serves to prevent the migration of the microorganisms. Finally, he states, the panophthalmitis may have been induced by organisms incapable of producing sympathetic inflammation.

*The Lancet, August* 12, 1905.

**Two Cases of Death After Operation for Frontal Sinusitis.**—St. Clair Thomson draws the following conclusions from these two cases: 1. In cases of multisinusitis it is well to drain the maxillary cavity some time before the frontal is operated upon. Both cavities may be operated on at the same time; but if only one sinus is operated on at a time it should be the frontal sinus, the lower cavity being drained until it can be opened. 2. In spite of free opening of the frontal sinus, the establishment of a large communication with the nose and the avoidance of closure of the external wound, a slow infection of the bone may take place, leading ultimately to infection of the meninges. This may even be started in suppurating cavities on the *opposite* side to the one operated on. 3. The local condition of the wound, as well as the pulse, temperature, and feelings of the patient may fail to indicate the onset of mischief. After one to three weeks this is revealed by headache, pain, tenderness, and puffy swelling on the forehead or around the eyes. 4. When septic osteomyelitis has started the most vigorous measures may fail to arrest it. It may last one and a half years before terminating fatally. 5. The chief danger appears to lie in the ethmoidal labyrinth, owing to its anatomical irregularities and to the difficulty of treating them satisfactorily. 6. Up to the present the operation which best meets these difficulties is that of Killian. In many cases a preliminary endonasal operation on the ethmoid is advantageous.

**A Case of Parotitis Due to the Pneumococcus.**—S. Hastings and W. T. Hillier report the case of a man, aged fifty-five, with a swelling of the right side of the face, which had been accompanied with a continuous but not severe aching pain in the region of the swelling, and it hurt him when he opened his mouth. When the patient opened the mouth the septic condition of that cavity became evident. The teeth were much decayed, and there was a certain amount of pyorrhea, with retraction of the gums. Later, the left side became involved. Five days after first coming under observation all swelling and pain had disappeared. The treatment had been a very simple one. A nearly pure culture of a diplococcus was obtained in forty-eight hours' incubation at 37° C. from the saliva. It retained the stain when treated by Gram's method, and it possessed a capsule. There appeared to be no reason to doubt that the parotid swelling was inflammatory in nature, and they attributed it to the diplococcus, which was obtained in pure culture in the secretion of the gland. This organism they recognized as pneumococcus, but of a strain possessing but little virulence.

**Aspiration in Diseases of the Ear and Nose.**—M. R. Sondermann says that irrigation for the removal of pus is impossible in cases of acute suppurative inflammation of the middle ear and of the mastoid process as long as there only exists a small opening in the membrana tympani. In the same way, blowing through the eustachian tube and through the external meatus to evacuate pus has proven to be of doubtful success only. Greater advantage can be derived from the aspiration method, although until now it has been but rarely applied in the therapeutics of diseases of the ear. An illustration is shown which not only hermetically closes the external meatus, but also covers in the whole ear, including the auricle, thus overcoming many difficulties. It consists of a hollow mask, open at one side and surrounded by a hollow ring of hardened rubber, and by means of an elastic tube it is connected with the suction ball. The latter, as well as the elastic tube, possesses a valve by which the air can only pass outwards after the suction ball has been compressed. As the mask is of triangular shape, it can also be applied to the nose. In cases of acute suppuration a slight aspiration will be found sufficient in order to evacuate the pus from the middle ear, and even from the cells of the mastoid process into the external meatus. In cases of chronic empyema a stronger suction ball may be used, and especially when the ossicles and membrana tympani are missing. When the apparatus is applied to the nose it is necessary to effect a thorough closure of the throat as well. There are two possible ways of closing the nose towards the throat: (1) By making the patient pronounce the vowels, and especially i (long German i equals English ee), and (2) by swallowing. The former method should first be tried. The aspiration effect is directly noticeable by a strong suction feeling. The mucous membrane becomes red, and is covered with a thin layer of mucus. The pain is alleviated when this treatment is employed, and the results hitherto obtained by him justify the hope that in many cases a long, lasting improvement will be sure to be effected.

**Delayed Chloroform Poisoning.**—E. W. Scott Carmichael and James M. Beattie report this case. It was markedly noticeable in this case that chloroform produced pathological changes indirectly in the tissues by destroying the red blood corpuscles with increasing anemia. Thirst was a marked symptom. The character of the vomit differed from that of most recorded cases. Six hours before death she vomited some coffee-ground material, probably the result of repeated retching. Delirium was absent. The clinical picture was similar to the ones already described by Stiles and McDonald, Guthrie, and others. There was no sign of jaundice throughout. Extreme pallor was very marked. The pathological appearances were in the main similar to those of the case described by Stiles and McDonald. The main objections to the view that the clinical symptoms and the pathological appearances in these cases were due primarily to chloroform poisoning are founded on the facts that similar symptoms and similar pathological changes are found in patients who die as the result of fat embolism and in those who are poisoned by chemical agents or by septic products. Each of these are dealt with in turn.

**A Case of Sacculated Aneurysm of the Abdominal Aorta, Treated by the Introduction of Silver Wire and the Passage of the Constant Current.**—Cornelius A. Griffiths reports this case, and gives a description of a simple method of introducing the wire and insulating the current. The aneurysm presented immediately below the diaphragm and above the lesser curvature of the stomach. The placing of a temporary ligature around the aorta on the proximal side of the tumor was not practical, as the sac left no room between its walls and the diaphragm. A spot devoid of large vessels was selected and a small circle inclosed in a purse-string suture, and through the center of this a fine long trocar and canula were thrust well into the sac. The trocar was withdrawn, and through the canula was introduced a vulcanite canula for insulating purposes. Next, some fine silver wire was introduced into the sac through the double canula. After a foot or so of the wire was in it was cut off flush with the canula and pushed home with a ramrod. Some more wire was then pushed through and connected with the negative terminal of a constant current battery, the circuit being completed through the patient by means of an electrode placed on the thorax. A current of from fifteen to twenty-five milliampères was given for fifteen minutes. The wire was then pushed home with the ramrod, the cannulæ were withdrawn, the purse-string suture was tied, and the abdomen closed. The rapidly fatal termination in this case was favored by the interference with the functions of the stomach, which was stretched around the left and lower borders of the aneurysm.

*British Medical Journal, August* 12, 1905.

**The Behavior of Leucocytes in Malignant Growths.**—J. B. Farmer, J. E. S. Moore, and C. E. Walker have combined their observations of the peculiar behavior of leucocytes in very early carcinomata of different parts of the body. These phenomena do not occur in older growths, in metastases, or in grafts. In three cases observed these phenomena seem to relate to the change of normal tissue cells into cancerous elements. Where tissues are becoming cancerous there is a marked leucocyte activity, and the cells of the part may contain leucocytic bodies in their cytoplasm. In a small rectal cancer there was found a distinct transition zone between normal and cancerous elements, around the tumor; within the thickness of a few cells you could pass from normal mucous cells to decidedly malignant ones. The authors conclude that the growth did not originate from a single cell, but by the direct conversion of a great many mucous elements. Just within this zone the leucocytes were crowded, and many epithelial cells contained leucocytes. They were not seen in the healthy tissue, nor are they found in ordinary inflammations. Neither cell seemed to be harmed or destroyed, and in cells that were undergoing division the leucocytes were also dividing. A mixture of the chromosome from the leucocytes and the tissue cell was distributed between the nuclei of the daughter cells. This union does not correspond with the union between the definite cancer cells of neoplastic growths.

**Dysentery: Its Causation, Varieties, and Treatment on Active Service.**—E. Llewellyn Jenkins says that dysentery is a disease that is associated with the mobilization of a

large body of men. It is believed that there are two or more distinct varieties of the disease produced by different microorganisms; these are the bacillus coli dysentericus, a virulent form of streptococcus, and certain innocent organisms that, in mixed infection with the other two, increase their virulence. The chief predisposing causes are overcrowding, with the attendant violations of the laws of hygiene; scarcity and poor quality of food; anything that reduces the vitality, such as alternations of heat and cold, bodily exhaustion, lying on damp ground, mental anxiety. The direct cause of infection is pollution of soil and water by fecal material. It is doubtful if the disease is carried directly from man to man, but dust and flies easily convey the germs from exposed fecal matter to food and water. Heat is certainly a factor in its production. The treatment is primarily preventive; disinfection of all stools from dysenteric cases, and their cremation or deep burial; careful guarding of the water supply of all camps, and boiling all drinking water; protection of foodstuffs from flies; prevention of all conditions that reduce the vital force. Rest and diet are primary therapeutic measures. All movement should be avoided. Three or four pints of fresh milk per twenty-four hours is the best food, in small amounts at frequent intervals. Condensed milk, beef tea, and chicken soup may also be used. Food should be given warm, to lessen peristalsis. The best means of relieving pain and tenesmus is the starch and opium enema and the application of hot flannels to the abdomen, steeped in opium liniment, and hot bottles to the feet, with plenty of blankets when the weather is cold. The bowel must be cleansed by gently acting aperients; one-half ounce of sulphate of soda every hour gives good results. Ipecac is useful, given in thirty-grain doses of powder on an empty stomach every four or six hours until the stools become yellow and less shiny. When the acute stage has passed supportive treatment is in order; eggs and chopped raw meat may be given, and later, tonics and a sea voyage.

N. Faichnie divides dysentery into three varieties: amebic, sporadic due to mechanical irritation, and epidemic or bacillary. The last is the one usually seen in armies in the field. It arises from the dysenteric and paradysenteric bacilli and the bacillus coli. It is contracted from impure water, dust, flies, lack of cleanliness of hands and clothes, or infection from latrines. The preventive treatment includes immediate reports of sickness, isolation of all cases of the disease, disinfection of stools, covering of latrines, and disinfection of clothes and person after convalescence. Acute cases require rest, with sulphate of soda or magnesia, given concentrated and lukewarm. When there is no longer blood or mucus in the stools, perchloride of mercury should be given with tincture of chloroform and morphine every few hours. Starch and opium enemata relieve pain. In chronic cases castor oil is substituted for the other laxatives, followed by bismuth and opium. Flushing of the colon with bicarbonate of soda, sixty grains to the pint, followed by two or three pints of solution of tincture of iodine, twice a day gives good results in chronic cases. The author prefers whey and albumin water to milk as a diet. Canned milk is apt to produce nausea and accumulation in the bowels of undigested curds. The whey may be made from condensed milk by the use of alum, twenty to forty grains to the pint. Digitalis is to be preferred to alcohol as a heart stimulant.

**Warts and Corns.**—Arthur Evershed says that the best and most effective remedy for warts and corns is sea water. When sea bathing is not possible, warm foot baths of sea salt will take its place. If used daily, at the end of a fortnight the corns will peel off. Warts are treated by soaking the hands in warm sea water twice a day for ten minutes. Cauliflower warts on the scalp yield to a compress of sea water left on all night each night for two weeks.

**A Nasal Calculus.**—F. W. Taylor gives an account of a case of chronic pharyngitis, without discharge from the nose, in which examination showed the inferior meatus of the left nostril to contain a large bismuth-colored calculus, forming a mould of the cavity. It was removed after crusting, and a small head was found in the center. A projecting spur from the septum had held the head in place from its entrance into the nostril thirty-five years before.

*Berliner klinische Wochenschrift, July* 31, 1905.

**The Path of the Tubercle Bacilli from the Mouth to the Lungs.**—Beitzke says that three different paths have been named by various observers as being the route followed by the tubercle bacillus in its way from mouth to lung. These are: (1) Cervical lymphnodes, lymphatic duct, superior vena cava, heart, lung. (2) Cervical lymphnodes, supraclavicular glands, pleural dome, pulmonary apex. (3) Cervical glands, bronchial glands, lung. The author's experiments showed him that the glands draining the mouth and pharynx never are in direct communication with the bronchial glands, and but rarely with the supraclavicular glands. Connection with the pleural dome also was never demonstrated. In the author's experiments in which aspiration of the germs directly from the mouth to the lungs could be excluded, it was found that the infection of the lungs when secondary to that of the cervical glands always took place through the blood stream, and therefore through the lymphatic duct and the vena cava. Observations on the bodies of infants showed that the chief and most long-standing lesion was always to be found in the bronchial glands, and he therefore concludes that in most cases the bronchial glands are the primary site of the tuberculosis invasion, while the cervical glands are a secondary affection that only in rare cases has anything to do with the origin of pulmonary tuberculosis in man. He believes that healthy unaltered lymph nodes form a filter that is impervious to bacteria and that the portal of entry in children's pulmonary tuberculosis is the lung itself or the bronchial tree, the germs gaining access to this either through the air or from the mouth, in which they accumulate through the presence of infected foods.

**Experimental Observations in Phototherapy.**—Schulz says that in the Finsen treatment two possibilities must be considered, the bactericidal action of light, and some specific effect of the light rays on the tissues. He reviews the more important observations that have been published in attempting to determine which of these factors is the essential one, and comes to the conclusion that it is still impossible to decide the question. He also describes numerous experiments he made in order to discover the effect of injecting sensitizing solutions such as erythrosin into the tissues before applying the light rays. An inflammatory reaction is always produced which by some authors has been ascribed to a deeper penetration of the light rays under these conditions. The author found, however, on making careful control observations that the effect produced was simply the result of the irritating properties of the erythrosin solution itself, and that, for example, the portion of a completely injected rabbit's ear that was subjected to the rays did not differ in the nature or extent of the reaction from the other injected but unilluminated portions of the ear. Although his experiments have given rather negative results so far, he does not believe that the matter has been conclusively settled, and he recommends a continuation of observations in this direction.

*Münchener medizinische Wochenscrift, August* 1, 1905.

**The Occurrence of Typhoid Bacilli in the Bile of Typhoid Patients, and "Typhoid Bacilli Carriers".**—Forster and Kayser term "typhoid bacilli carriers" certain healthy individuals who carry in their bodies and evacuate in their excretions typhoid bacilli, without themselves suffering on this account. Such persons, it appears, are by no means rare, and they are either people who have come in contact with typhoid patients without being taken sick, or who after recovering from the disease continue for months or years to throw off bacilli in the feces. The authors first undertook to determine the region of the body in which these bacilli proliferate and the manner of their excretion. Observations of various sorts lead them to conclude that it is particularly the gall bladder that serves as a lurking place for these bacilli, and they assume that in the course of events the germs on entering the body reach the liver and then pass into the bile stream and the gall bladder. From this breeding place they are washed down into the intestine, and so appear in the feces. A large proportion of the bacilli carriers agglutinate their organisms, but this is not a reliable means of detecting such individuals, for as the propagation of the germs is a purely local affair the serum is not always bactericidal. Thus two possibilities are suggested—either that a general infection does not take place in these persons, owing to a local immunity of the intestine, or that the usual portals of entry for the bacillus are to be found in a portion of the alimentary tract anterior to the duodenum. The task of rendering these bacilli carriers innocuous to their environment is a difficult one, and the most promising plan seems to lie in operation and local treatment of the gall bladder if there is any reason to suspect disease of this organ.

**The Demonstration of the Spirochæta Pallida in the Blood of Syphilitics.**—Noeggerath and Stachelin describe a procedure by means of which they have been enabled to demonstrate Spirochæta pallida in the blood of three patients with untreated secondary syphilis. At least 1 c.c. of blood was obtained from the lobe of the ear or from a vein by letting it drip into ten times the amount of .3 per cent. acetic acid. The solution was then centrifuged and smears made from different layers of the sediment. These were then stained with Giemsa's solution. The organisms were found without much trouble in each case, but not in the blood of six patients suffering from various non-luetic infections that were examined as a control. The authors attach much importance to this discovery of the spirochetæ in the blood of patients with acquired syphilis, and they believe that this is the first observation of this sort.

**The Passage of Ankylostoma Larvæ Through the Human Skin, and Its Significance.**—Bruns and Müller say that they had been inclined to agree with those observers who believed that it was impossible for infection of the intestine with ankylostoma larvæ to take place through the skin, but that on repeating the experiments of Loos, who takes the opposite view, they obtained confirmatory evidence of his assertions. Ten dogs were infected with the nearly related ankylostoma caninum by the application of larvæ to the back under precautions which precluded the possibility of mouth infection, and experiments on four human beings were followed by the appearance of eggs in the stools after the lapse of forty to fifty days. In both of these successful cases the inoculation was made through the foot, after the skin had first been softened by a prolonged foot bath. The demonstration of the possibility of this mode of infection naturally greatly increases the difficulties of prophylaxis in mining communities, but there is no reason to relax any of the precautions introduced to prevent oral infection, and it is essential to insist on still greater care than before in the disposal of feces.

*Deutsche medizinische Wochenschrift, August* 3, 1905.

**Paget's Disease of the Nipple.**—Ribbert uses the description of a case of Paget's disease and of one of a breast cancer with eczematous degeneration of the skin, to illustrate his views on the nature of carcinoma. He does not believe that Paget's disease is a primary carcinoma of the skin, and he denies that the cancerous cells found in the epidermis are metamorphosed epithelial cells which may be regarded as the basis of a malignant proliferation. These cells are the result of the development of a deeper growth, flourishing deeper down, independently of the skin, and the mass increases in size only through multiplication of its own cells. In this case, however, the growth is not confined within connective tissue septa, but progresses by an unusually extensive intraepidermal migration of the cells. This view of the nature of Paget's disease is another argument against the theory that the essential feature in carcinoma is a degeneration of epithelial cells. The question of carcinoma is not concerned with new sorts of cells, or with primary metamorphoses through which cells become endowed with the power of becoming structural units of tumor formation. The proliferative power is already present, only requiring to be set free, and it is the knowledge of the conditions that can accomplish this that is still wanting for a complete understanding of the nature of cancer.

**The Diagnosis of Influenza.**—Köppen says that the recognition of influenza during epidemics and endemics is usually not difficult, especially as until the epidemic begins to subside the cases commonly exhibit a great deal of similarity. Sporadic cases, however, present much greater difficulties of recognition, and the following symptoms aid in the differential diagnosis: A brief period of initial fever, the occasional occurrence of influenza bacilli in the sputum, which at first is viscid and contains few leucocytes, but later becomes more purulent; albuminuria, which at first is marked and later subsides, and diazoturia corresponding in duration to that of the illness itself. He attaches much importance to the simultaneous occurrence of the albuminuria and the diazo reaction, and says that this observation serves to distinguish infuenza from most other infectious diseases. Typhoid and tuberculosis, however, may give the same signs, and this triad must always be kept in mind when albuminuria and the diazo reaction are observed together in the early stages of an illness.

*The American Journal of the Medical Sciences, July,* 1905.

**Chondrodystrophy Fœtalis (Achondroplasia).**—D. J. M. Miller declares that the essential process of this affection is a defective one; in other words, it is a failure in growth of the peripheral proliferating cartilage cells. It is said that the disease begins in the earlier months of fetal life and runs its course before the third or sixth month. Those bones only which are formed in cartilage during early fetal life are affected. The bones laid in membrane, and those in which, although laid in cartilage, ossification does not begin until late in uterine life or until after birth are not involved, or, at the most, but slightly. Thus in a patient affected with this disease there would be normal growth of the clavicle, the sternum, the cranial vault, the vertebræ, the patellæ, the carpus, and the tarsus. The long bones of the extremities, however, the ribs, the pelvis, and the posterior part of the cranial base are stunted in growth. In the majority of cases the peculiar shape of the head is due to premature synostosis of the os tribasilare. The most important change in the long bones is defective or complete inhibition of the normal row formation of the cartilage cells along the line of ossification. These patients are generally fat, and they often show other congenital deformities. The majority of them are stillborn or die soon after birth. Practically nothing is known of the etiology of the disease. The parents are usually normal. When the patient stands, his height is far below that of the normal individual of the same age. The writer cites the history of a case which has come under his observation. The patient is a boy of seven years. He appears even brighter than most children of his own age. This mental condition is an apparent characteristic of these patients. The writer gives an interesting series of measurements of his patient, comparing them with the measurements of a normal child of the same age.

**Acute Peritoneal Infection and Its Relation to Intestinal Obstruction.**—James P. Warbasse states that, clinically, paralysis of the bowel is the same thing as intestinal obstruction, giving rise to the same symptoms. Upon opening the abdomen in the ordinary case of peritonitis with paralysis of the bowel, the surgeon sees many coils of distended and inflamed intestine. A small part of this disturbance is due to peritonitis. Intestinal obstruction develops, which in its turn gives rise to a dilatation of the bowel above, with paralysis and transmigration of intestinal bacteria from the mucous membrane to the peritoneum. In this event the peritoneum becomes inflamed. The surgeon generally sees it in the early stage when it is dry. Later on there is secretion, and it is then difficult to tell whether the paralysis of the bowel preceded or followed the peritonitis. In all cases of this kind there are present an infective paralysis below and a paralytic infection above. Although in text-books a great differentiation is attempted, the writer declares that the subjective symptoms of these two conditions are about the same, and are due to the same conditions.

**A Study of the Mesenteric Glands in Their Relations to Tuberculosis.**—Randle C. Rosenberger presents the following conclusions, after having studied the mesenteric glands in seventy cases: In all cases of active tuberculosis, and in almost all cases of inactive tuberculosis, the mesenteric glands are tuberculously infective. The mesenteric glands in these cases may or may not show gross evidence of tuberculosis or tubercle bacilli in spreads; the result is the same as far as the qualitative production of tuberculosis is concerned. The mesenteric glands, in a certain percentage of cases showing no tuberculous lesions in any part of the body, are tuberculously infective. In the present study the percentage was about forty. The tuberculous infectivity of the mesenteric glands is probably shared by the other groups of lymphnodes throughout the body.

**The Surgical Complications of Typhoid Fever.**—George G. Ross names as surgical accidents, perforation of the bowel, primary perforation of the gall-bladder, perforation of the appendix, peritonitis without perforation, acute intussusception, rupture of the peritoneal coat of the mesenteric glands, bone infections, phlebitis, parotiditis, and so on. Perforation of the bowel stands first in order of frequency. Probably perforation of the appendix during typhoid fever is next in frequency. There have been recorded thirty-four cases of primary perforation of the gall-bladder which occurred during the course of, or during convalescence from, typhoid fever. The history of the case is of great importance in making the diagnosis. Careful attention must be paid to the location of the pain and tenderness, and the existence of tenderness during the course of the fever over the gallbladder. It must not be forgotten that pain in the gallbladder region may be caused by rupture of perforating ulcer of the stomach near the duodenum or of the duodenum, or to acute diseases of the pancreas. During the course of an attack of typhoid fever the vermiform appendix is often involved. It is only in recent times that the question of treatment of the various disastrous occurrences mentioned in this paper has received the attention that it deserves. Although the large majority of such patients die, yet the writer believes that many could be saved if the condition were recognized early and operation were promptly performed. He states that the only reliable symptoms to be recognized in time to prevent disaster are pain and muscular rigidity.

**Protozoa in the Stomach and Their Diagnostic Significance.**—John Benjamin Nichols describes an interesting case in which protozoa were found in the stomach. Very few of these cases are reported in the literature. An examination of the necrotic fragments obtained from the stomach showed large numbers of actively moving flagellate protozoa, apparently trichomonads. In all of the cases reported flagellates were found, with associated amœbæ in a few instances. The chief organisms were trichomonas intestinalis and lamblia intestinalis (megastoma entericum). In the majority of cases only a single species occurred. In three cases the trichomonas was found also in carious teeth. In many of them the various protozoa were found also in the feces. The trichomonas and other flagellates that live in the alimentary passages seem to prefer there an alkaline or neutral medium. Another important condition for the presence of the parasites in the stomach is the existence of small recesses, pockets, or diverticula in the stomach wall.

The writer declares that the diagnostic significance of the presence of protozoa in the stomach cannot be formed until further observations are properly made with both negative and positive findings, not only in cancerous but also in non-cancerous conditions, and especially in noncarcinomatous cases of achylia gastrica. He thinks that the parasites will be found far more often if they are properly and systematically looked for.

**Surgical Diagnosis in General Practice.**—John B. Roberts calls attention to the importance to the general practitioner of a working knowledge of surgical diagnosis. Many diseases which could be easily managed by prompt treatment may, through delay, cause effects too far-reaching to be remedied. This is especially true in pathological conditions of a surgical character. The writer also points out the value of consultation properly conducted. Systematic study of cases cannot be too much emphasized. Objective symptoms are more reliable than subjective ones. After a definite diagnosis has been reached in surgery, the physician must not forget to look also for complicating or consecutive conditions. Another important point is the diagnosis of the constitutional resistance of patients. The extensive distribution of syphilis and tuberculosis should always occur to the physician when patients apply for diagnosis and treatment. The lesions of these two diseases are markedly similar. Finally, the writer emphasizes the value of the cooperative method by which each physician may profit by the special knowledge and trained senses of all of his professional colleagues.

*French and Italian Journals.*

**Presence of Spirochetes in the Lesions of Syphilities.**—Galli-Valerio and A. Lassueur draw attention to the presence of spirochetes in the lesions of syphilis, not only on the surface of chancres and mucous patches, but also in the depths of affected lymphatic glands. There are two species of spirochetes: one is large and is easily colored with analine stains, and has rather undulations than true spiral shape; it is Spirochæte refringens; the other very thin, difficult to stain, 4 to 14 ft. in length, with ten to fourteen spiral irregularities, is Spirochæte pallida. S. refringens has nothing to do with the production of syphilis, while Spirochæte pallida is in all probability the specific cause of syphilis. It has been found in the syphilitic lesions of man and the ape, never in lesions of any other nature. It has been found in the bullæ of syphilitic pemphigus, which had not been opened, in a child who had died of hereditary syphilis at ten months of age; also in the spleen, lungs, and liver. It has been found also in the blood of syphilitics, and in the liver on the day of a roseolous eruption. It has also been found in four cases of syphilitic glandular swellings, and in the primary sore and mucous patches, by several observers. The authors examined ten syphilitic cases, and give the following results: 1. In the condylomata of one syphilitic, and the mucous patches of five syphilitics they found spirochetes 4 to 10 μ long, presenting the characteristics of pallida, in considerable quantity. The germ colored in 9 to 12 hours with Michaelis' azure. 2. In one case they found no spirochetes in mucous patches, nor in the chancre or glands examined.—*Revue Médicale de la Suisse Romande*, July 20, 1905.

**Ankylostomata in Miners.**—Paul Fabre reviews the latest works on the presence of ankylostoma duodenale among miners. France has had very few cases among miners, while they have been frequent in the countries further north. Among the 0,000 miners of the Pas-de-Calais trichocephalus was found in 50 per cent. of the cases examined, but ankylostoma was found in only two cases, in the dejections of two men employed in the same mine. This represents 0.4 per 1,000 in these mines. The temperature of these mines is rarely high enough to propagate the parasite, while on the surface of the ground, at a higher temperature, they grow quickly. Also the workmen are very careful not to defecate in the mines. When obliged they use the wagons, so that the material is removed from the mine. Hence the mine does not become infected by them. The disease was not communicated to the families of these two patients, both of whom were married and had children. The infection is always found in individuals who have worked in mines in other countries, and have brought them into France. A physical examination of the patient gives no results, only the microscopic examination of the feces gives the parasites. There seems to be little bad effect on the physical condition of those affected that may not be ascribed to the other unhygienic conditions of their life. Ankylostoma seems not to be a grave malady in France, since those patients had not communicated the disease to their comrades during several months, having brought it from Belgium. It is predisposed to by heat, humidity, poor ventilation. In Saint-Etienne district the ankylostomosis is frequent, 92 out of 100 miners being affected, but of these only two were rendered unfit for work. In these mines they live much more indiscriminately, eating without washing their hands in the mines. Ankylostomiasis has a characteristic hematology; lessened red blood cells; less hemoglobin; hyponucleosis; eosinophilia; slight polynucleosis. The cerebrospinal fluid shows no changes. The author believes that the disease does not prevail sufficiently to warrant the stringent hygienic measures proposed to prevent its spread.—*Le Progrès Médical*, July 22, 1905.

**Treatment of Tuberculosis of the Testicle.**—P. Paul Réclus discusses the operative treatment of tuberculosis of the male genital organs. The diagnosis is easily made, except when the masses of tubercular tissue are very small, for they form nodules that are easily appreciated by touch, and that are exceedingly hard, while inflammatory nodules or their sequelæ in the form of fibrous tissue, are much softer and more elastic. The first structure to be attacked is the epididymis. The nodules are usually multiple, and surround the testicle. They are often caseous, or suppurate and leave fistulæ. If the case is one in which the lesion is old, and has become fibrous, the masses are harder, not sensitive to pressure and smaller than in the active stage. The treatment should be first medical; rigorous hygiene, fresh air, over-feeding, change of air, with arsenic internally and cod-liver oil in large doses. If the process goes on to suppuration operation becomes necessary. When the epididymis alone is affected an epididymectomy may be done under local anesthesia. If the nodules are large and many it is useless to temporize, and a castration must be done. A new operation has been proposed, the anastomosis of the deferent canal with the spermatic tubes. If the whole testicle is involved castration is done only under local anesthesia, single if possible, double if both glands are involved. In the latter case the patient is better satisfied if we can leave a portion of the testicle, so that he may be able to feel himself capable of erection.—*Journal des Praticiens*, July 22, 1905.

**Syphilis of the Pylorus.**—Cimoroni reports six cases of syphilitic ulcer of the pylorus, which had produced stenosis. The symptoms pain, hyperchlorhydria, and vomiting of food in such cases, which would ordinarily indicate a peptic ulcer, in a syphilitic subject should lead the physician to look out for a syphilitic lesion of the pylorus. The ulcer may affect the entire mucous membrane, while the muscular tunic is invaded by sclerogummatous tissue, which has an effect quite opposite to cicatrization, or may produce stenosis of the organ. There may coexist with this multiple intestinal stenoses of syphilitic origin. From a diagnostic point of view it is well to note that the symptoms of peptic ulcer, manifesting themselves in an old case of syphilis, should lead us to suspect pyloric stenosis. In such cases antispecific treatment may bring about a cure and at the same time elucidate the diagnosis.—*La Riforma Medica*, July 22, 1905.

**New Method of Preserving Milk.**—L. Spolverini and M. Flamini bring forward a new method of preserving milk, by means of an atmosphere of carbonic-acid gas, under pressure. The milk remains unaltered for several days, both in its physical and chemical characters, and in the biological constituents, the ferments. Some of the germs present are killed, while others have their development arrested. Only one kind remains unchanged, a diplostreptococcus, not pathogenic, which after some days, with a suitable temperature, coagulates the milk. Uncooked milk can be kept for 8 to 12 days at a temperature of 12° to 14° C., while boiled milk is preserved indefinitely. The production of the gas is without difficulty practically. This method of preservation assists us in solving the question of the feeding of children with milk sterilized by heat, in preference to cooked milk, since it permits us to keep the milk for a considerable period deprived of all pathogenic germ action, and to preserve all its biochemical functions, which are lost by heat sterilization.—*Rivista di Clinica Pediatrica*, July, 1905.

**Congenital Laryngeal Stridor.**—O. Cozzolino tells us that there is a form of laryngeal spasm that is of congenital nature, and which is a true morbid entity, the basis of which is a true malformation of the larynx, epiglottis, ari-epiglottic folds, and rima glottidis. Another very similar form must be distinguished from this, which is not congenital: it may be distinguished by the tone of the respiration, and by being secondary to other diseases of the throat, such as adenoids, hypertrophies of nasal structures, and bronchial affections. The characteristics of the secondary form of spasm are its coming on by attacks, and its rapid disappearance when the primary conditions are removed. This form is accompanied by inspiratory sinking in of the thoracic walls, and less marked cyanosis. In the congenital variety there is a nervous element present, as well as the anatomical one. The prognosis is favorable. Death rarely occurs, but may be due to an added pneumonia, or bronchopulmonitis, to which the bad formation of the larynx predisposes the child.—*Rivista di Clinica Pediatrica*, July, 1905.

# Book Reviews.

Select Methods in Food Analysis. By Henry Leffmann, A.M., M.D., Ph.D., and William Beam, A.M., M.D., F.I.C. Second Edition, Revised and Enlarged. With One Plate and Fifty-four Other Illustrations. Philadelphia: P. Blakiston's Son & Co., 1905.

The subject of food adulteration and its detection has become so prominent of late that the demand for laboratory manuals dealing with this branch of analytical chemistry has been much increased. The first edition of the present work was very favorably received, and in its present enlarged form it should prove still more acceptable. Some of the additions are: more detailed descriptions of apparatus; new processes for the detection of coloring matter and preservatives; analytic data in regard to fruit juices, jams, and jellies; rapid methods for the examination of flavoring extracts, condensed milk, and cereal foods, etc. It has been the object of the authors to keep the volume as concise as possible, but while within limits this is a virtue, we think that they have erred somewhat in the direction of brevity. The general discussions of the nature of adulterations likely to be encountered in the different foodstuffs might with advantage be amplified, and although the microscope is illustrated and its use is briefly described, the references throughout the text to the application of microscopical methods in the detection of adulterants are very incomplete. This method of investigation is worthy of much greater space in the letterpress, and especially of a great increase in the number of illustrations. The important subject of the detection of parasites in infected meats, for example, has no illustrations whatever, and is dismissed with less than twenty-five lines of text. Such brief mention is useless for the instruction of the tyro, and contains nothing of interest to the more experienced worker. Another notable omission is the absence of any reference to the precipitin method for identifying the substitution of inferior sorts of meat, *e.g.* horse flesh, for more expensive varieties, or for determining the varieties present in sausage or chopped meats.

A Manual of Practical Hygiene for Students, Physicians, and Medical Officers. By Charles Harrington, M.D., Assistant Professor of Hygiene in the Medical School of Harvard University. Third Edition, Revised and Enlarged. Illustrated with Twelve Plates in Colors and Monochrome, and One Hundred and Eighteen Engravings. Philadelphia and New York: Lea Brothers & Co., 1905.

The appearance of this book in the third edition is sufficient testimony to the rank it has taken among the ever-increasing volumes on hygiene. The text is presented in nineteen chapters. The subject of food in its various aspects is first treated, considerable space being devoted to it. After general considerations, the various special foods are discussed from different standpoints. The inspection of food, its composition, analysis, preservation, and adulteration are all considered. One section is devoted to the description of beverages. Condiments, spices, and bakers' chemicals are treated in another section. The section on contamination of foods by various metals, such as copper, lead, zinc, nickel, tin, and contamination by kitchen utensils, is both practical and interesting. Still other subjects discussed are air, the soil, water, habitations, schools, ventilation, heating, lighting, plumbing, disposal of sewage, disposal of garbage, disinfection, military, naval, marine, and tropical hygiene, hygiene of occupation, vital statistics, and personal hygiene. The subjects are treated with a breadth of view which is admirable. Nevertheless, careful attention is paid to details, the result being a complete, clear, well-illustrated volume which will prove of great value to the student, practitioner, health officer, and general reader. The author has carefully revised the work, cutting out all obsolete material, while he has added much that is new. The new section on Infection, Susceptibility, and Immunity is most interesting, and of great value.

The Complete Kano Jiu-Jitsu (Judo). The Official Jiu-Jitsu of the Japanese Government, with the Additions by Hoshino and Tsutsumi, and Chapters on the Serious and Fatal Blows and on Kuatsu, the Japanese Science of the Restoration of Life. By H. Irving Hancock, Author of "Japanese Physical Training," "The Physical Culture Life," "Life at West Point," etc., and Katsukuma Higashi, One-time Instructor in Kano Jiu-Jitsu at Doahisha College, Kioto, Japan, and now Professor of Jiudo in New York City. Illustrated by over Five Hundred Plates from Life, and Four Charts. New York and London: G. P. Putnam's Sons, The Knickerbocker Press, 1905.

The authors state that this is the first complete and authentic work in any language that explains the highest school of jiu-jitsu, as that art is taught and practised by the adepts of Japan. It appears that the system at present recognized by the Japanese Government is an improvement on the older methods, introduced within comparatively recent times by Professor Jiguro Kano, and amplified by two of his colleagues, Hoshino and Tsutsumi. Jiudo is technically the correct term to apply to what the Japanese people generally still call by the popular name of jiu-jitsu. The book is a truly beautiful production, and consists of over five hundred admirably executed photographs of two Japanese jiu-jitsuians at work, the various phases of each trick being set forth in the explanatory text. The one hundred and sixty tricks of the perfected system are divided into three sections. The first is devoted to the more or less preparatory tricks, the second to more advanced work, and the third to the highly scientific tricks of actual combat to be used for self-preservation in emergencies, and by which, when necessary, an adversary is maimed or killed. The book closes with several charts, on which are indicated the points at which blows causing death or unconsciousness may be struck, and finally, with an exposition of the science of Kuatsu, or the restoration of life. This, it is stated, was originally employed solely for reviving the victims of attacks, but it was later discovered that it was also potent in cases of drowning, sunstroke, and injuries from other accidental causes. The manipulations consist essentially of percussion, or massage of the great nerve centers, together with artificial respiration, and it is claimed that by their aid it is possible to bring back to life individuals who could in no other way be resuscitated. The book should have an interest for medical men, even if they never expect to practise the system it teaches.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia; assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital. June 1, 1905. Philadelphia and New York: Lea Brothers & Co.

The current number of Progressive Medicine consists of five parts, by different writers. The first deals with hernia, and is contributed by Dr. W. B. Coley; the second is on Surgery of the Abdomen, exclusive of hernia, and is by Dr. E. M. Foote; the third section deals with gynecology, and is furnished by Dr. J. G. Clark; the fourth, from the pen of Dr. A. Stengel, treats of Diseases of the Blood, Diathetic and Metabolic Diseases, Diseases of the Spleen, Thyroid Gland and Lymphatic System; and the last, on Ophthalmology, is contributed by Dr. E. Jackson. The literature of these various subjects has been carefully gleaned by competent hands, and the results are here presented in a readable form.

The Surgical Assistant; A Manual for Students, Practitioners, Hospital Internes, and Nurses. By Walter M. Brickner, B.S., M.D., Assistant Surgeon, Mt. Sinai Hospital, Out-Patient Department, etc. With 123 Original Illustrations. New York: The International Journal of Surgery Co., 1905.

The preparation of this book should win for the author the gratitude of the entire tribe of aspiring young surgeons whose anxiety to shine in their subordinate posts is often hampered by ignorance of exactly what is expected of them. The duties of the assistants during grave operations are extremely responsible, and complicated procedures cannot be carried out with the necessary *aplomb* unless the several participants are well schooled in their parts. The author has undertaken to supply precisely this information, which heretofore has been obtainable only through actual experience. The first part of the volume is devoted to the general principles of assistantship, and comprises two chapters of common sense advice on the personal conduct of the younger men to their superiors and to patients, followed by others on assistance in examinations and dressings, the preparation of an operating room in a private house, the technique of asepsis, the anesthetist, the care and handling of instruments, assistance at the wound, and the post-operative care of the patient. In the second part the assistant's duties are discussed from the standpoint of regional surgery, and the chief operations on each part of the body are described in turn, with the necessary directions for the assistant. One appendix is devoted to the preliminary treatment and the routine after-treatment of operative cases, and a formulary; another consists of 116 illustrations of the instruments most often used. These are in addition to the numerous and very practical illustrations in the body of the book. While the ability to anticipate and carry out each wish of the operator almost before he has had time to formulate it in his own mind can be acquired only by much practice, study of the many hints given in this volume should greatly shorten the period of apprenticeship, and we imagine that both operators and their would-be aides will view its appearance with interest and pleasure.

# Society Reports.

## BRITISH MEDICAL ASSOCIATION.

*Seventy-third Annual Meeting, Held at Leicester, July 25, 26, 27, and 28, 1905.*

(Special Report to the MEDICAL RECORD.)

(*Continued from page 319.*)

### SECTION OF SURGERY.

*Second Day—Thursday, July 27.*

**Treatment of Malignant Disease of the Rectum.**—Sir CHARLES BALL, in opening this discussion, said that the most recent work on this subject had been rendered more mature and perfect by the halt which had lately occurred, and that they might gain even greater advantage from it if they were to mark time, as it were, whilst they reviewed their position. He had, therefore, decided to give a résumé of the treatment of this condition. He hoped that the cancer research work to which so much attention was now being paid might result in the discovery of a cure for this terrible malady, and that the hypodermic needle might then prove, by some form of serum treatment, more efficacious than the knife; but in the meantime he was quite sure that attention to the details of technique and an early diagnosis were of vital importance. In this latter direction a great responsibility rested upon practitioners to examine their patients whenever there was the least suspicion as to the nature of the condition in any rectal trouble. In attempting to decide whether the case was one for operation or not, the principal points were whether there was a secondary gland invasion (though he did not consider that glands in the hollow of the sacrum contraindicated operation; for they could be removed at the same time as the rectum) and whether fixation of the growth had occurred. If the growth were deeply fixed, showing invasion of surrounding structures beyond the rectal wall, operation was useless. In all these cases of rectal cancer the mucous membrane was early involved, and was not movable over the growth; if it was, then the case was not one of cancer, though it might be of sarcoma. Before operation proper preparation of the patient was most important, and the bowels must be thoroughly unloaded by aperients and enemata over some days. The speaker then showed a series of lantern slides to illustrate the various anatomical points in connection with the rectum, which were involved in the modern operation for excision. In the first, he showed that the anal canal was almost at right angles to the main axis of the rectum, and he said that it was of supreme importance to keep the sphincters and pelvic sling or diaphragm intact, so that incontinence might not follow the operation. He considered that the perineal incision was out of date, and should be discarded, since it divided this pelvic sling, and incontinence of feces always followed. He then showed a slide in which the rectum was markedly bulged forward just above the anal canal, forming an anterior pouch behind the base of the bladder, and this he regarded as one of the favorite seats of cancer of the rectum. The next slide displayed the pelvic colon with its mesentery, the colon being lifted up so that the full extent of the mesentery might be seen. He regarded the length of the mesentery line as of great importance, for a little dissecting up allowed the lower end of the pelvic colon to be brought down to the anus after the removal of the rectum. The mucous membrane of the anal canal should then be dissected off, and the lower end of the bowel passed out through the anus, and stitched to the skin; in this way perfect control over the feces and even over gas was retained. He regarded this plan as of greater value than end-to-end union of the upper segment with the lower, after the excision. When end-to-end union was tried, it almost invariably failed; for even if union took place, it was broken down again by the passage of the first water, which usually contained a few scybala. The perineal operation was advisable only for cancers lower down, involving only a comparatively small part of the circumference of the rectum, or for cancer of the anal canal. In cancer higher up the rectum, a Kraske operation gave more room. The operation had been much modified, and Bodenhamer's was the one that he regarded as the best. The anus was left intact, and an incision made from the middle of the sacrum downwards over the coccyx which was then cleaned, a transverse incision through the fifth sacral vertebra was than made and the coccyx and fifth sacral vertebra removed by cutting with American pruning shears. If necessary, more room still could be obtained by cutting away more bone. A dissection down onto the posterior rectal wall was now made, and the peritoneum opened deliberately each side; a ligature was passed round the superior hemorrhoidal artery, and one on each side round the two middle hemorrhoidals, which lay in the lateral false ligaments of the rectum. A loop of bowel was now hooked out and a gauze sponge placed in front of the bowel to protect the peritoneal cavity. The bowel was now ligatured and divided above the growth, which was then freed with the finger and the knife, and ligatured below the growth. The upper end was now brought down through the denuded anus, and stitched to the skin. A sacral anus was very rarely necessary, as the upper segment could usually be brought down if freed by a slight dissection. He considered, however, that there was a great future before the abdominal operation, when combined with the previously described method of dealing with the lower end of the upper segment. It enabled a thorough examination and an estimation of the extent of the disease to be made; also it was possible to ascertain whether there was serious involvement of the lymphatics, or deposit in other viscera, such as the liver. It could, if necessary, be terminated by a simple colotomy if the disease was found to be too extensive for removal. The pelvic colon was divided above the growth and at the point where its mesentery was longest, if not more than four inches, the operation was finished as a colotomy; otherwise, after the dissecting out of the lower piece of bowel down to the anal canal, this portion of bowel was divided below the growth and removed. The upper segment was then brought out through the anus and stitched to the skin. He considered that the operation would be more used in the future than it had been hitherto.

Prof. HARTMANN of Paris said that in the performance of Kraske's operation, he laid great stress upon technique. He used methods practically identical with those of Sir Charles Ball. He reported twenty cases of excision of the rectum with only one death. He regarded the abdominal operation as a very valuable one.

Mr. EDWARDS considered that the diagnosis of cancer high in the rectum was attended with considerable difficulty, and he regarded Strauss's electrical speculum as a very great assistance in these cases. He thought that an anesthetic should be given in all these cases, especially with a view to ascertaining whether there was mobility of the rectum or not, and he said the patient should in all cases be placed in a modified Trendelenburg position in order that the superincumbent weight of the viscera might be removed, as it was an impediment to the estimation of fixation of the rectum. He had operated in forty cases, and one patient was now living, ten years after the operation. He advised a previous colotomy in cases where the peritoneum might be involved, as it enabled this point to be further investigated and more easily dealt with at any subsequent operation.

Mr. F. C. WALLIS showed a series of lantern slides illustrating the anatomy of the region and some of the points in operative treatment. In the perineal section he made an inner and outer ring incision, and removed the anal canal and lower part of the rectum. When the cancer was higher and upon the anterior rectal wall, the operation through the posterior wall of the vagina was useful. For cancer in the posterior wall, and high up, he advocated Kraske's operation, and divided the sacrum transversely at the third sacral vertebra; though by a diamond-shaped incision in the bone, the apex of which reached the third sacral vertebra

in the mid line, a great deal of bone was saved and sufficient room, as a rule, obtained. He considered that fixation of the rectum could only be properly ascertained under an anesthetic, and when it was present no operation should be undertaken. In Kraske's operation the resulting wound should be left widely open and lightly packed with iodoform gauze, very free drainage being essential.

Mr. Sinclair White said that he had performed excision of the rectum twenty-six times, but had not had very good results from it. He thought an abdominal section was the proper method to use to ascertain mobilization of the rectum, and to examine for dissemination in other viscera, the peritoneum, or the deep abdominal glands. He advocated a preliminary colotomy in Kraske's operation, for it did not add to the patient's danger, and could be subsequently closed if desirable, whilst it diverted the feces during the healing of the excision wounds. He said that cancer was very common at the junction of the anal canal with the rectum, just as it was all through the alimentary canal where two parts of the canal met, which differed markedly either in their function or development. He showed a specimen of a diverticulum arising from the rectum in this region, which he thought probably owed its origin to partial persistence of the neurenteric canal.

Mr. A. B. Mitchell said that inversion of the rectum would prove an advance in the abdominal method, although he had not had an opportunity of trying it. He considered that in all these operations upon the rectum the grave danger was wound soiling from intestinal contents, and great care should be taken to avoid this.

Mr. T. G. Atkins regarded Strauss's speculum as of great advantage in the diagnosis of these cases, and he further advised deep anesthesia in the Trendelenburg position when doubt existed. He held that a radical operation should be performed whenever possible, and that moderate glandular affection was not a bar to it.

Mr. Stanmore Bishop regarded an early operation as the most important point in the success of the cases, and this involved the question of early diagnosis. In his opinion the point which first attracted the patient's attention was some alteration in the mode or manner of defecation. There might be no pain and no bleeding, but the patient would suffer in some cases from alternating constipation and diarrhea, or his motions might be difficult; but whatever form of change it might be, he laid stress upon the fact that some alteration from the normal took place in this function. He advocated preliminary colotomy, and considered that it advanced likelihood of a successful result from the operation by allowing complete emptying of the bowel before operation.

Mr. E. Deansley thought that some involvement of surrounding structures was not incompatible with excision of the rectum, but that any involvement of the bladder or ureters contraindicated it, and this matter should receive due attention before any operation was performed. It was the early cases which gave ideal results. When colotomy was performed, as it had to be in some inoperable cases, it added greatly to the comfort of the patient to wash out the rectum and lower part of the bowel every morning by an enema; further it gave great relief for as long even as six months to curette the rectum freely in some of these cases. He did not advocate a preliminary colotomy where excision was going to be performed. The lower end of the upper segment should always, if possible, be brought down to the anus after excision of the rectum. In operating by the perineal route, he advised placing the patient in the prone kneeling position with the legs and thighs over the end of the table; in fact, the position in which the dead body was placed for dissection of the buttock. In Kraske's operation the whole rectum should always be removed, the pelvic colon being brought down to the anus.

Mr. C. Ryall advocated an anesthetic for examination. He did not think the involvement of a few presacral glands precluded operation. He was against a preliminary colotomy in Kraske's operation. He had performed excision of the rectum, and the patient was out of bed in fourteen days; he thought one could not ask for anything better than that. He considered it of great importance not to cut or break into the growth, and scatter it broadcast through the wound. The peritoneum should be opened early in Kraske's operation, for the operator then knew where he was, and could more easily separate the anterior aspect of the rectum from the bladder.

Mr. Jackson Clarke said that he had seen a case where it was extremely difficult to diagnose between cancer of the rectum and ulcerative colitis; in fact, it was only the microscope which enabled a decision to be made. He advocated a preliminary abdominal section, and considered that the sacral route would become less common.

Sir Charles Ball, in closing the discussion, said he had listened to the various remarks with great pleasure and thanked Prof. Hartmann and the other speakers for the part they had taken in the discussion. He thought an anesthetic quite unnecessary in most cases for the purposes of examination, and it certainly added to the patient's troubles. He did not agree with those speakers who advocated a preliminary colotomy in all cases of Kraske's operation; he thought that it should be reserved for those cases where there was too severe a block to allow of the proper emptying of the rectum by aperients and enemata; in these cases he thought it was advisable, because without it the bowel could not be freed of the accumulated feces, and the patient had not been brought into a suitable state for operation. Further, he would use it in cases where the patient was very weak, and the conditions required immediate relief. As a general rule he considered that the colotomy should be a colotomy at the anus; that was to say, the rectum having been excised, the colon should be brought down to the anus, and should open there, not upon the outer abdominal wall. He was rather in favor of a preliminary abdominal section in doubtful cases; this had great obvious advantages, and he thought that the abdominal route would be more frequently used than it had been, for a preliminary abdominal section naturally led them to the abdominal operation. He had seen one case of cancer of the rectum—a case in which no possible clinical doubt could exist—get well spontaneously; and he considered Mr. Jackson Clarke's case of ulcerative colitis of interest as showing that diagnosis was sometimes scarcely possible. He was quite unable to account for the case he mentioned; the patient got perfectly well and the lumen of the bowel was restored. The patient had not used anybody's serum, nor even violet leaves. He did not pretend to be able to give any explanation of the recovery. He thought the diverticulum of the rectum which Mr. Sinclair White had shown was more likely to have arisen in the post-anal gut than in the neurenteric canal, and he thought that many of the tumors and some malformations in this region occurred in connection with the post-anal gut. He had seen a specimen of a tube which probably had arisen in connection with the neurenteric canal; it occurred in connection with a spina bifida and ran from it to the rectum, into which it opened; it was shown to him by Mr. Wheeler.

**A Modified Finney's Operation.**—Mr. Sinclair White showed some diagrams and read a short paper upon a modification of Finney's operation of gastropyloroduodenostomy. He performed the same operation but stitched up his aperture by the ordinary gastrojejunostomy method instead of by the mattress suture which Finney employed.

**An Unusual Condition of the Large Intestine Associated with Carcinoma in Three Sisters.**—Mr. C. P. Childe reported these cases. In the first sister a hard mass of cancer was discovered in the rectum and several soft masses were felt above which were apparently villous in character. The rectum was excised and the patient died on the fifth day. No post mortem was allowed, but the question arose as to whether the villous growths felt higher up were becoming malignant.

The second sister had cancer of the rectum at the same time, and the third sister was found some three months

later to have cancer of the rectum also. They declined operation. Similar cases of cancer of the rectum in families had been reported by Allingham and Harrison Cripps.

Sir Charles Ball said that he regarded these multiple polypoid growths of the mucous membrane as comparable to warts upon the skin. They resembled them in that under certain conditions they might become malignant, just as a wart might, and in that they sometimes occurred in families. He recalled the fact that it was not uncommon to see the multiple warts of children present in several members of the family. The question of possible infectivity must not be lost sight of.

**A Blood Cyst of the Omentum.**—Mr. L. A. Bidwell reported this case. There was a large quantity of ascites, which were thought to be of malignant origin. An operation was performed with a view to letting out the fluid and exploring the abdomen. Four gallons of fluid were let out and a tumor was found attached to the omentum. It was ligatured off and removed. It contained blood, and appeared to be a sarcoma, but a microscopical section of the wall rendered this doubtful. The patient made a good recovery.

**Epigastric Invasion of the Abdomen in Breast Cancer.**—Mr. Handley Sampson read a paper on this subject. He accompanied his remarks by a lantern demonstration showing the lymphatics of the breast and pectoral region. He considered that some of the lymphatics ran down to the epigastrium in the fascial layer beneath the breast, and that at the epigastrium the fascia came into very close connection with the peritoneum. He showed a slide of a microphotograph in which cancer cells were invading the peritoneum in this region, and he believed some found their way into the liver by the falciform ligament, and others were showered into the peritoneal cavity, thus accounting for secondary deposits in the liver and portal glands and peritoneum. These secondary deposits were quite unaccounted for by the embolic theory, owing to the undue percentage of occurrence in these regions secondary to cancer of the breast. He, therefore, advocated the removal of the fascia of the epigastrium in addition to the ordinary removal of the pectoral fascia, and held that it added but little to the length or gravity of the operation.

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SECTION OF OBSTETRICS AND GYNECOLOGY.

*Third Day—Friday, July 28.*

**Treatment of Albuminuria and Eclampsia.**—Dr. Robert Boxall opened this discussion. He said that though the actual cause of eclamptic fits was unknown, it was now generally agreed that they were due to faulty metabolism of kidneys and liver. Eclampsia was more common in primiparæ, and this was supposed to be due to increased intraabdominal pressure; the liability to the fits increased as the pregnancy advanced, and was worse in the case of twin pregnancy and hydramnios. At the end of pregnancy albuminuria subsided, and generally disappeared. Eclampsia was almost invariably associated with albuminuria. Eclamptic seizures were more common in the albuminuria of pregnancy than in other albuminurias, and the severity of the fits bore a rough relation to the amount of albumin and amount of urea excreted. Post-mortem there were found parenchymatous changes in liver and kidneys.

The statistics of the Registrar General showed that the proportion of deaths from puerperal convulsions was less in London than in the rest of the Kingdom.

Prophylactic treatment consisted in testing the urine in every case of pregnancy during the last three months; and in all cases where albumin was found the patient should be at once put on a suitable diet, which should be mainly milk; no meat should be allowed. Tarnier's system was to give water only for forty-eight hours, and afterwards skimmed milk. Purging should be procured by salines and copious enemata of saline solution. The skin should be encouraged to act. If there was no improvement under this treatment the pregnancy must be terminated. If fits supervened on the albuminuria they must be got under as soon as possible by chloral and bromide by mouth or rectum, hot pack to body, and ice cap to head, the patient being afterwards enveloped in blankets, with poultices to the loins. When the fits rapidly succeeded one another the attendant should give chloroform; when at longer intervals, morphine. Venesection and intravenous infusion of saline solution were also advised.

The question of emptying the uterus then arose, and this should be done with a minimum degree of interference, using chloroform for the later stages. For dilating the cervix one could use the Champetier de Ribes bag, the finger, Bossi's dilator, or incisions; he had not tried the two latter. Delivery might be completed by forceps, craniotomy, version, or finally cesarean section, abdominal or vaginal; the latter he condemned.

Professor Hastings Tweedy said that a common cause of death in eclampsia was edema of the lungs, and this was often due to fluid or medicines being put into the mouth while the patient was lying in an unconscious condition on the back. The following was the treatment in vogue at the Rotunda Hospital. Morphine was given, up to two grains in 24 hours; a soft tube was passed into the stomach and the latter was washed out with warm water, and then two ounces of castor oil with one or two minims of croton oil were passed in per tube, followed by one and one-half pints of fluid which was left in. The rectum was then washed out with copious quantities of water; the patient was kept on her side. Poultices were applied to the loins and saline solution was infused under the breasts. Nothing more was done. Labor was not induced or even hastened.

Prof. Byers of Belfast said that eclampsia was five times more frequent in primiparæ than in multiparæ. The fetus had a share in its production as was shown by improvement following on the death of the fetus and by its association with twins. As regards treatment he considered morphine preferable to chloroform, and he would expedite delivery under certain conditions.

Mrs. Scharlieb of London said that in India she had found lesions in the liver on post-mortem examination, and had seen some cases in which there were convulsions without preceding albuminuria. She used chloroform and allowed labor to proceed naturally.

Dr. John Campbell of Belfast used morphine and allowed spontaneous delivery, but some cases required manual dilatation and extraction.

Dr. Thomas Wilson of Birmingham had observed eighteen cases; seven of the patients died. He had noticed great dissimilarity in cases: some were preceded by blindness from retinitis, and others by dyspnea. He had given up the free administration of chloroform, and had seen much benefit from intravenous injections of saline solution. He advised performing vaginal cesarean section in some cases.

Dr. Holmes of Dublin said that in his experience some of the worst cases began after labor. He advised the use of morphine.

Dr. Inglis Parsons of London used pilocarpine.

Dr. MacLean of Cardiff had tried Bossi's dilator with disastrous results. He had found that thyroid extract increased the flow of urine.

Dr. Purslow of Birmingham said that in his opinion the greatest difficulty was to decide what to do in those cases in which fits came on badly at the end of pregnancy, but there was no commencement of labor. He had tried both the expectant and the active plan of dealing with the uterus in those cases, and on the whole had obtained the best results from the former.

Dr. Sharp of Nottingham dwelt on the importance of worry as a cause, and thought that statistics would show that the complaint was more common in the unmarried.

Dr. Corby of Cork said that pilocarpine caused excessive salivation and was dangerous on that account. He was

opposed to the use of morphine, but believed in saline infusion.

Dr. Ford Anderson of London said that his practice was to rupture the membranes; he thought chloroform dangerous, and advised amyl nitrite.

The President had felt it his duty to give a trial to Bossi's dilator, but had come to the conclusion that it was a "murderous weapon." Morphine was the best means of checking convulsions but might easily be pushed too far. He was not in favor of cesarean section. Pilocarpine was dangerous on account of its causing excessive secretion in the bronchial tubes.

Dr. Boxall, in closing the discussion, said that he did not wish to be considered an out-and-out advocate of accouchement forcé, and advocated it only when the patient was going on badly under other treatment.

**Elephantiasis of the Vulva.**—Dr. MacLean of Cardiff reported this case. The mass was removed from a girl aged 19, whose father had probably been the subject of syphilis and had lived abroad. There was a tumor of each labium minus, the size of a large orange, and elephantiasis of one leg was also present. He discussed the pathology of the condition at length.

**An Operation for Prolapse of the Uterus.**—Dr. Inglis Parsons of London read a paper with this title. The operation consisted in injecting a solution of quinine into the broad ligament so as to set up effusion. Full details of the method of procedure had been published in a previous paper. He reported 93 cases with good results in nearly all. Seven of the women had become pregnant subsequently, and had gone through a confinement with no bad effects.

A vote of thanks to the president was proposed by Prof. Byers of Belfast, seconded by Dr. Taylor Young of Sydney, Australia, and carried by acclamation. This concluded the business of the section.

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SECTION OF TROPICAL DISEASES.

*First Day—Wednesday, July 26.*

**Address of the President.**—Dr. R. W. Boyce of Liverpool gave a brief summary of the year's progress in tropical medical science. Though the record was perhaps not so rich in discoveries as last year, it showed both a great increase in the amount of careful scientific observation, and the practical good of the application of scientific knowledge to the prevention of disease over an ever-widening area of the world. Thomas' exhaustive experiments had proved the value of the arsenic compounds in the treatment of the various trypanosoma diseases of animals. Very valuable work had been done in connection with the kala-azar parasite by Rogers, Leishman, Donovan, Christophers, and others. Tick fever had been elucidated by Ross, Milne, Dutton, and Todd. New protozoal parasites had been discovered in various animals by Bentley, James, Patton, Balfour, Christophers, and Castellain. Surely no other department of medical science could show such activity as this, nor did there exist one that deserved to be more strongly supported. It was indeed most interesting to note that as the result of all these investigations there had sprung up amongst the medical workers themselves a demand for the cooperation of allied sciences. A very large amount of the work in tropical medicine consisted in the study of the life history of parasites and of insect-hosts, and the medical investigator constantly found his progress hindered through want of the necessary knowledge in these subjects. The help must come from the zoological side, and it was coming, and the dipterologist, helminthologist, or protozoologist, was now usually to be found in any well-organized tropical medical laboratory. The study of the mosquito had engaged the attention of numerous dipterologists, and the habits of these insects were being worked out in all parts of the globe. The biting flies, injurious to man and animals, were coming in for a very large share of attention, and lastly, the study of ticks and fleas, so neglected in this country, had now, thanks to the medical investigators, been taken up in earnest by the zoological specialist. Tropical medicine and economic zoology were intimately bound together and they should prove the most powerful combine to attack those diseases which equally affected both man and animals, and which hindered progress in all tropical countries. A most interesting outcome of the tropical medical movement was the remarkable activity displayed by the Indian Medical Service, the Royal Army Medical Service, and the Colonial Medical Service, now that encouragement had been given to prosecute researches into tropical diseases. This increased scientific activity was also seen amongst the young doctors on the tropical coasting ships and amongst those in charge of mines and industrial concerns in the tropics. Prophylactic work in tropical countries had yielded splendid results as shown, for instance, by the remarkable decrease of yellow fever in many South American towns, as the result of organized campaigns against the stegomyia mosquito. Unfortunately, however, antimalarial measures were often more talked about than pushed on with, and the sanitation of some of the oldest coast towns within the tropics was a blot on British administration.

**Tick Fever.**—Major R. Ross of Liverpool opened the discussion on tick fever, reading a paper by Drs. G. Everett Dutton and John L. Todd of Liverpool, on "The Nature of Human Tick Fever in the Eastern Part of the Congo Free State with Notes on the Distribution and Bionomics of the Tick." On November 26, 1904, Dutton and Todd sent a message to the committee of the Liverpool school saying that they had discovered that a spirillum was the specific agent of human tick fever in the Congo, and that they had been able to infect monkeys through the bites of ticks. On March 24, 1905, they received the *British Medical Journal* for November 26, 1904, containing Ross and Milne's paper on tick fever, and recognized that the priority of the discovery belonged to these observers. In all parts of Africa where it occurred the tick (*Ornithodoros monbata*) was generally found to have an evil reputation amongst the natives. It was after leaving Stanleyville, on their way up the Congo to Kasongo, that Dutton and Todd encountered the tick and saw cases of the disease. At Nyangwé they were able to collect numerous ticks for experimental purposes and were able to perform an autopsy on the only fatal case of tick fever they met with. They reached Kasongo on November 23 and were attacked themselves by the disease. The period intervening between the bite of the tick and the declaration of the disease was about one week. The natives usually put it at five days. The onset of the disease was always sudden and in no instance preceded by a distinct rigor. The patient was prostrated and complained chiefly of severe headache. Boneache in the limbs and backache were distressing. There was a marked distaste for food. Vomiting generally occurred once or twice, but was never continued. Slight diarrhea was fairly constant. The evening temperature during the attacks frequently reached 104.5° F.; the highest temperature recorded was 105.3° F. There were usually three or four attacks which often ended in more or less profuse perspiration. As a rule, each attack lasted for three or four days and the intervening periods varied from five to nineteen days. The spleen was sometimes, though not always, enlarged. Herpes, epistaxis, and hiccough were complications observed. The most characteristic feature of the disease was the prostration of the patients during the attack of fever and the quick return to comparative health with the fall of temperature.

The mortality from tick fever was low amongst those who were cared for and not exposed to fatigue and hunger. Under adverse conditions it might be high; for example, of twenty carriers who contracted the disease in one caravan sent from Kasongo to Kabambarre ten died. Sir John Kirk said that after recovery from tick fever the patient enjoyed complete immunity from further attacks. It seemed very probable that those living in infected localities might have spirillum fever while young, and grow up immune to

the affection. When bitten, the natives burned the ticks they were able to capture, then they cut the skin at the site of the bite and rubbed in the ashes of the acarid as a preventive against the fever. Dr. Livingstone mentioned an analogous practice. In preparations colored by modifications of Romanowsky's stain the spirilla of tick fever stained unevenly and varied greatly in length. The largest spirilla measured 43 $\mu$, the smallest 13 $\mu$. Y-shaped, apparently division forms, and groupings of pairs, trios, and tetrads of spirilla were frequently seen in films taken from either patients or animals.

The spirillum did not kill the ordinary laboratory animals. To monkeys (species of *Cercopithecus*) it seemed uniformly pathogenic, especially to young ones. An adult rabbit was refractory. A young rabbit and a rat, in which there were grave accompanying affections, seemed more susceptible. A large guinea-pig showed spirilla in its blood for only two days succeeding the inoculation of a large dose of heavily infected blood. In it, as in three rats from whose blood spirilla, once present, finally disappeared, there appeared to have been a temporary increase in the number of the parasites, and dividing forms were seen.

Eight animals (seven monkeys and one rat) were infected with spirilla by the bites of ticks. Each animal was examined with negative result before the commencement of the experiment. Thirty other monkeys of the same species, caught in the same district and kept under the same conditions, were used for other experiments. Their blood was constantly examined and none was ever found to be infected with spirilla. In one monkey infection was apparently brought about by the bites of young ticks hatched in the laboratory from eggs laid by infected parents. If this was so, it might be assumed that ticks were not merely mechanical transmitting agents of the spirillum, but were alternative hosts in which developmental changes took place.

In the Congo Free State the human tick (*Ornithodoros monbata*) was found particularly along much traveled roads. Although plentiful in many of the Arab villages along the Congo between Kasongo and Ponthierville, they were quite unknown in the native villages an hour's walk inland. The rest-houses for native travelers were always the most infected. *Ornithodoros monbata* seemed to have come into the Free State by two routes; from the East Coast with the Arabs into the Oriental Province, and into the Cataract region with traders from the Portuguese territory to the south, where it had existed since Livingstone's time, at least.

In infested houses the ticks were found in the dust and cracks of mud-floors, particularly in dry places near the hearths, in bed-platforms, or immediately inside the door-sill just where the natives were accustomed to sit down. They might hide in the cracks and crevices of mud or grass walls, and even in the thatched roofs. They seemed to be largely nocturnal in their habits and certainly did not feed quickly enough to get much blood from any but a sleeping person. A big female might remain, firmly fixed, feeding on a monkey for two or three hours before it finally dropped off, as large as a cherry, distended and bloated with blood. Often while still feeding the whitish secretion of the Malpighian tubes was passed from the anus. The productivity of the females was certainly increased by large feeding. The number of eggs laid at a time seemed to vary greatly. Dissection showed that only a few eggs were matured at a time. Oviposition therefore went on slowly. On two occasions ticks were seen to be ovipositing during three days. In each instance only seventy eggs were laid. The largest number of eggs laid at one time was 139. The eggs adhered to one another as they were laid and looked, under a low power, not unlike bunches of glistening golden-brown grapes. The eggs hatched in about twenty days. Dutton and Todd noticed that the larva of *Ornithodoros monbata* was inactive. This was a new and interesting fact. In about seven days after oviposition the hexapod larva could be seen to be forming within the translucent egg-shell. At about the thirteenth day the egg-shell split, nearly always posteriorly, in the sagittal plane. Later the larval skin split and the eight-legged nymph threw off at the same moment both the egg-shell and its larval cast.

It was not determined for how long ticks might remain infective. Ticks caught at Nyangwé and kept without food were able to infect a monkey with spirilla one and three-quarter months later. Rats and ants were mentioned as natural enemies of *Ornithodoros monbata*. Rats ate the adult ticks with avidity, and ants carried off the young ones and eggs. In conclusion, Dutton and Todd stated that tick fever was clinically identical with relapsing fever, and that likewise it was caused by a spirillum which was probably no other than *Spirochæte obermeieri*. The disease could be transmitted by the tick (*Ornithodoros monbata*), and the transmission was probably not merely mechanical, but some development process was carried on in the tick.

**Pathogenic Ticks Concerned in the Distribution of Disease in Man.**—Mr. R. Newstead of Liverpool read this paper. He described the specific characters of *Ornithodoros monbata* and *Argas persicus*, and reiterated the facts described by Dutton and Todd concerning the life-history of *Ornithodoros monbata*.

Dr. L. W. Sambon of London said the investigations carried out by Dutton and Todd were of great interest. These observers had established the presence of relapsing fever in the Congo Free State, and had proved that the disease is propagated in that part of Africa by *Ornithodoros monbata*, a widely distributed tick belonging to the sub-family of the *Argasinæ*, and presenting life-habits very similar to those of the common bedbug. They had moreover suggested that the disease encountered by Dr. Livingstone and Sir John Kirk in the Zambesi valley, and attributed by the natives to the bite of *Ornithodoros monbata*, might be nothing more nor less than relapsing fever. This identity, suggested also previously by Ross and Milne, was probably correct, but no one could have guessed it solely from the scanty descriptions of the disease given first by Livingstone and Kirk, and more recently by Dowson and Daniels, especially as these authors mentioned violent purging and marked dysenteric symptoms, which are somewhat unusual in ordinary relapsing fever. If the "disease of Tete" on the Zambesi is a spirillum fever, then, most probably, the so-called "disease of Miana" in Northern Persia is likewise a spirillum fever. The disease of Miana is also transmitted by a tick of the sub-family *Argasinæ: Argas persicus*. And if spirillum fever is propagated by certain ticks in the Zambesi valley in the Congo Free State, in Uganda, and in Persia, it is very likely that in Egypt, in India, in China, and in Europe it is also transmitted by blood-sucking acarids or insects. Dutton and Todd's investigations prove the correctness of the views expressed by Tictin in 1897 with regard to the transmission of relapsing fever in Odessa by the common bedbug. In studying the various aspects of spirillosis we should consider that a parasite so widely distributed and fostered by different invertebrate pests in different countries, may be represented by a number of more or less distinct varieties. For my part, I believe we shall find this to be the case exactly in the same way as in trypanosomiasis. In South and Central America, in the West Indies, in Australia, in the Malay archipelago we know of ticks injurious to man. Spirillosis may be the cause in some instances, as, for example, in the case of *Argas turicata* in Mexico, but other pathogenic microorganisms may also be fostered and transmitted by ticks, such as *Piroplasmata*. Thus a new and very wide field of research is opened to investigators all the world over.

The speaker regretted that Dutton and Todd had reported only one doubtful case of infection by means of ticks hatched in the laboratory from eggs laid by infected parents, and not previously fed on men or animals suffering from the disease. Detailed and accurate information was very much needed concerning this interesting mode of transmission, which he considered to be the ordinary mode of transmission with ticks. Dutton and Todd, and Newstead had stated that the ticks while still feeding often passed

from the anus the whitish secretion of the Malpighian tubes. He wished to point out that a portion of this white excretory matter is formed within the cells of the ventriculus. Some of these cells go through a very peculiar process at the time of engorgement. They gradually elongate and take up the imbibed food, meanwhile they swell at their inner or distal end and become clavate, the elaborated food is then passed into the general body-cavity through the clavate portion and mixes with the blood of the tick; finally, the empty cell becomes globular and falls into the lumen of the ventriculus. A certain amount of excretory matter is left in the cell, and crystalizes or forms small concretions.

**Two Cases of Febrile Tropical Splenomegaly (Kala-azar) and a Suggestion.**—Sir PATRICK MANSON of London contributed a paper with this title. After describing two cases of kala-azar in which he had found the parasite discovered by Leishman and Donovan, he made the following remarkable suggestion: "The question that the Leishman body and that found by Wright in oriental sore are identical is an interesting, and may be an important, practical point. In tropical splenomegaly the Leishman body is found in spleen, liver, bone marrow, glands, intestinal ulcers, etc.; in oriental sore it occurs only in the sore; in the former case there appears to be a general infection, and certainly profound constitutional disturbance; in the latter the infection is strictly localized, and there is no clinical evidence of constitutional disturbance. But although there is no clinical evidence of constitutional disturbance in the case of oriental sore, there certainly must be some constitutional recognition of its presence, for it is well known, and the fact has been acted on for generations by the Jews of Bagdad, who anticipate the natural development of the disease—it might be on an inconvenient part of the face, where it would produce unsightliness or deformity—by the practice of inoculation on some less inconvenient region. They know that the disease so inoculated is protective. Assuming that the Leishman body of kala-azar and the corresponding germ of oriental sore, which are morphologically identical, are also specifically identical, and that, whereas the former is malignant in its course, the latter benign, it follows that the malignity of the kala-azar germ has been got rid of in some way or other. It has long been believed that oriental sore is a disease of countries in which the camel is a prominent domestic animal, and it has been maintained by some that the disease may be caught from the camel. These facts suggest to my mind that oriental sore may bear the same relation to kala-azar that vaccina does to smallpox, and that possibly the virulence of the kala-azar germ has been got rid of during its passage through the camel, just as the smallpox germ is deprived of its virulence by passing through the cow. This is conjecture, but seems to be a point worth working out, for should the conjecture turn out to be correct we may have ready to hand a means of preventing kala-azar."

*(To be continued.)*

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, Held May 4, 1905.*

DR. CHARLES L. DANA IN THE CHAIR.

**An Aid in the Diagnosis of Syphilis.**—Dr. N. B. POTTER presented two patients who had a condition at the base of the tongue which Virchow had described as being diagnostic of old syphilis and many clinicians were unaware of its value. He was not yet positive as to its value as an aid in diagnosis, but he was studying the subject and would report his findings at a later meeting. The condition was first described in Virchow's Archives in 1893. The mucous membrane behind the circumvallate papillæ felt velvety; whereas if any atrophy was present, as in syphilis, these glands were apt to be rather isolated, hard, quite small and sometimes large, but always hard. The ground substance of the membrane was apparently thickened but the microscope would show that it was thin. He thought it was quite characteristic of syphilis to find the glands in this situation isolated and hard, and believed it to be more or less diagnostic of old syphilis. One could not make such a diagnosis with the laryngeal mirror but by palpation.

**The Prognosis of Syphilis.**—Dr. S. POLLITZER read this paper. He said there were three factors which might be said to stand in a position of primary importance in determining the course of a given syphilis; (1) the intensity of the infection; (2) the resistance of the patient, and (3) chiefly the treatment. The influence of the first two factors could not readily be separated. As to the intensity of the infection only meager data were derived from the appearance of the initial lesion. It had been stated that extragenital chancres were usually followed by the more severe later lesions and, according to Fournier, this was especially true of chancres of the fingers. In considering the resistance of the patient to the infection he said we were on grounds almost wholly theoretical; we did not know upon what relative immunity depended. In general it might be stated though that syphilis was likely to run a more severe course in patients debilitated from any cause. As to the cutaneous lesions of the early period of syphilis, a mild course seemed to point to a mild course of the later syphilis so far as the skin was concerned, but it was noteworthy that often those cases that were particularly mild in the beginning, yielded a large percentage of the severe lesions of the central nervous system later. The occurrence of early pustular lesions pointed to a more severe course of the syphilis. All the superficial syphilides yielded a good prognosis as to themselves, and all responded more or less readily to appropriate treatment. The prognosis of syphilis invited earnest consideration only in connection with the occurrence of the later, the gummatous and sclerotic lesions, and the first question was "what are the chances of the development of tertiary lesions?" The classical notion that syphilis was a disease that always ran a certain fixed and fixed and definite course was true only in a small proportion of the cases. As a matter of fact in a large proportion of the cases of syphilis to-day no symptoms beyond the chancre and the early cutaneous lesions ever make their appearance and this cessation, *quasi* abortion, of the disease was due in great part to prompt and energetic treatment; but it was undoubtedly true that syphilis was often a self-limited disease. Diday's experiments upon 43 cases of syphilis, withholding all medication, showed 60 per cent. of spontaneous cures; this was probably too high a percentage because they were not all under observation a sufficient length of time. In what proportion of cases, as we see them, may tertiary accidents be expected? Mauriac in Paris, who had examined into this question very thoroughly, concluded that tertiary lesions developed in not less than 5 per cent. nor more than 20 per cent. of all cases of syphilis, and that 10 per cent. to 15 per cent. was nearer the truth. In a record of 10,277 cases of tertiary lesions, made by Fournier, Ehlers, Hjelman and Haslund, gummata of the skin subcutis and the visible mucosa occurred in 4,902 (47.7 per cent), leaving 5,173 (52.3 per cent.) for the lesions of the viscera including the bones. Bearing in mind the estimate of 15 per cent. of tertiary lesions in all cases of syphilitic infection, one must conclude that in about 7 per cent. of the cases, cutaneous, etc., gummata occurred, and in about 8 per cent. visceral lesions depeloped. These figures could only be taken as a crude approximation to the truth. It was probable that the proportion of tertiary lesions of the viscera taken from the statistics of syphilographers was far too low, and that syphilis of the viscera occurred in considerably more than 8 per cent. of all cases of syphilis. The relation of syphilis to diseases of the heart and arteries was being better understood, and though it was often difficult to separate the influences of syphilis from other causes in the production of diffuse and nodular sclerosis, obliterating endarteritis, hyaline and amyloid degeneration, with all their serious secondary effects in vital organs there seemed little doubt that syphilis played an important rôle in the causation. The coarser syphilitic

lesions of the heart were well known, but that the heart was affected early in syphilis seemed not to be so generally understood. Syphilitic lesions of the lungs were probably far more commonly overlooked than recognized. The disease occurred in the form of gumma, which showed relatively little tendency to break down, diffuse infiltration and fibroid peribronchitis and periarteritis. Of all the internal organs the central nervous system seemed to suffer most frequently from the later lesions of syphilis. In Fournier's large statistics 21 per cent. of syphilis of the nervous system was recorded, not counting the cases of tabes and paresis. About 3 in every 100 cases of syphilitic infection develop nerve lesions. The ocular palsies, the milder forms of meningitis, even the circumscribed syphilitic tumors of the brain and cord in the majority of cases were amenable to treatment and might disappear without leaving a trace. Reliable data on which to estimate the proportion of syphilitics who become tabetic or paretic were still lacking. What shall be the answer given to the syphilitic who consults on the question of marriage? From the vast accumulated experience of many generations, he said one might deduct certain rules for our guidance in this momentous question. They were (1) The syphilitic should not marry till at least three years after his infection; (2) the syphilitic should not marry who had not undergone a thorough course of treatment with mercury; (3) the syphilitic who had observed the first two postulates still should not marry till a period of a year had elapsed without the appearance of any symptoms of his disease.

Dr. R. W. Taylor said that when a patient had been informed that he was syphilitic he immediately began to question the surgeon as to his chances in the future and inquire whether he could be thoroughly cured, how long it would take to cure him, would he suffer very much, would he be as good as he was before he was infected, and could he entertain the thought of marriage, and would his children be healthy. This showed the necessity of a thorough knowledge of the prognosis of syphilis. It was, therefore, important to determine what the nature of syphilis was and to acquaint ourselves with the course of the infection in healthy and diseased subjects, and of the influence of therapeutics upon this infection. From statements made it seemed warrantable to conclude that there was a well-marked uniformity in the infectious quality of the virus, no matter from whom it might be derived, and that this poison might produce in some subjects a mild and in others a severe form of syphilis; therefore, the benignity or severity of syphilis was determined by the condition of the individual. Both mild and severe grades of syphilis might follow small initial lesions. It was only partially true that large and deep primary lesions invariably lead to severe forms of infection. It was not fully warranted to state either that ulceration, phagedema and gangrene, attacking the initial lesion, was an ominous sign of a severe attack of syphilis. Destructive ulceration, or any form of gangrene attacking the initial lesion, was always the result of contamination with pyogenic microbes. The view claimed by some authors that extragenital chancres were the forerunners of severe syphilis was not borne out by any extended investigation. Fortunately, syphilis in the great majority of cases was contracted by young men between twenty and forty years of age in whom the vital processes were active and whose health as a rule was good. According to Dr. Taylor's observations syphilis was less severe to-day than it was thirty years ago, and this diminution was largely due to improved methods of treatment, to better sanitary and nutritive conditions, and to the greater attention paid to cleanliness and antiseptics. Again, he believed that in many people a moderate condition of immunity against syphilis existed, due to changes in the tissues and in the blood induced by syphilis in more or less remote ancestors. Syphilis in healthy persons, as a rule, ran a mild course, and its poison was eliminated from the system if active treatment be instituted at the proper time, and a cure would result in two or three years. In America syphilis in women ran about the course that it did in men, but the female sex was much less frequently attacked by cerebral and cerebrospinal syphilis than men. Perhaps the greatest drawback in the treatment of syphilis in the poor was to establish in their minds a realizing sense of the gravity of the effection. Precocious malignant syphilis usually began in the severer forms of the disease in which ulceration attacked the various lesions. Malignant syphilis was undoubtedly a rare and peculiar form of the disease and its chief characteristic was that it was essentially a secondary condition and in no way associated with tertiary syphilis. In these patients the nervous affections were not due to gummatous deposits, but rather to the round cell infiltration around the vessels, chiefly of the membranes of the brain. Malignant syphilis was due to lack of resistance on the part of the individual to the severity of the infection. By far the most potent cause of tertiary syphilis was absence or insufficient treatment in the secondary stage. One of the most formidable complications of syphilis was tuberculosis and this destructive and deadly symbiosis was seen in the secondary and in the tertiary periods. In malarial subjects the course of the disease was frequently severe. Bright's disease was a factor of much gravity in patients also infected with syphilis. Diabetic subjects were commonly profoundly influenced by syphilis, as well as those suffering from various blood states, such as scurvy, the hemorrhagic diathesis and hemoglobinuria. Many other diseases unfavorably influenced the course of the infection. Upon the integrity of the patient's blood vessels hinged in a large degree the greater or less severity of syphilis and, therefore, in advanced life with its accompanying arteriosclerosis, syphilis became a severer affection. Besides vessel changes, visceral lesions, general debility, an unstable condition of the tissues, and the systemic morbid effects produced by vicious habits and indulgences, were undoubtedly factors of gravity in syphilis of advanced age. Early, efficient, painstaking and prolonged treatment was most essential in all cases of syphilis, and by it the course of the disease in the young and the aged could be much modified, could be rendered mild, and in most cases a cure would be produced.

**Lesions of the Viscera.**—Dr. I. Adler considered this part of the topic and said that the prognosis in visceral syphilis depended largely on the localization of the lesion. A large lesion affecting the liver might not be productive of grave symptoms or menace life; while a very small lesion of the heart muscle, causing absorption and the deposition of fibrous tissue, would necessarily impair that organ and might lead to a fatal result. The early recognition and early treatment of the disease was very important and in this respect many advances had been made. The only forms commonly recognized were the hard gumma and aneurism. Heart syphilis, according to the Continental physicians, was nearly as frequent as syphilis of the nervous system. In many instances of syphilis, even without clinically recognizable heart lesions, there are heart changes involving particularly the small blood vessels, or a perivasculitis affecting the arteries, as well as the veins and capillaries. Here there was a round cell infiltration and an inflammation of the perivascular spaces. These he said could be demonstrated at an early stage. The physician should not look for murmurs, but there would be noted a little irregularity in the heart sounds, a reduplication usually of the second sound and a slight friction. These symptoms were quite evanescent but always were associated with slight objective symptoms and slight temperature. Many obscure cases of endocarditis found during the middle period of life and young persons presented valvular changes which could have been avoided if the slightest lesions had been recognized and treated in the course of a syphilitic affection in the early stages. From this it followed that the physician should not consider his patient cured if palpable symptoms and external symptoms had disappeared; only should they be considered as cured when those heart signs and other features of syphilis had permanently disappeared.

On the other hand it was the duty of the clinician who investigated cases with heart disease, whether valvular or of the heart muscle, to consider syphilis as one of the most prominent factors, and where there was no distinct etiology, always to have syphilis in his mind and to treat the patient accordingly. He had no doubt that beneficial results would follow the use of the iodides in old syphilitic lesions of the heart, and what he said regarding the heart held good for lesions in the kidneys. Many cases of chronic interstitial nephritis were originally syhpilitic and could have been prevented by the early recognition and treatment of the disease.

**Syphilis of the Nervous System.**—Dr. M. Allen Starr said that the number of diseases of the nervous system traceable to syphilis was very large, but there were some tissues which seemed to be exempt, notably the peripheral nerves. He said he had never seen a single case of multiple neuritis of syphilitic origin. It was the central nervous system that was commonly affected by syphilis, and he wished to confine himself to such diseases of the brain and spinal cord. In determining the prognosis of these various lesions one should sharply note the difference between the effects of gummata and the effects of arterial disease. The prognosis in gumma exudations within the brain and meninges, or the base of the brain, or in or around the spinal cord, he believed to be a fairly good one, and he reported two cases which entirely recovered under the employment of antisyphilitic treatment. There were many instances of recovery from very serious lesions when the lesions were of the nature of a gumma. But when syphilitic disease was located in the blood vessels it was different; here the prognosis was made not on the mere accident that syphilis was the cause of the endocarditis, but upon the fact that such cases of endocarditis leads to an obliteration and cutting off of the blood supply and the formation of thrombi in the vessels; in such cases it made no difference whether the condition was syphilitic in origin or not. The importance of recognizing the element of syphilis in the production of functional nervous diseases should be borne in mind; also in the causation of certain forms of epilepsy, especially those forms that develop after the age of 35 or 40; here the epilepsy might be traced to some form of syphilis of the brain, such as gumma, or infiltration, or arterial disease. Therefore, in such cases, the bromide treatment should have combined with it mercury and the iodides. He believed the good results that had been obtained from the Brown-Sequard mixture was not alone due to the bromides but to the iodides. He referred to a peculiar type of pain, neither myalgic nor neuralgic, which seemed to have some definite connection with syphilis. There were peculiar types of headache not distinctly unilateral, also pains along the spine, in the joints, and in various other locations, none presenting typical features of myalgia or neuralgia, which he believed could be traced to syphilis. A characteristic feature of these pains was the periodicity.

**Prognosis of Tabes and Paresis.**—Dr. B. Sachs said that cases of tabes and general paresis that he had seen in private practice, in which he had made careful inquiries regarding the previous treatment of syphilis, had been thoroughly treated. The manifestations of the nervous lesions varied greatly in spite of thorough early treatment. In the history of some cases where there were severe nervous symptoms he had found that there was given a history of soft chancre as often as of hard chancre. The period when the nervous manifestations of syphilis appeared varied although it was usually believed that they did not appear until after a long time had elapsed. Some of the severe forms of spinal and brain syphilis appear from two to three years after the initial lesion. The statistics showed that all cases of syphilis of the central nervous system appear within the first three years after infection. He said all neurologists were agreed as to the specific etiology of both tabes and general paresis; at the same time the consensus of opinion was that, in every case, there were other predisposing causes of importance, such as traumatism, alcoholism, excessive worry and work, etc., indispensable factors which followed in the wake of a syphilitic infection. The prognosis of tabes was a serious one. At the present time one saw fewer cases of extreme tabes because of the earlier recognition and earlier treatment. In the treatment of tabes the iodides alone were insufficient; if there was one specific it was mercury. What was said regarding tabes applied equally as well to dementia paralytica. These diseases could not be cured, but proper treatment, instituted early, could arrest the course of these diseases. The importance and value of thoroughly antisyphilitic treatment in these cases should not be underrated.

**Relations of Syphilis to Marriage and Heredity.**—Dr. Prince A. Morrow read this paper. He considered the prognostic significance of syphilis first in regard to the risks to the prospective husband and second the risks to the wife and the danger to offspring from her infection. Where the question of marriage was concerned the physician was apt to overlook the possible dangers to the health of the husband from his disease. It might so affect his health as to incapacitate him as the support and head of a family. It was a peculiarity of syphilis that its most dangerous and deadly consequences were the late manifestations. Grave lesions on important organs resulting in hemiplegia, paraplegia, general paralysis, etc., developed in syphilis characterized by an initial benignity. There was nothing more difficult and uncertain than forecasting the future of a given case of syphilis. In many cases valuable prognostic indications might be drawn from the earlier manifestations of the disease which pointed to the involvement of the nervous system as the localization of specific lesions in the ocular apparatus, the occurrence of iritis, paralysis of the muscles of the eye, etc. In regard to the contamination of the wife Dr. Morrow said that when the syphilis was recent and active contamination was practically certain, infection might occur when the husband had upon his person no contagious lesion. The risk of infection to the wife was based upon the duration of the contagious and transmissive periods. Clinical observation showed that the contagious activity of syphilis was markedly attenuated and finally extinguished by time and treatment. The time limit could not be exactly stated, as it varied in different cases. It was usually twelve to eighteen months after the completion of the secondary stage and sufficient specific treatment. The arbitrary designation of two and one-half to three years was medically an error and socially a danger. The prognosis of syphilis in relation to heredity was much more unfavorable when the wife became infected. The corrective influence of time upon syphilitic heredity was less marked since the hereditary influence might be manifested long after the disease had ceased to be contagious; this was especially true of maternal heredity. The preventive influence of treatment upon syphilitic heredity was more marked but less permanent. If the syphilitic parent was under the active influence of mercury at the time of impregnation a healthy child might result; but if treatment was suspended the next child might be syphilitic. After four years' treatment the transmissive qualities were practically extinguished. Dr. Morrow did not think that marriage had a favorable influence upon the syphilitic, as the sexual excesses, not uncommon in early married life, aggravated nervous symptoms and might determine serious implication of the brain and cord.

Dr. William H. Thomson referred to the early recognition of cardiac involvement in syphilis and said that he had been struck by the clinical symptoms in one or perhaps two cases, namely, the heart in an apparently strong man would become weak and irregular and the patient was given to repeated sighing. In a few cases seen in hospital practice giving the clinical signs of myocarditis, a history of syphilis within two years was elicited by careful questioning of the patient.

## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

LES KYSTES HYDATIQUES DU FOIE. Par le DR. F. DÉVÉ. 12mo, 196 pages, paper. F. R. de Rudeval, Paris.

SELECT METHODS IN FOOD ANALYSIS. By HENRY LEFFMANN, A.M., M.D., PH.D. and WILLIAM BEAM, A.M., M.D., F.I.C. Second Edition. 8vo, 396 pages illustrated, muslin. P. Blakiston's Son & Co., Philadelphia. Price, $2.50 net.

THE DIAGNOSIS OF DISEASES OF WOMEN. By PALMER FINDLEY, B.S., M.D. Second Edition. 8vo, 588 pages, muslin, illustrated. Lea Brothers & Co., Philadelphia. Price. $4.75 net.

A SYSTEMATIC TREATISE ON MATERIA MEDICA AND THERAPEUTICS WITH REFERENCE TO THE MOST DIRECT ACTION OF DRUGS. By FINLEY ELLINGWOOD, M.D. Fifth Edition. 8vo, 811 pages, muslin. Chicago Medical Times Publishing Co., Chicago.

HEALTH AND DISEASE IN RELATION TO MARRIAGE AND THE MARRIED STATE. By various authors. Translated from the German by J. Dulberg, M.D. Volume 2. 8vo, pp. 481-1257, muslin. Rebman Company, New York.

OUTLINES OF INORGANIC CHEMISTRY. By Prof. FRANK AUSTIN GOOCH and CLAUDE FREDERIC WALKER. 8vo, 514 pages, illustrated, muslin. The Macmillan Co., New York. Price, $1.75 net.

MANUAL OF CLINICAL REPERTORY OF A COMPLETE LIST OF TISSUE REMEDIES. By Dr. MED. ERIC GRAF VON DER GOLTZ. 16mo, 244 pages, muslin. Boericke & Tafel, Philadelphia.

THE ROLE OF MODERN DIETETICS IN THE CAUSATION OF DISEASE. By J. SIM WALLACE, M.D., D.Sc., L.D.S. 8vo, 87 pages, muslin. Bailliere, Tindall & Cox, London, England.

REPORT OF THE COMMISSIONER OF EDUCATION FOR THE YEAR 1903. Vol. 2. 8vo, pp. 1217-2511, muslin.

A MANUAL OF PRACTICAL HYGIENE. By CHARLES HARRINGTON.. M.D. Third edition. 8vo, 793 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia. Price, $4.25 net.

DIE KRANKHEITEN DES VERDAUUNGSKANALS. (OESOPHAGUS, MAGEN, DARM). Von Dr. PAUL COHNHEIM. 8vo, 247 pages. S. Karger, Berlin, Germany.

THE SURGEON GENERALS OF THE ARMY OF THE UNITED STATES OF AMERICA. By JAMES EVELYN PILCHER, M.D., Ph.D., L.H.D. 8vo, 114 pages, illustrated, muslin. The Association of Military Surgeons, Carlisle, Penna.

THE COMPLETE KANO JIU-JITSU. By H. IRVING HANCOCK and KATSUKUMA HIGASHI. 8vo, 526 pages, illustrated, muslin. G. P. Putnam's Sons, New York.

THE SANITATION OF A COUNTRY HOUSE. By Dr. HARVEY B. BASHORE. 12mo, 103 pages, illustrated, muslin. John Wiley & Sons, New York.

A TEXT-BOOK OF PRACTICAL MEDICINE. By JAMES MAGOFFIN FRENCH, A.M., M.D. Second Revised Edition. 8vo, 780 pages, muslin, illustrated. Wm. Wood & Company, New York. Price, $4.00 net.

A TEXT-BOOK OF PHYSIOLOGY, NORMAL AND PATHOLOGICAL. By WINFIELD S. HALL, PH.D., M.D. Second Edition. 8vo, 795 pages, muslin, illustrated. Lea Brothers & Co., Philadelphia.

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**The Terms Bradycardia and Tachycardia** are very bad, according to Dr. G. A. Gibson, writing in the *Edinburgh Medical Journal*. The early Greek writers, he says, employed the word βραδύς in the sense of the Latin *tardus*, meaning of any action that it took place *slowly*, while they used the phrase ταχύς as the equivalent of *celer*, implying that any event occurred *quickly*. The real term for a pulse which has a low rate is ἀραιός, equal to *rarus* or *infrequens;* for a pulse of high rate the classical name is πυκνός, which is the equivalent of *crebor* or *frequens*. The consideration of such medical terms, Dr. Gibson says, inevitably recalls the remark of Anatole France: "Ces maux, effroi de l'homme, ont des noms, effroi du philologue."

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending August 19, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 119 | 5 |
| Diphtheria and Croup | 117 | 19 |
| Scarlet Fever | 41 | 3 |
| Smallpox | ..... | ..... |
| Chickenpox | 14 | ..... |
| Tuberculosis | 463 | 115 |
| Typhoid Fever | 252 | 25 |
| Cerebrospinal Meningitis | 16 | 16 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | ..... |
| Totals | 1022 | 183 |

**Signification and Importance of an Axillary Temperature of 98.6° to 99.5°.**—Vittorio Levi tells us that, although a temperature of 98.6° to 99.5° is usually considered normal, facts observed by him during a long practice have led him to the following conclusions: A temperature from 98.6° to 99.5° must always be considered above the normal; even 98.6° is to be suspected; temperature of 97.7° to 98.6° is rather to be considered normal; the temperature usually found in a normal individual in the axilla or the inguinal region is 97.7° or 98°. While he combats the objections which might be made to these conclusions, the author believes these considerations to be of value in prognosis, in diagnosis, in treatment and finally to exclude the possibility of simulation by the patient.—*Rivista Critica di Clinica Medica*.

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, Public Health and Marine Hospital Service during the week ending August 12, 1905:

SMALLPOX—UNITED STATES.

| | | CASES. | DEATHS. |
|---|---|---|---|
| California, Los Angeles | July 22–Aug 8 | 5 | .. |
| Florida, Jacksonville | July 22–Aug. 5 | 2 | .. |
| Illinois, Chicago | Aug. 5–12 | 6 | .. |
| Danville | July 29–Aug. 8 | 1 | .. |
| Indiana, South Bend | July 29–Aug. 12 | 2 | .. |
| Kentucky, Lexington | July 22–29 | 3 | .. |
| Louisiana, New Orleans | July 29–Aug. 12 | 5 | .. |
| Massachusetts, Lowell | Aug. 5–12 | 1 | .. |
| Missouri, St. Joseph | July 22–29 | 1 | .. |
| New Hampshire, Nashua | July 23–Aug. 12 | 3 | .. |
| New York, New York | July 29–Aug. 5 | 3 | 1 |
| Ohio, Cincinnati | Aug. 5–12 | 5 | .. |
| Pennsylvania, Altoona | Aug. 5–12 | 1 | .. |
| York | Aug. 5–12 | 2 | .. |

SMALLPOX—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands | June 3–10 | 1 | .. |
| Porto Rico, San Juan | June 1–30 | Present | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Bahia | July 1–8 | | 1 |
| Rio de Janeiro | July 2–9 | 18 | 1 |
| Chile, Iquique | July 15–22 | 1 | .. |
| France, Paris | July 15–22 | 33 | 2 |
| Great Britain, Birmingham | July 15–22 | 3 | .. |
| Bristol | July 15–22 | 1 | .. |
| London | July 8–15 | 2 | .. |
| Manchester | July 15–22 | 1 | .. |
| New Castle on Tyne | July 8–22 | 5 | .. |
| Nottingham | July 22–29 | 1 | .. |
| India, Calcutta | June 24–July 8 | | 7 |
| Madras | July 1– 7 | | 3 |
| Italy, Catania | July 21–27 | | 2 |
| Russia, Moscow | July 8–22 | 7 | 0 |
| Odessa | July 15–22 | 3 | .. |
| Turkey, Constantinople | July 16–23 | | 3 |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Louisiana, Sellers | Aug. 7 | 4 | .. |
| Shreveport | Aug. 1–9 | 2 | .. |
| New Orleans | July 21–Aug. 11 | 720 | 118 |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | July 2–10 | 37 | 12 |
| Gautemala, Livingston | July 15–22 | | 2 |
| Zacapa | Aug. 3 | | 0 |
| Honduras, Choloma | July 26 | 10 | 4 |
| Puerto Cortez | July 1–24 | 25 | 6 |
| San Pedro | July 26 | 100 | 19 |
| Mexico, Coatzacoalcos | July 30–Aug. 5 | 1 | .. |
| Vera Cruz | July 30–Aug. 5 | 4 | 1 |
| Panama, Colon | July 18–25 | 6 | 2 |
| Panama | July 18–25 | 8 | 2 |

CHOLERA

| | | | |
|---|---|---|---|
| India, Calcutta | June 18–July 8 | | 20 |

PLAGUE—INSULAR

| | | | |
|---|---|---|---|
| Philippine Islands, Cebu | June 3–10 | 4 | 3 |
| Manila | June 3–10 | 1 | 1 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Australia, Maryborough | June 10–17 | 10 | 7 |
| Brazil, Rio de Janeiro | July 8–16 | 2 | .. |
| India, General | June 18–24 | 5078 | 4563 |
| Calcutta | June 18–July 8 | | 56 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 10.
Whole No. 1817.

New York, September 2, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### TWO CASES OF FUNCTIONAL STRABISMUS.

By D. B. St. John Roosa, M.D., LL.D.,

New York.

Professor of Diseases of the Eye and Ear in the New York Post-Graduate Medical School.

The following cases of strabismus present conditions very seldom found in this abnormality:

Case I.—*Functional convergent strabismus, said to have supervened on cerebral symptoms; Panas operation; excessive effect, for a few days; recovery; intermittent strabismus, with double vision; complete cure.* Elizabeth D., aged 11, was first seen by the writer on the 3d of April, 1901. The mother, a highly educated and intelligent woman, gave the child's history as follows: On the 2d of the preceding September, the patient had symptoms which the physician in charge called "cerebral meningitis." Convergent strabismus and double vision were very marked symptoms. She recovered from the other head difficulties, but she continued to have functional strabismus, squinting by preference with the left eye. Her vision was 20/30 + in the right and left eyes, with faculative hypermetropia of 1 D. There were three-quarters of a diopter of corneal astigmatism in the right eye, and 1 diopter in the left.

Treatment for the correction of the squint by glasses, previously undertaken, having been ineffectual, an operation was advised, and the next day both interni were stretched and divided, under ether, according to the method of Panas. On the 9th of April there was an over-effect. The patient had insufficiency of the interni and crossed diplopia, as well as marked divergence. The stereoscope was used by the patient, but on the 12th of April, eight days after the operation, while there was no apparent divergence, there was crossed diplopia at 20 feet. She was given plus cylindrical glasses, half a diopter, axis 90°, for reading only. On the 28th day of May there was an upward squint of about two lines—in the left eye and vertical diplopia. There was no convergence or divergence. The very next day there was no double vision whatever, and no displacement upward of the eye. For some time the double vision occurred every other day, but in November it was irregular, and sometimes for only half a day. The child would tell her mother that her eyes were going to cross, and then the manifest upward squint would occur. One year after the operation the condition continued to be the same,—that is to say, there was, at irregular intervals, an upward squint of the left eye, with vertical diplopia. She usually had binocular single vision. The vision was 20/20 with her glasses. This intermittent deviation of the eye led to a correspondence with the family physician, in a neighboring city. The child's nutrition was looked after most carefully, and quinine was administered for a time, but having no effect on the intermittent squint, its use was finally abandoned. The cylindric glasses were constantly worn. In November of this year the patient came to my office with the eye diviated upward, and with vertical diplopia. In a few moments, after turning her head in various directions, the upward squint and double vision disappeared, and the eyes became parallel. The squint did not then occur every other day, and lasted a much shorter time.

Without any special treatment, all the attempts to effect a cure, except the use of the stereoscope and correcting glasses, having been abandoned, the intermittent strabismus ceased in the autumn of 1903. In March, 1905, the patient was examined by myself again, and there was absolute parallelism, no double vision, the child constantly wearing cylindric glasses to correct the astigmatism. The measurement of the corneal astigmatism, four years after the first examination, showed an increase on one side. The right cornea, which had been three-quarters of a diopter, measured 1.25, and the left remained the same, that is, 1 diopter. The patient continued to wear glasses constantly.

*Remarks.*—There has always been a doubt in the writer's mind whether the child ever had cerebral meningitis, but that a sudden occurrence of functional strabismus, with double vision, may have caused all the cerebral symptoms. These symptoms might well have supervened on such an occurrence. The outcome of the case was entirely satisfactory, and I think may fairly be ascribed to the operation, with the subsequent correction of the error of refraction. Yet the etiology of the sudden outbreak of strabismus, with double vision, while the refractive error was the same in both eyes, is obscure.

Before leaving this case, the principle of the Panas operation for strabismus may profitably be restated. The operation of stretching the muscles and separating them from their attachment, is not intended to have any effect on their power as measured by prisms, but is simply to remove a spastic condition, which is assumed to exist, and to put the eye in a state to be properly corrected as to its refraction, by glasses. The writer also calls attention to the fact that in this patient, in accordance with the views now strongly established in his mind and in that of many of his colleagues, no attempts were made to measure the power of the muscles. Indeed, I may say that I do not believe it is possible to grade the effect of the operation as Graefe thought, and as seems to be quite generally believed by writers of the present time—by any method of operating. So long as no undue violence is done, the muscle being separated and not cut, stretched, not torn, a condition is produced which will render the case one simply for the adjustment of glasses. I have long held in common with many of my fellow ophthalmologists that the operation of strabismus should only be performed when, after a fair trial, it is impracticable to cure the case without operation.

Case II.—*Functional convergent strabismus and amblyopia ex anopsia, cured by glasses; exclusion of the amblyopic eye at intervals, and the use of the*

*stereoscope*. The second case was that of a boy, W. B., four and a half years old, with convergent strabismus. I saw him first on the 15th of May, 1894. He had functional convergent strabismus, of three lines, and one diopter of corneal astigmatism in each eye, and also three diopters or more, of hypermetropia, as measured by the ophthalmoscope. He did not read, and his vision could not be accurately noted on his first visit. He was wearing a + 2.50 glass for each eye, which had been prescribed for him with a view of curing the squint. The glasses were reduced in strength to those of one diopter. He was not only directed to wear them all the time, but also to exercise the vision of the deficient eye, according to the method of Javal. In 1896, it was determined positively that his vision was 20/30 in the right eye, and 20/100, in the left eye. At the latter end of the year, it became 20/70 in the left eye. He was then about seven years of age, his corneal astigmatism was corrected, and his hypermetrophic glasses reduced in strength. In 1897, the strabismus continued, and his vision remained the same. In 1898, about four years after he was first seen, there was no strabismus while he was wearing glasses. The vision of his left eye had improved to 20/50, and at the end of 1898 he could read No. 1 Jaeger with that eye with some difficulty. The improvement continued. In 1902 his good eye improved to 20/15, his left became 20/20, and he could read No. 1 Jaeger with ease. In 1903 the improvement still continued, his vision being 20/15 in each eye. In 1905 he remained the same.

*Remarks.*—The drilling of this patient was very thorough. He was systematically made to keep his good eye covered while eating his meals, and also to read at certain times of the day, with his good eye covered, exclusively with his deficient eye. It would have been impossible with a neglected or incompetent mother to have achieved this result. It may be said to have taken about eight years to accomplish all this. The patient has grown to be a strong and vigorous boy, of about thirteen years of age, with one eye quite as good as the other, with no strabismus, but he still wears his correcting glasses. So many doubts are cast upon cases of this kind, that every positive contribution is certainly of value, and for this reason this case is published. It certainly should stimulate earnest work on these lines.

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## THE FOOD FACTOR IN URICEMIA.

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In a recent article[1] in this journal, it was argued concerning acute articular gout: (1) That there is primarily hyperpyremia, that is, a humoral condition implying an ultra-physiological or pathological accumulation in the blood of unoxidized carbonaceous material derived from the food supply; (2) that continued hyperpyremia involves progressively increasing uricemia through inadequate renal excretion of uric acid; (3) that ultimately a portion of the uric acid retained in the blood becomes deposited extravascularly; (4) that when this deposit occurs in the sensitive structures of a joint, arthritis occurs; (5) that such arthritis when sufficiently acute, involves distinct pyrexia; (6) that such gouty pyrexia implies a distinct increase in the rate of combustion by the nitrogenous tissues of the organism; (7) that such increase of combustion succeeds, in the course of the attack, in dispersing hyperpyremia; (8) that the dispersion of hyperpyremia terminates the renal disability and permits of free excretion of uric acid by the kidneys; (9) that the free excretion disperses the uricemia; (10) that the dispersion of the uricemia fully restores the solvent power of the blood for uric acid; (11) that the restoration of such solvent power permits the reabsorption of the articular uratic deposits; and (12) that such reabsorption permits resolution of the arthritis and leads to the practically complete restoration of the functions of the joint. Thus acute articular gout becomes a recurrent acarbonizing process, dependent on, and adapted to disperse, hyperpyremia and secondary uricemia—it becomes, in more general terms, an ultra-physiological reinforcement of inadequate physiological function, and in the strict sense of the term, a conservative*—though not invariably a salutary—pathological function.

This view explains the self-curative influence of the arthritis and the subsequent period of immunity from arthritis. It also explains the fact long noticed, though somewhat obscured of late years, that an acute attack of gout is commonly succeeded for some considerable time by complete freedom from all those heterogeneous symptoms—dyspeptic, bilious, cutaneous, nervous, psychical, etc.—which are apt to precede and lead up to the attack, which are promptly dispersed by the attack, and which consequently have been regarded quite naturally as manifestations of irregular, abarticular, concealed, or suppressed gout. But later[2] I shall bring a considerable mass of evidence to show: (1) that the heterogenous symptoms referred to have no necessary connection with gout, using the word in the restricted sense to denote uratic arthritis or other inflammatory processes *depending on extravascular deposition of urates;* (2) that they have nothing but an incidental connection with uricemia; but (3) that they all depend upon the hyperpyremia, the fundamental factor of the uricemia and therefore of the arthritic attack.

This view explains also the natural clinical history of chronic articular gout. The chief salutary feature in acute articular gout is the pyrexia, or rather the increase of combustion implied in the pyrexia; and the pyrexia depends upon the intensity of the arthritis. In very chronic articular gout, there is practically no local inflammatory reaction (Garrod), and consequently practically no pyrexia. Hence it is easy to understand that the hyperpyremia will remain unrelieved, that the uricemia will persist, and that the articular uratic deposits will not only not undergo reabsorption, but will tend to increase progressively. All this occurs in chronic gout. The persistence of the hyperpyremia may be inferred from the persistence and accentuation of the heterogeneous symptoms usually referred to irregular gout. The persistence of the uricemia is guaranteed experimentally by Garrod, who says: "In very chronic gout, the blood, even in the intervals between the exacerbations, was always discovered to be rich in uric acid."[3] And the persistence of the uratic deposits may be observed at the bedside and in the post mortem room; as Garrod points out, "chronic gout seldom continues in one locality for any length of time without giving rise to serious and permanent changes of structure, consisting either in the production of partial or complete ankylosis of the joint or the formation of the so-called chalk stones, either around the articulation or in other parts of the body."[4] Thus chronic articular gout tends to progressive deterioration, constitutional and local, be-

* The term conservative is here used in a somewhat teleological sense to signify salutary in intent, though not necessarily in effect.

cause it lacks the conservative feature of pyrexia; the absence of pyrexia depends on the absence of acute arthritis; and the absence of acute arthritis may reasonably be ascribed, in some cases at least, to an unirritability of the joint tissues acquired through long recurrent irritation. In short, chronic articular gout may be regarded as a worn-out pyrexial acarbonizing process.

The weak point in the hyperpyremic theory of gout, is the hitherto unsupported assumption that the structurally and functionally normal kidney finds it difficult to extract uric acid from overcarbonized blood (hyperpyremia). It may be at once admitted that no explanation as to the "how" or "why" of this disability can be offered. But it is by no means necessary to explain a fact in order to accept it. And in the present instance, it can, I think, be shown by sufficient independent evidence, not only that hyperpyremia and the dispersion of hyperpyremia involve uricemia and the dispersion of uricemia respectively, but also that within the domain of pure physiology, the elimination of uric acid from the blood depends inversely upon the degree of pyremia.

*Variations in uricemia and uric acid excretion depending on pyremic conditions.*—Daily pyremic fluctuations. It has been argued that there is throughout the twenty-four hours a tendency to inverse fluctuation between pyremia and the rate of combustion. Hence the uric acid excretion would tend to fluctuate directly with the temperature of the body, which we have seen is a fair index of the rate of combustion. This anticipated parallelism is clearly seen on comparing the two subjoined tables:

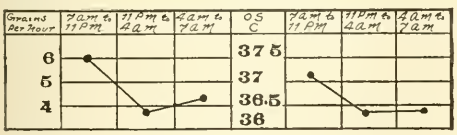


CHART 1.—Showing daily fluctuations in uric-acid excretion. (From Haig's "Uric Acid in Disease," 1897.)




CHART 2.—Showing the corresponding daily fluctuations in the rate of combustion. (Constructed from Liebermeister's observations on temperature in Schafer's "Textbook of Physiology," vol. 1, p. 800.)

The comparison is given for what it is worth. Undoubtedly the fluctuation of uric acid excretion, especially the high output between 7 A.M. and 11 P.M., depends to some extent, if not mainly, upon the introduction with the food of uric acid-forming material. (This will be considered later.) Still the fluctuations have probably a bearing on the pyremic factor.

*Menstrual pyremic fluctuations.*—On the view that the menstrual flow constitutes one form of carbonaceous expenditure, there is probably a normal tendency (slight) to hyperpyremia just before and at the onset of menstruation, a dispersion of this tendency thereafter. Conformably Haig infers from numerous quantitative analyses that during menstruation there is "a fluctuation in the excretion of uric acid, a diminished excretion or retention just before or at the beginning of the period, followed by a corresponding pus excretion during the period and just after its termination."[5]

*Pyremic variations due to physical exercise.*—Physical exercise greatly increases the rate of combustion: it tends therefore to disperse hyperpyremia and to reduce pyremia. And it has been shown that physical exercise markedly increases the output of uric acid (Ewart[6]). Levison gives the results of active muscular exercise in the saddle on two occasions. On the first occasion the uric acid excretion rose from .6 gm. to .981 or .985 gm.; on the second, to 1.089 gm.[7] Haig's experiments show a similar and an equally constant result.[8]

It is extremely important to take notice of the fact that the increase of uric acid excretion which follows exercise is merely temporary. Duckworth points out that the exercise which increases uric acid excretion is *unaccustomed* exercise.[9] And Robert Hutchinson says: "When a man of sedentary habits takes exercise, the excretion of uric acid is increased for the first day or two, but if the exercise be continued daily, the increase is not maintained."[10] The importance of this observation lies in the proof it affords that the increase of uric acid excretion which follows exercise, represents, not an increase of uric acid production, but the releasement of a prior retention depending on hyperpyremia or a tendency thereto. This conclusion is important from the standpoint of practical therapeutics; for there can be no doubt that systematic physical exercise is one of the best of all means for averting a tendency to uric acid retention.

*Pyremic variations due to pyrexia.*—Pyrexia tends to disperse hyperpyremia and to reduce pyremia through material increase in the rate of combustion; this has been already argued. But in most cases, probably to some extent in all, pyrexia operates to the same end through decrease in the carbonaceous income from anorexia and impaired digestive power. Hence the increased renal excretion and consequent dispersion of preexisting uricemia which accompanies and succeeds the acute gouty pyrexia. But pyrexia of many, probably of most, kinds is similarly associated. Bristowe says that fever may increase uric acid excretion twofold.[11] Schultze was making a series of quantitative analyses on his own urinary excretion. "Fever and malaise accompanied by headache appeared one day. . . In twenty-four hours, 37.08 gm. urea and 1.2687 gm. uric acid were excreted; consequently while the excretion of urea was nearly normal, the excretion of uric acid was almost as much increased as by a large quantity of animal food."[12] And many other confirmatory experiments could be quoted.

It is extremely important to take notice of the fact that the increase of uric acid excretion which follows the onset of fever, just like the increase which follows physical exercise, is merely temporary. Haig, speaking of the influence of fevers on uric acid excretion, points out "that the blood and urine are most completely cleared of uric acid during the first few days of fever."[13] Confirmatory of this statement are the facts that Garrod could never find uric acid in the blood during rheumatic fever; and that "in the examination of ten patients who suffered from typhoid fever, no uric acid was found during the fever" in the blood (Von Jaksch[14]). Again confirmatory are the facts that in one case of typhoid which had entered on the non-febrile stage, some uric acid was found in the blood (Von Jaksch); and that in a case of ague, uricemia was detected for the first time after the temperature had fallen (Haig.[15]). It is, I think, fair to conclude that the increase of uric acid excretion which is observed at the onset of pyrexia, represents the releasement of a prior retention in the blood; that during the continuance of most pyrexias, uricemia is precluded; but that during convalescence, when the exaggerated combustion has ceased, possibly to be replaced by a reactionary retardation of combustion, and when the carbonaceous income from the alimentary canal is again rising, then uricemia from deficient renal excretion once more becomes possible.

There is, however, at least one form of pyrexia

in which uricemia is usually present throughout. Von Jaksch found uric acid constantly present in considerable quantity in five cases of pneumonia even during the febrile stage.[16] Possibly the uricemia in pneumonia is due to retention, and the retention to the accumulation in the blood of the fully oxidized carbon compound, carbonic acid.

*Hyperpyremia due to plumbism.*—It has been argued that plumbism conduces to hyperpyremia through impaired decarbonization, katabolic and anabolic; and plumbism is almost always associated with uricemia and diminished excretion of uric acid in the urine. In nine cases of gout-free plumbism, Garrod found uric acid in the blood of all but two, and mostly in considerable quantities.[17] The decrease of uric acid excretion was clearly shown by the medical use of lead. In one case four-grain doses of lead acetate thrice daily reduced the average daily excretion from 6.5 grs, to 3.65 grs., and again to 2.66 grs. In another two grain doses thrice daily reduced the daily average excretion from 6.76 grs. to 5.92 grs. Garrod concludes that in plumbism, the blood becomes loaded with uric acid not from increased formation but from decreased excretion.

*Pyremic variations due to attacks of the paroxysmal neuroses.*—All of the paroxysmal neuroses are recurrent, some periodic, affections; and many can be shown to be capable of dispersing hyperpyremia and reducing pyremia. Asthma and major epilepsy operate to this end mainly through the increase of combustion involved in pathologically exaggerated physical exercise. I can offer no experimental demonstration of increased uric acid excretion as the result of an asthmatic paroxysm, but such increase may, I think, be inferred with but slight chance of error. In one case, however, uric acid in the blood was demonstrated by Garrod's thread test between paroxysms of asthma in a child.[18]

In cases of epilepsy Garrod found uric acid present in the blood.[19] And Haig has shown in a case of major epilepsy that in the hours preceding the fit, the uric acid excretion was very small; that the excretion rose with each set of fits and fell in the intervals; that in the most severe the excretion rose very high; and that when the fits finally ceased, the excretion returned nearly to the normal.[20] He also showed in another case that the amount of post-epileptic excretion was proportionate to the severity of the fit.[21] These observations, which have been in great part confirmed by Herter and Smith,[22] are entirely consitent with the hyperpyremic view of uricemia.

*Migraine* in some cases operates to disperse hyperpyremia and reduce pyremia, through interruption of the carbonaceous income, from anorexia and cessation of digestion and absorption. And Haig finds that while for some days before the attack the excretion of uric acid is low, the excretion during the attack is greatly increased. Other observers have, I understand, since found that during migraine attacks, the excretion of uric acid may be diminished. It seems to me that these two seemingly inconsistent observations are reconcilable on the hyperpyremic view. In health, the daily excretion of uric acid depends upon at least two factors, namely, the disintegration in the tissues of nucleoproteid (endogenous uric acid), and the disintegration of purin substances taken with the food (exogenous uric acid). During the migrainous anorexia, the latter source of uric acid is of course cut off, and the excretion will be determined by the continued disintegration in the tissues of nucleoproteid and by the amount of the previous uric acid retention in the blood. It may be that the previous retention was great; in which case its releasement might more than compensate for the loss of exogenous uric acid; here the excretion during the attack would be in excess. It may be, on the other hand, that the previous retention was slight; in this case its releasement might not compensate for the loss of exogenous uric acid; and here of course the excretion during the attack would be deficient.

It follows from the above views, that the uricemia which precedes, and the releasement of the uricemia which succeeds, the attacks of asthma, major epilepsy and migraine, are mere incidents, and exert absolutely no causative influence therein. The argument in support of this contention will be elaborated elsewhere.

*Dietetic Treatment.*—We have seen that it is possible to disperse hyperpyremia and reduce pyremia by simply restricting the carbonaceous intake; and were space available, a series of observations could be given to show that uricemia may be dispersed by the same means. But this, indeed, is already the opinion of many. For example, W. H. Draper says: "One of the best means of avoiding accumulation of lithic acid in the blood is to diminish the carbohydrate, rather than the azotized, foods."[23]

*Variations in uricemia and uric-acid excretion, depending on the intake of uric acid-forming materials.*—Hitherto notice has been taken of those uric acid variations only which depend upon hyperpyremic and pyremic conditions. But there is at least one other series of variations equally, if not more, important, which tend to obscure the variations just considered.

Burian, Schur, Horbaczewski, and Minskowski have shown that the uricacid-forming material consists, not as was formerly thought, of proteid, which given in excess results merely in an increased excretion of urea, but of the nucleins, purins, and alloxur group, bodies contained in varying quantities in some, but not in all, of the animal nitrogenous food stuffs; such food-stuffs are mainly roe, sweetbread, meat, and the extractives generally. It has also been shown that rather more than half the uric acid excretion of an individual living on an ordinary mixed diet, represents the introduction with the food of these uricacid-forming materials; and that the remainder, mainly, if not wholly, represents the disintegration of the fixed nucleoproteid of the organism. These moieties constitute, respectively, the exogenous and the endogenous uric acid of Chittenden.

Hence, as is well known, an ordinary meal is shortly followed by an increase in the uric acid excretion. This was demonstrated by William Roberts.[24] That the increase depends in the main upon the production of uricacid-forming material, and not upon digestive leucocytosis, as supposed by Horbaczewsky, is shown by the facts, recently demonstrated by Camerer, that the post-prandial increase is not marked unless the food contains nuclein; that on a diet consisting of egg albumin the increas is very slight; and that during the digestion of non-nitrogenous food, the output is actually diminished.[25]

While these observations show undoubtedly that the main factor in the post-prandial increase in uric acid excretion, is the intake of uricacid-forming material, none of them, to my mind, finally preclude an increase of uric acid formation from digestive leucocytosis. The fact that the increased excretion which follows the ingestion of nuclein-free proteid, such as egg albumin, is slight, does not preclude it, for the increase is there. Neither does the fact that the digestion of a purely carbonaceous meal is followed by an actual decrease of uric acid excretion; for a purely carbonaceous meal will tend to increase pyremia (even in spite of the increased combustion

which follows), and thus tend to cause decreased excretion through retention.

*General conclusions as to variations of uricemia and uric acid excretion.*—There seems little doubt, therefore, that uric acid excretion depends directly upon the introduction of uric acid-forming material, and inversely upon the degree of pyremia. There will thus be at least a double column of variations in the excretion of uric acid. But since on a mixed diet, the introduction of uric acid material is for the most part approximately concurrent with the increase of pyremia due to meals, it follows that the resulting opposite variations in uric acid excretion, will overlap and tend to obscure each other.

If it is desired to throw into bold relief the variations due to the one factor, the variations due to the other must be as far as possible eliminated. Haig's main object in treatment is to avoid the introduction with the food of all uric acid-forming material. For this reason, it seems to me, that in Haig's investigations those variations in the excretion of uric acid which depend upon pyremic variations, stand out more prominently than they do in the investigations of many other observers who have worked at this subject.

The argument for the twofold causation of uricemia and uric acid excretion, seems appropriately clinched by the following two pertinent observations:

1. *The delayed excretion of uric acid which in the gouty follows the ingestion of uric acid-forming material.* On the view propounded in these articles, the gouty are frequently more or less hyperpyremic; and Von Noorden points out that the rise of uric acid excretion after the ingestion of purin substances, appears in gouty patients to be much more delayed than in the healthy.[26] Such delayed excretion is clearly explicable by hyperpyremic retention.

2. *The uniformity of uric acid excretion during starvation.* During starvation the carbonaceous income from the alimentary canal necessarily ceases. The carbonaceous income is then derived from the carbonaceous material stored in the tissues. And there is good reason to assume that the income so derived is regulated solely by the demand, not in part by the supply, of fuel, as it is in ordinary circumstances. If so, all pyremic variations will tend to subside, and there will remain, at least for a time, a uniform pyremic level. Thus one source of variation in uric acid excretion would be removed. And it needs no argument to show that during starvation the introduction of uric acid-forming material ceases. Thus the second source of variation in uric acid excretion is removed. Hence we should expect in starvation to find uniformity of uric acid excretion. This expectation is borne out: "Maress has found that every individual excretes after the thirteenth hour of fasting an almost constant amount of uric acid" (Levison[27]).

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# REPORT ON THE TUBERCULOSIS CLINIC AT GOUVERNEUR HOSPITAL.*


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THE opening of a separate clinic at Gouverneur Hospital for the treatment of tuberculous cases was a further step in the policy, inaugurated there in 1903, of dividing the general medical dispensary into several distinct classes, and of placing these classes under the charge of clinical assistants to the visiting physician. This plan was adopted in order to relieve the house staff of the undue burden of so large a medical class, as well as further to systematize the work in the Out-Patient Department. A skin clinic and a class in the nose and throat had already been formed at the time that we were asked to undertake the work in tuberculosis.

By this separation of the dispensary into special classes, a very considerable number of cases had already been withdrawn from the general medical clinic; but there were, nevertheless, too many patients applying daily for treatment to admit of any very thorough examination in the pulmonary cases. Such examination as was possible at the time, with the unavoidable crowd and noise of a large clinic in limited quarters, was bestowed upon each patient whose history or symptoms indicated some pulmonary affection. A specimen of sputum was sent for examination to the Board of Health. If the examination or sputum were positive, the case was duly reported and received such treatment as was possible under the circumstances.

The majority of patients reported as tuberculous came with varying regularity for a few days—or weeks at most—and then dropped out of view. Those who experienced little relief from the symptoms for which they originally sought treatment soon became discouraged or dissatisfied, and drifted off to other general medical clinics, where they no doubt repeated the same routine, changing from clinic to clinic, until they were finally transferred to a hospital, left town, or, not the least frequent termination to the sequence, died.

On the other hand, those tuberculous patients who improved under treatment invariably did what they still not infrequently do—ceased coming for regular observation until they had a relapse or recrudescence, and returned, finally, in worse condition than at first.

This is the common history of the tuberculous cases in every dispensary, however fortunately situated, where such patients are not treated in a class by

* Read before the Gouverneur Hospital Alumni Society at the Academy of Medicine, June 13, 1905.

themselves and under a system designed for their peculiar needs. These considerations, and others of no less importance—as sanitation and prophylaxis for other patients—have led to the development of a scheme for establishing separate tuberculosis clinics throughout New York, districting the city, as it were, for the care, and especially for the prevention, of tuberculosis. Separate classes of this sort then existed at the Vanderbilt clinic and Polyclinics, while in the new dispensary at Bellevue, not then completed, special rooms were reserved for this purpose. But at the time the Gouverneur tuberculosis clinic was opened, no other city hospital was treating its tuberculous patients in separate classes.

We undertook the work at Gouverneur in October, 1903. There was at first, on an average, one case a day referred to us from the various departments of the dispensary for further examination and for treatment. Our clinic was conducted in what is known as Room 2, of the old dispensary, and still is, in fact, for the new wing of the building, in which we hope to have better quarters, is not yet completed. Our hours, from ten to twelve, three days in the week, were shared in part by the general medical, and at first by the nose and throat class as well. Often as many as twenty patients, men, women, and children, were crowded into the one small room during a part of the time. The confusion in the room itself, combined with the noise of heavy trucks on the cobbled street outside—the dispensary is below the street level, and one gets the full benefit of all sounds without—combined to make an uproar in which examinations of the lungs were often practically impossible. These difficulties, however, were incidental, and have been largely modified by the withdrawal of the nose and throat clinic to an adjacent room, the advancement of our hours to eleven to one, and an improved method of handling our cases, which we developed after the appointment of a clinic nurse.

Such difficulties as we still encounter bid fair to be further obviated in the new dispensary, where we shall have adequate space and quiet, and when the clinic hours shall be changed to afternoon, a plan now under favorable consideration. It should be said in support of this latter change that it will not only bring our hours into conformity with those of the other tuberculosis clinics, but, of far greater importance, it will enable us to secure the afternoon temperatures of our patients.

Our clinic opened, then, with an average of three new cases a week. We began at once to impress upon these patients the necessity of regular attendance at the clinic, regardless of their improvement or the reverse. As a result, we were able to record an average daily attendance during the second month, November, 1903, of seven; during December of ten; and in January, 1904, of fourteen. From that time until January, 1905, the daily average slowly but steadily increased, reaching its highest mark January 6, 1905, of thirty-six cases in the one day, and maintaining an average now of between twenty and thirty daily, *i.e.* sixty to ninety cases treated each week.

Our number of new cases, by day or by week, does not show so regular an increase, varying greatly at different seasons of the year and under varying conditions at the clinic, and in part also, with the more or less active coöperation of the several sources from which we derive our patients. These sources are chiefly the general medical clinic itself, the United Hebrew Charities Society, the Charity Organization Society, other patients, and occasionally other tuberculosis clinics, which refer cases living in the Gouverneur district. For example, during the month of May of this year we have had twenty-four new cases—five from the medical clinic, ten through other patients, four of their own volition, and five from the Hebrew Charities.

Usually a larger proportion of our new cases are sent us, either directly or indirectly, from the United Hebrew Charities, and this leads to a consideration of the class of patients with which we have chiefly to deal. The overwhelming majority are of foreign birth, chiefly Russian, Austrian, or Polish Hebrews. Other nationalities represented are Hungarian, German, Irish, English, American, Norwegian, and Italian. The proportion of men to women is about two to one. To state it statistically, of the 338 patients who have applied for treatment in our clinic from October, 1903, to June, 1905 there have been 200 men, 97 women, and 41 children. As to the nationality of these patients, 145 were born in Russia, 45 in Austro-Hungary, 85 in the United States (though many of these were of foreign parentage), 22 in Ireland, 14 in Germany, 5 in England, 3 in Poland, and 1 each in Norway, Italy, Canada, and Australia.

Their ages vary widely, every decade from the first to the eighth being represented. Most of the active and advanced cases are to be found in the third and fourth decades, that is, between the ages of twenty and forty years, and 44 per cent. of our clinic are of this age.

As to the severity of the cases treated, they vary as widely as the ages. We have had them in nearly every stage from the incipient to the very advanced. For purposes of rough classification we have divided them into four general groups—early or incipient, active, advanced, and quiescent. Of our positive cases, so far, the majority have been incipient or active, and of very few could we declare that the process had become quiescent. Of course, a considerable number of the cases admitted prove, on further examination, non-tuberculous, and these we refer to whatever clinic they may belong. Also, there are a not inconsiderable number of cases of such doubtful character that we keep them under observation many weeks or months before we can arrive at a diagnosis—if we are able to do so at all. These are the cases of indefinite or suggestive history, vague physical signs, and negative sputum. One such case will amply illustrate:

Case No. 87. Female, housewife, aged 43, Russian, admitted May 6, 1904. Mother died of "lung disease." Previous personal history negative. About eight years ago patient began to cough a little and to lose flesh and strength. These symptoms have gradually increased. On admission, patient had slight cought, worse in the morning, when the expectoration was profuse. No severe hemoptyses, but bloody sputum at intervals for years. She complained of pain in the chest and dyspnea on exertion. Her appetite was poor and bowels constipated. She had lost fourteen pounds previous to admission. On the first examination of the chest, expansion was poor and breath sounds feeble. Fremitus slightly increased at left apex. Percussion impaired throughout. No localized areas of dullness. No râles. A later examination practically confirmed the first, but a few sibilant râles were heard on the left side at the end of inspiration. Heart negative. Further examinations were similar. Repeated sputum examinations were negative.

This woman has reported regularly at the clinic for over a year with little improvement. She has repeatedly had bloody sputum and frequent digestive disturbances. Her chief single complaint is pain in the chest and back, which we have failed to entirely relieve. Her cough has diminished, and

her temperature, which was slightly elevated in the morning at first, is now normal. Her weight has fluctuated, varying several pounds above or below that on admission, but the steady loss reported in the history has been checked. The infection, whatever its original nature, seems to have been retarded; but we are unable to determine the extent of the lesion, and we have been unable to wholly relieve the symptoms.

We base our diagnosis upon the combination of history, symptoms, physical examination, and examination of sputum. Of these, naturally the two latter take precedence. They are, however, often insufficient in themselves, or even misleading. Such a case as the one just cited illustrates this. A very large number of our cases give a negative sputum at some period of the disease, if not throughout the time they are under observation. To be exact, of the total 338 patients admitted, 261 have been reported to the Board of Health as cases of pulmonary tuberculosis. Of this 261, only 75 have had positive sputum on first examination. We are unable to state the significance of this large proportion of negative sputum examinations in otherwise positive cases.

In these doubtful cases, we have kept the patients under close observation, treating them symptomatically when necessary, and making repeated examinations of the chest and sputum. Within the past month, however, we have been honored by the appointment of two attending consultants to whom we shall be able hereafter to refer our perplexing cases for expert testimony. These consultants are Dr. S. A. Knopf and Dr. Lewis A. Connor, who will attend the clinic alternately at intervals to give us the benefit of their advice and experience.

In regard to our treatment at the clinic, it is our ideal to "treat the patient rather than the disease," but we must frankly admit that we frequently fail to attain this end. The number of patients at the clinic and the limits of time and space make some sort of routine more or less imperative. Our method is, in outline, as follows:—A complete history is first elicited, so far as possible, from the patient himself, or from his family or friends. In this an interpreter is frequently necessary, as the majority of these patients speak no English at all, or very little, and often their German is such a jargon of Russian and Hebrew, or Yiddish, as to be perfectly unintelligible to us. In taking the history, we use the printed blanks drawn up by Dr. Miller, head of the Bellevue Tuberculosis Clinic, and now in use in all the city hospitals. After the history is taken, the patient is subjected to a thorough physical examination, including chest measurements, height, weight, and temperature, pulse and respiration, for all of which there are special records on the chart. He is then provided with a card for the clinic, and a bottle in which to bring a specimen of sputum for the Board of Health examination. Usually, he is given an initial dose of calomel and salts, which the condition of his digestive tract almost always indicates; and if his cough is severe we begin at once with heroin, prescribing gr. 1-24 in aqueous solution three or four times a day. It has been our experience that the failure to prescribe anything on the first visit, or to neglect the symptoms for which the patient seeks treatment, often results in the subsequent disappearance of the case, his first visit being his last.

It is here that our clinic nurse makes herself invaluable. After we have finished our examination of the patient, supplementing the prescriptions with a few simple instructions in hygiene and the care of the sputum, the nurse secures from him explicit directions for reaching his home—not always the simplest matter in a crowded tenement district—and she calls upon him there in the course of the next forty-eight hours. Her written report, appended to each history, states the character of the premises and rooms, their condition, amount of air space, and sanitation, as well as the number in the family, their financial circumstances, hygiene, and immediate needs. She reinforces our instructions, giving practical directions as to the ventilation, sleeping arrangements, food, and the care necessary to the cure of the patient and the protection of his family. Old patients are revisited at intervals and reports made on their observance or neglect of these instructions. Cases which fail to report regularly are looked up by the nurse and requested to return for treatment, or until discharged by us. If they fail to do so, or repeatedly neglect instructions, they are stricken from our active roll, or are referred to the Board of Health for forcible commitment to some hospital.

During clinic hours, our nurse weighs the patients, takes their temperatures, and distributes prescriptions for the milk and eggs supplied by the hospital to those patients whom she has reported destitute, and whom we select as candidates for the additional nourishment.

Some idea of the work accomplished by Miss McConnell, the nurse assigned to Gouverneur, may be gathered from her report for the months of March, April, and May, 1905:

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| Number of cases under observation at clinic, March 1 to June 1 | 76 |
| Number of new cases during months of March, April, and May | 47 |
| Total number of patients treated | 123 |
| Total number of visits to clinic by all patients | 261 |
| Number of cases untraced | 4 |
| Cases not reporting regularly at clinic | 24 |
| Cases sent to hospitals | 6 |
| Cases sent to the country or their homes in Europe | 6 |
| Cases who have died | 1 |
| Total number of cases discharged | 38 |
| Total number of cases under observation June 1 | 85 |
| Number of primary visits at the homes of patients | 22 |
| Number of secondary visits at the homes of patients | 157 |
| Total number of visits at homes | 179 |

Extra diet relief was provided for thirty patients during these months. It was obtained from the following sources: From Gouverneur Hospital, 916 quarts of milk and 168 dozen eggs; from the New York Diet Kitchen, 336 quarts of milk; from the United Hebrew Charities, 20 quarts of milk.

To return to our routine treatment. The new patient is instructed to report on the next clinic day with his specimen of sputum. At his second visit he is usually encouraged by a relief, to some extent, of his symptoms. If he is certainly tuberculous, he is told the nature of his disease, the probability of improvement if not of cure, and the necessity of patience during a long course of treatment. The importance of a strict observance of the instructions given him and of a regular attendance at the clinic is also impressed upon the patient. He is then given more detailed instructions about diet, exercise, fresh air, and bathing. If his case is suitable, he is taught the simple breathing exercises recommended by Dr. Knopf, and used by him at the Riverside Sanatorium and at the Board of Health clinic.

The instruction thus begun is continued during the weeks following, and is reiterated by us and by the nurse during the entire time the patient is under our care. Our chief difficulties here lie in three things: First, in the language; second, the intelligence of the patients; and third, their environment. It is difficult to explain to these people the nature of their disease, the importance of the long, regular course of treatment, and the value of hygiene rather than medication. Not alone does the language make it difficult, but the intelligence of many of these patients seems to be inadequate to any appreciation of the matter. Again, even though they understand us and are intelligent enough to grasp the situation, many of them are unable to get good food, abundant water, or even fresh air. One of the most discouraging factors in the situation is the environment in which our patients live. These people must work to live and to support their families. If we send the parents to hospitals, the children must become dependent upon charity or a burden for some equally poor relative. If we allow the parents to work, the majority, being tailors and housewives, are confined all day in crowded, ill-ventilated rooms. If those who work in shops protest against these conditions, they are apt to be suspected of consumption and to lose their jobs. Such an experience was reported to us recently by one of our patients who is a tailor, and who was discharged from his shop because he asked to have the windows opened.

The occupations of other patients, such as bakers, cooks, waiters, and barbers, make them a positive menace to the community. Few, indeed, are engaged in occupations which may be considered suitable, *e.g.* peddlers, drivers, messengers, and the like. That this matter of occupation is of vital importance in the treatment may be illustrated by one case.

Case No. 21. Male, 15 years old, born in United States. Admitted to clinic December 16, 1903. His mother and three brothers cough. The mother was recently admitted to the clinic as a patient. Patient's previous history is negative, except that he has always been subject to "colds." His habits are good. About six months ago he began to work as a printer, and about the same time he developed a cough with bloody sputum. For the three months previous to admission he had been coughing more, raising more blood, and losing flesh. On admission he had a good appetite, bowels regular, no fever nor night sweats, but he was pale and ill-nourished. Physical examination showed roughened breath sounds and occasional sub-crepitant râles at right apex. Heart overacting but not enlarged. Otherwise negative, further examinations confirmed the first, and although the sputum, on repeated examination, was negative, we reported the case as one of early pulmonary tuberculosis.

We put the boy on cod liver oil, gave him breathing exercises, and advised him to give up his indoor work and secure some employment which would keep him out of doors. This he was unable to do at the time, and during the first three months of treatment he showed little improvement in symptoms and no gain in weight. The loss of weight, however, seemed to be checked. At the end of three months, the patient succeeded in securing work as a messenger boy, and was distinctly better for a time, all symptoms abating; but he soon returned to his former job, which gave him better pay, and within a week or two there was a return of the cough and bloody sputum, with the addition of afternoon rise of temperature and night sweats. His appetite was poor and bowels constipated. We put him on nux vomica, cod liver oil, and heroin, and renewed our efforts to change his occupation. In March, 1904, he stopped work altogether for a time, and began at once to improve again in all respects, gaining ten pounds in the following two months. Then he resumed work, at first as a messenger boy, and later as a shipping clerk, an employment which has kept him out of doors six hours daily. Under this change, his symptoms entirely disappeared and we were able to stop all medication. The patient was only required to report occasionally at the clinic for observation. At present, one year after his change of occupation, he weighs 122 pounds, as compared with 95½ pounds on admission, and, except for a tendency to catch cold or to tire easily, he is without constitutional symptoms.

To realize an ideal, we should be able to give suitable employment to those able to work, *i.e.* light out-of-door labor, preferably in the country, and to send to suitable hospitals all those too ill to work, and unable to receive proper care in their homes.

The Committee for the Prevention of Tuberculosis, working in cooperation with the Charity Organization Society, has recently elaborated a scheme by which tuberculous patients who are able to work can be established, with their families, as tenant farmers in country districts near New York. So far, none of the cases which we thought suitable for such a position has had the courage or the intelligence to make the attempt. We have sent patients to all the available hospitals, from Raybrook to the Metropolitan, and our chief difficulty is in the long waiting lists due to inadequate accommodations. Heretofore there has been no provision for an intermediate step from hospital patient to a position of physical and financial independence in the accustomed home. Such a step is provided to some extent by this opportunity for farm life; but an institutional farm, in some respects similar to the George Junior Republic, would prevent many more cases "apparently cured" in hospitals, from slipping back into their old lives, as they now do, and give them the strength and ability to secure permanent independence.

Our further treatment of the cases is largely symptomatic. We use heroin in a considerable number, beginning with a twenty-fourth of a grain three or four times a day, and increasing or diminishing the dose or interval according to the indications. We have given as much as a twelfth every three hours for a considerable time without any ill effects. On the other hand, we have been able to decrease the dose in many patients after the abatement of the cough, until they take but one dose in the twenty-four hours, or are able to get along without any. Heroin has given better results in our experience than any of the several other drugs we have tried, and, with the exception of occasional digestive disturbances or constipation, which may have been due to its continued administration, we have observed no contraindication to its use. Of course, a certain number of cases are not relieved of their cough by anything we have been able to prescribe, but even in these cases heroin seems to act at least as well as, if not better than, other preparations.

We have used both cod liver oil and ichthyol internally in a considerable number of cases, with about equally good results, and all of our patients are ordered milk and eggs in such quantities as they can afford, or we supply. This additional feeding has resulted in gains in weight to thirty-five patients, varying from one pound in twelve months to twenty-eight pounds in eighteen months. In spite of treatment, thirty-five have lost weight, the least being two pounds in eighteen months, the most seven pounds in three months. The remainder have maintained a certain average weight throughout treat-

ment, varying a few pounds either way at different times. In speaking of gains or losses in weight, it should be borne in mind that nearly all of these patients report more or less loss of weight on admission. Of 115 patients who were able to state their average weight in health, only three showed no loss of weight at all. The remaining 112 gave a history of loss varying from five pounds in five years to thirty-eight pounds in two weeks. The average loss before admission was nineteen pounds in fifteen months. So, if we are unable to report phenomenal gains under treatment, we may at least congratulate ourselves in the majority of cases upon checking the most obvious effect of the disease.

Our results in other respects may be briefly stated. Of the 338 cases which have been admitted during the sixteen months of the clinic, 85 are still under observation; 120 have disappeared, leaving no addresses whereby we might trace them; 52 have gone to hospitals, the country, or to their homes in Europe; 14 have been referred to other clinics as non-tuberculous; and 9 have died. Fifty-one cases have been discharged because they refused to return regularly for treatment, repeatedly neglected to observe instructions, or were being treated elsewhere. Seven cases have been discharged as "apparently cured," though they are still requested to report occasionally for observation. In using the term "apparently cured," we are following the classification recently approved by the Tuberculosis Congress. Such cases, to quote the report of the committee, are those in which "all constitutional symptoms and expectoration with bacilli have been absent for a period of *three months;* the physical signs are those of a healed lesion."

These results are not startling in any way, but we may venture to believe that the clinic has accomplished four definite and excellent results: (1) It has withdrawn the tuberculous cases into a class by themselves, thus relieving the overcrowded medical clinic and providing some protection to non-tuberculous patients. (2) It has provided a place for the systematic treatment of ambulant cases of the disease in a district of the city thickly populated and extensively exposed to the contagion. (3) It reaches cases heretofore untreated, or treated irregularly and unsystematically at a number of general dispensaries, and the results of this systematic treatment of these cases show a decided relief to most of the more obvious and distressing symptoms of the disease; a prolonged life, actually and economically, to many, and the apparent cure of a few. (4) The patients so treated have become a source of education in their homes rather than a menace to their associates.

To summarize the report in conclusion, the clinic originated in the natural progress of events, as a part, on the one hand, of the subdivision of the Gouverneur Medical Dispensary into classes, and, on the other, as a part of the system of clinics organized all over the city for the uniform treatment of tuberculosis. Our original difficulties bid fair to be largely obviated in the new dispensary, and with the change to afternoon hours. The assignment of a visiting nurse has added immensely to the value and success of the work. The distribution of milk and eggs to suitable cases is an important factor in the treatment.

Finally, our results show a steady increase in the number of tuberculous patients treated; an average improvement among these patients, both as regards their condition and in their observance of sanitary regulations; and a distinct benefit to that community in which Gouverneur Hospital belongs.

## CYSTOSCOPY AND URETERAL CATHETERIZATION IN GYNECOLOGY.*

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In the practice of gynecology one is impressed with the number of patients encountered suffering from symptoms referable to the uropoetic system. While bladder diseases are not so frequent in the female as in the male, they are plentiful enough. It seems that one reason for their more frequent occurrence in the male is due to the fact that in men the urinary stream is liable to be impeded by enlarged prostate, stricture, etc., while in the female an obstruction to the urinary outflow is infrequent. It is a well-known fact, demonstrated experimentally and clinically, that the simple introduction of organisms into the bladder is not sufficient to produce a cystitis; to this must be added a predisposing cause, as congestion, obstruction to the outflow of urine, or traumatism, as from an instrument or a stone. In the female the shortness of the urethra and its position render it liable to infection; besides this, the bladder is liable to infection from the extension of disease processes of the neighboring structures more often in women than in men. The liability to extension of inflammation from the bladder up the urethra is greater in men than in women, owing to the fact that retention, with back pressure, is more frequent in the male sex. The kidney affections may be primary (infection taking place through the blood), secondary to disease of other tissues far or near, by deposit or continuity, or due to an ascending infection.

When a woman comes to you suffering from any urinary disturbance, it is important that a most careful history be taken, for some point that may seem trivial to her may give the clue to the whole situation. In the case of stone in the kidney, for example, hematuria with a slight pyuria may be the only symptom present, because the stone so closely fits the surrounding structures that it is unable to move and cause pain; yet careful questioning may elicit the fact that years ago this patient did suffer from pain in the kidney region. In others, the family history, or the history of the patient's previous health, may serve to direct your attention in the proper way. Recently I had a case in which a suggestive point was misleading. The woman was thin, and of the type often spoken of as tuberculous. When a child, she had arthritis of the right knee, with subsequent ankylosis. This immediately brought into my mind, taken in conjunction with the other symptoms, which agreed, tuberculous cystitis; this was an error, as proved by the cystoscopic examination and the subsequent history.

A careful pelvic examination will bring out or negative diseases of the neighboring organs. In many instances a bimanual examination will enable us to mark out an area of disease in the bladder, the urethra, or the ureters, which may be thickened and tender. The kidneys can often be palpated, thus indicating something of their location, size, consistency and form. The urine should be examined chemically, microscopically, and bacteriologically, especially when tuberculosis is suspected. The urine shows the signs, or effects, of disease. Sometimes from an examination of the urine we are enabled to determine the source of the blood or the pus present, but in most instances not. The finding of atypical cells, or the examination of pieces of growth

*Read before The Medical Association of the State of Alabama at the annual meeting in Montgomery, April 18, 1905.

passed in the urine will determine the presence and nature of a neoplasm. By a careful history, a thorough physical examination, and a painstaking urinalysis, we may be able to make a diagnosis of the nature of the disease and its location, but very often not; and it is just here that cystoscopy, meatoscopy of the ureteral orifices, and ureteral catheterization furnish their most valuable aid.

A few words in reference to the method of examination and the instruments to be used. No one instrument and no one method are going to be found entirely satisfactory. Personally, I prefer an instrument of the water dilating variety, direct view with catheterizing attachment, as embodied in the Tilden Brown cystoscope, for with this we can examine all of the bladder except the anterior wall, which is seldom affected, and catheterization of the ureters with a direct view instrument is far easier than with an instrument of the prism type. Nearly all examinations with the water dilating instruments can be carried out without anesthesia, and with very little discomfort. In the Kelly instrument we have one that is suitable for those cases in which we cannot get a clear medium for examination on account of the clouding of the water by the rapid collection of pus or blood. It is necessary to use this form of instrument in those cases in which the bladder is so small and so contracted that sufficient distention is not to be had for the water dilating type of instrument. In this method the dorsal position, with the hips elevated, the Sims, or the knee chest position is necessary to secure the requisite amount of bladder distention for a satisfactory examination. The stouter the patient, the more difficult the examination. The method is painful, often requiring anesthesia, and it is annoying to constantly have to remove the urine that accumulates in the bladder during an examination, but this is not so troublesome in the knee chest position. The newer Kelly cystoscope carries a small electric light at the bladder end of the instrument, while the Cullen modification carries it on a beak. The instruments which depend on air dilatation by introduction of the air under pressure with a hand syringe secure dilatation, but examination with them is attended with more pain than with an instrument that secures the requisite amount of dilatation through atmospheric pressure. In the Tilden Brown, we have one that we can use as a direct view examining and catheterizing instrument, in which we can substitute a prism set of lenses if necessary, and one which is a Cullen when the telescope is removed, thus making it suitable for examination of the bladder under atmospheric pressure, or for making topical applications to the bladder wall.

While the cystoscope is an instrument of the utmost importance from a diagnostic and therapeutic standpoint, it must not be forgotten that danger sometimes attends its use, and that it has a mortality, though small. If from the symptoms, and the finding of tubercle bacilli in the urine, the diagnosis of tuberculous cystitis is made, the examination as a routine procedure should not be done, as nearly all of these cases are much aggravated by any intravesical applications, especially the use of the cystoscope. I had one unpleasant experience with such a case, and for a while the outlook was grave. In these cases, if the urine is sufficiently clear when an examination is made, it is advisable to use the urine in the patient's bladder as the medium through which the dilatation is to be secured.

Unless contraindicated, and when carefully performed in a gentle and aseptic manner, the method is relatively free from danger. In discussing a subject as large as this, "Cystoscopy and Ureteral Catheterization in Gynecology," it is manifestly impossible to indulge in any detail, and it will be my effort mainly to interest you by showing that many diagnoses that were only probable before the introduction of the cystoscope may now be made absolute, and at the same time to speak of some of its therapeutic uses.

For the detection of foreign bodies in the bladder, we have a method that is certain, that is often less painful than sounding, and one that gives the knowledge not only of the presence of a foreign body, but also of its shape, size, and consistency, thus offering the suggestion as to the best method of removal, and many times, the means. Many stones are overlooked in examining with the searcher, for unless the bladder is well dilated they may become hidden between the folds of the mucous membrane, and in a dilated bladder a small stone may be propelled in front of the examining instrument and elude any contact with it. In the case of such foreign bodies, as a piece of a rubber catheter, even should the sound strike it, no click would be elicited.

A fact that impresses one even at the beginning of cystoscopic work in gynecology is the amount of urinary disturbance than can exist with so little structural change. Many of the cases of cystitis in which the frequency and the urgency of urination are marked, will show only a slight hyperemia around the neck of the bladder to account for the symptoms. Some authorities consider these cases instances of slight infection, and have named the condition trigonitis. A fallacy, the idea that all cases of cystitis are general, is cleared up by cystoscopic examination. While many cases are general, a large number are more or less local, sometimes spoken of as patchy. In those cases of cystitis, not due to causes from without, that have resisted the ordinary methods of treatment, the topical application of drugs through the cystoscope immediately to the affected area is often attended with most pleasing results. With the aid of the cystoscope, this treatment is not, as a rule, difficult; we are able thus to determine whether the condition is improving, and do not have to depend on the patient's statements, which, while made in good faith, are often erroneous.

In young nulliparous women suffering from cystitis, if the gonorrheal element can be eliminated, tuberculosis of the bladder should be considered. In some cases of tuberculous cystitis, when seen early, we are able from the appearances as seen through the cystoscope to determine whether the condition is primary in this organ, or secondary to tuberculosis of other portions of the genitourinary apparatus. Contrary to what is the general impression, tuberculosis of the bladder, except in those cases of general miliary tuberculosis, does not begin as tubercles, which later break down, but the first lesion noticed is an infiltrated area, generally on the posterior wall back of the trigonum, which is dark red, somewhat swollen, and in which no blood vessels are to be seen. In tuberculosis of the bladder, due to a descending renal affection, the lesion is usually situated around the ureteric orifice of the kidney which is affected. One of the characteristics of tubercular lesions is that the mucous membrane between is apparently normal. The determination as to whether the condition is primary or secondary in the bladder is of the utmost importance in deciding on the treatment to be employed. From symptoms and urinary examination alone, it is most difficult, and often impossible, to name the source of pus or blood in the urine, especially where hematuria or pyuria are the only symptoms. It is in these cases that a diagnosis is most important, for the treatment of the causative factor is often surgical, though not

necessarily so. It would be sorry surgery to make a series of exploratory operations on a tract so extensive as the urinary system, when by a simple cystoscopic examination, and sometimes ureteral catheterization, the source of the pus or blood is made apparent. A symptomless hematuria may be due to the rupture of vesical veins, neoplasm of the bladder, or conditions in the kidney or its pelvis, such as chronic granular nephritis (Fenwick), the breaking down of the crude tubercle, or angioma of the renal papilla, a rare condition. How illogical to attempt to treat a hemorrhage without localizing symptoms, when the sources of such are so numerous, and distributed over such a great field, when a simple cystoscopy will show us the origin of the hemorrhage, and in those instances in which it is due to a bladder lesion, the cause. When the blood is seen to come from either ureter, the history, with a careful urinalysis must be considered in determining the etiological factor. As an illustration of this, the patient brought me by Dr. W. G. Vincent will serve to show the importance of cystoscopy and ureteral catheterization.

This patient was thirty-seven years old, with a negative family and previous history. Two months ago he began to notice that the urine was dark colored, and, as it became progressively worse, he consulted Dr. Vincent, who found a large amount of blood in the urine. There were no symptoms to locate the origin of the hemorrhage, and the only trouble to the patient besides the hematuria was the nervousness it caused, and a slight loss in weight. Dr. Vincent brought the patient to me on April 12 for cystoscopy and ureteral catheterization. As nothing in the bladder to account for the hemorrhage was found, the ureters were catheterized, and bloody urine drawn from the right side, while the urine on the left was clear. On April 17, Dr. Vincent cut down upon the right kidney; it was a large (five and one-half inches long), mottled kidney, with no evidences of stone, growth, abscess, or tubercle. The kidney was decapsulated, and a small section removed for microscopical diagnosis. Dr. Brooks, pathologist for the New York Post-Graduate Hospital, declared this tissue to be that of "the large red, or mottled, or chronic hemorrhagic, or Wiegert's kidney." (August 15. After the operation, the amount of blood in the urine became progressively less, and when the urine was examined recently none was to be detected even with the microscope.) Dr. Vincent will shortly report this case in detail in one of the leading periodicals.

When pus or blood is not from the urethra or the bladder, it is to be inferred that it is from the ureter, the pelvis of the kidney, or the kidney itself. Unless the amount is small, this can be seen coming from the ureter of the affected side, and does not necessitate catheterization of the ureters, but in case the amount of pus or blood is not sufficient to be demonstrated macroscopically in the ureteral effluxes, the ureters can be easily catheterized. Pus or blood can come from both the bladder and the kidney at the same time. Not long since, Dr. W. E. Swann brought me a patient, a woman, forty years old, who for seven years had had a growth on the upper left side of the urethra, which during the past few months had rendered micturition difficult. A mild cystitis had developed, the predisposing cause being the obstruction to the urethra, and in addition to this a pyelitis on both sides, the symptoms leading to the catheterization of the ureters being the pain in the kidney region.

While the subject of ureteral meatoscopy or inspection of the ureteral orifices is a very large one, and cannot be more than touched upon in a paper of this length, the axioms of Fenwick will be quoted to give some idea of its importance: ,

1. If a cystoscopist finds an irregular-shaped, caked, and patulous ureteric orifice, he may diagnose destructive changes in the kidney of that side.

2. If no renal tumor can be felt on that side, and he notices that the ureteric orifice is caked, patulous and displaced, he may proceed a step further and diagnose, without hesitation, a retracted inflamed adherent kidney, with probably one or more small cortical abscesses in the upper end of the organ.

3. If, in addition to the caked and patulous ureteric opening, tubercle bacilli are found in the urine, destructive tuberculous changes of the pelvis of the corresponding kidney may be diagnosed, and the kidney nephrectomized—provided that the opposite ureter appears healthy—and the urine obtained from it by catheterizing its ureter appears abundant and of good specific gravity.

4. He may suspect the renal origin of urinary tuberculosis if he finds with this caked, patulous, and displaced ureteric orifice, that extravasations are strictly localized to the ureteric area.

5. But if the disease is far advanced in the bladder, and much of the mucous membrane is stripped away, he cannot, on cystoscopic grounds, assert that the disease originally commenced in the kidney, although the ureteric orifice is caked, patulous, displaced, for these changes are also induced by extension from below upwards. All that can now be asserted under these circumstances is that the kidney is undergoing destructive tuberculous change.

And further: Sometimes we may infer from a markedly vascular ureteric orifice that the pelvis of the kidney on that side is also very vascular; that an elongated turgid ureteric orifice, like a long congested meatus of the penile urethra, denotes dilatation of the responding renal pelvis, and marks a tendency for the ureter to dilate from above downwards. One of the first signs of dilatation of the ureter from below upwards is an oval arched uretric orifice, while the ureter that appears like a golf hole in the cystoscopic picture also denotes dilatation of the ureter, but does not indicate the direction from which this started. Small, puckered, distorted orifices denote preexisting erosive ureteritis. Edema of the ureteric orifice denotes stone arrested in the terminal portion of the ureter, or acute descending renal tuberculosis. Conical protrusion of the orifice, as a whole, usually denotes renal stone, which is causing colics.

By ureteric meatoscopy, we are able to determine the number of ureters entering into the bladder, their position, and whether or not they are functionating.

The ureteral catheter serves many purposes. It may be used as a guide to the ureter in operations where this is liable to be abnormally placed, and should injury occur, the damage can be repaired on it as a splint. The first autopsy that I ever did was for occlusion of the ureters in the suturing of the broad ligament following supravaginal hysterectomy for fibromyoma of the uterus. Had the ureteral catheters been used as a guide in this case, the accident would not have occurred, and had they been passed after the operation, it would have been seen that the condition was one of retention instead of suppression of urine. It is possible that this obstruction might have been overcome by gentle pressure of the catheters, as the broad ligament was sutured over continuously with plain catgut. In another hysterectomy for a large fibroid of the uterus, I saw the ureter injured, but in this instance the ureters had previously been catheterized, so the damage was recognized at once, and the opening in the ureter closed and the peritoneum sutured over it. The catheter was left in place for two days, when it was

removed. The recovery of the patient was uneventful. In carcinoma, the ureteral catheter serves well to mark the ureter in close dissection. Obstructions occur in the ureter, due to pressure of neighboring structures, as well as to disease of the ureter itself; a true stricture sometimes exists, analogous to stricture of the male urethra. The ureteral catheter serves to detect such, this being demonstrated by the obstruction offered to the passage of the catheter, and to the sudden passage of an abnormally large amount of urine immediately the constricted portion is passed. By using tapering catheters, of increasingly larger caliber, the ureter can often be so dilated that retention of urine, with dilatation of the ureter, the pelvis, and even destruction of the kidney tissue from pressure, can be prevented. If a stone is the cause of the obstruction, we may get an impression of it by tipping the catheter with wax; this is also possible when the stone is in the pelvis of the kidney. Tilden Brown, in doubtful cases of radiographs, where it is not certain if the object giving the shadow is in the ureter, passes a catheter armed with a wire stylet to a point in the ureter close to the stone, or above it; then, when a second radiograph is taken, the relation of the suspected stone and the ureter is apparent.

Before the removal of one kidney for any cause, it is desirable to know the efficiency of the other, and this can be learned by collecting the urines from each kidney, and examining them separately (Cryoscopy).

According to Howard Kelly, there are many cases of mild hydronephrosis which are not recognized, and in his hands repeated catheterization of the pelvis of the kidney has given good results. In pyelitis, and especially those cases which have resisted medical treatment, we have an efficient and logical treatment in the irrigation of the pelvis of the kidney with antiseptic solutions. In recognizing and treating pyelitis, when it is a simple pyelitis, we will cure the condition, and prevent its further progress into a pyelonephritis. Good results have been claimed in the treatment of Bright's disease by irrigation of the pelvis of the kidney, but I am inclined to think that the cases that have been benefited are ones of pyelitis with a few casts in the urine, rather than cases of true nephritis.

If I have succeeded in interesting you in this line of work, and in showing you some of the numerous advantages and many necessities of such, I shall feel that the purpose of this paper has been well accomplished.

122 West Forty-ninth Street.

## THE ABUSE OF BROMIDES IN EPILEPSY.

By WM. P. SPRATLING, M.D.,

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Years ago I became convinced that the bromides as generally administered did vastly more harm in the treatment of epilepsy than they did good, and the ten years' experience I have had at Sonyea in the treatment of nearly two thousand cases has strengthened that conviction. I do not hold that the bromides always do harm, or that they fail sometimes to do good in the treatment of epilepsy. I think they have a limited range of usefulness in the power they possess of *suppressing* epileptic convulsions.

But I can say this without reservation: *I have yet to see the first case of epilepsy cured by the bromides alone.* Personally I have never given the bromide of potassium to an epileptic. In certain of the epilepsies in women in which the attacks group themselves about the menstrual epoch, I have used some of the other salts with good results, but even then the case must be carefully selected.

When visiting the Bielefeld Colony in Germany years ago, I learned that the bromides were constantly being less employed. At the Craig Colony the average dose of the drug now is fifteen grains a day, five grains to a dose. Some patients get more than this, while many get none.

A short time ago the amount of the drug that was being used was reduced nearly one-half. The result was a considerable temporary increase in the number of attacks, but in a little while the attacks fell to their former number, most of the patients showing mental and physical improvement while free from bromism. To stop the bromides in a chronic epileptic—if it be cautiously done—is sometimes more valuable than to keep him saturated with them to the point of toleration. There is no better proof of the failure of the bromides to cure epilepsy than to stop them after years of use and watch the attacks double or treble in number.

Sudden withdrawal of the bromides without an effective substitute is never advisable. Some epileptics will stand it, but others will be sure to succumb to serial attacks, or to the graver condition of "status epilepticus" which so frequently terminates in death. Most, probably all, patent nostrums recognize the power the bromides have of effecting false and superficial "cures" in epilepsy—cures that terminate with the withdrawal of the nostrum. During the past nine years I have personally analyzed twenty-seven such nostrums and I found the basis of them all, without exception, was the bromide of potassium.

In the hands of laymen these nostrums do infinite harm. In contradistinction to the one point of value bromide possesses in the treatment of epilepsy—that of lessening cortical irritability—there are numerous results from its unscientific use that sometimes make it a positive menace to the recovery of the patient. I am convinced that recoveries occasionally occur in epilepsy, not because of the use of the drug, but in spite of it.

The most remarkable recovery from epilepsy I have known was in a man who had suffered from the disease eighteen years, who had in all 50,000 to 60,000 seizures, who was given for years 120 to 140 grains of bromide with no effect but a steady depreciation in his physical condition, and who began to make a complete recovery after entering the Colony where the amount of the drug was reduced month by month until at the end of the eighth month he was getting fifteen grains a day only. In this case an effort was made to correct deep seated errors in metabolism by giving a drug that only augmented the primary fault. This single instance is worth little more than to show that epilepsy is not always relieved by bromide alone. But the point is: there are thousands of other cases like it.

The chief difficulty in giving the bromides lies in our inability to prescribe the precise individual dose the patient's condition demands. We have paid too much attention in the past to the number of grains administered, and too little to results attained. Notwithstanding its comparative harmlessness, the drug should be used in epilepsy with the same scrupulous care that we use aconite in fever or digitalis in heart disease if we expect to make our patients feel its value, and miss its faults.

In no case let us forget there is a point of physiological toleration—of therapeutic usefulness, beyond which we should not go. Barring exceptional cases, it is never necessary to push it to the point of inducing bromic acne, while to cause bromic dementia with

it, is a blunder inexcusable. For some years after its opening the number of patients admitted to the Craig Colony with bromic dementia was greater than now.

Blunting of the intellectual faculties is a notable result of the bromides, and is first shown in loss of memory. I formerly thought this condition was due to the seizures, but witnessing the complete restoration of memory in so many cases after the bromides had for some time been withdrawn, there was no alternative but to ascribe it to the use of the drug.

Since the origin of the Colony treatment of epilepsy the bromides have, to a certain extent, declined in favor. This decline was a logical result of the recognition of the necessity for the treatment of the individual *in toto,* instead of aiming at the suppression of a symptom only.

We have only to consider the physiological effects of the bromides to understand why they are of so little use in epilepsy. On the respiration ordinary doses produce but little effect; in larger doses they act as depressants. On the alimentary canal they often act disastrously—irritating the mucous membrane and interferring with the reflex activity of the stomach in a way to check the normal secretion of gastric juice, which impairs digestion. They cause constipation, heavy coating of the tongue, and foul breath, a bad taste and a pasty feeling in the mouth, loss of appetite and not infrequently nausea and diarrhea.

On nutrition they act unfavorably in some cases by lessening metabolic changes through depressing the nervous system. They produce unsteady gait; myasthenia, particularly noticeable in the legs; depression and often loss of sexual vigor; forgetfulness and slight degrees of aphasia, usually shown in the misuse of words and the wrong formation of sentences.

On the temperature ordinary doses have no effect; in larger doses they lower the heat of the body by depressing the heart's action and possibly by contracting the arteries, a fact apparently established through the experiments of Brown-Sequard, Mairet, and Amory.*

Some therapeutists assert that the bromides decrease tissue waste. I do not share this belief, but I am convinced that the opposite is oftener the case. Epileptics are notoriously great eaters, and any simple increase in weight in them is not to be ascribed to the bromides, but to their food habits.

Anemic, emaciated, and feeble epileptics who have been taking large routine doses of bromides for years before entering the Colony and who suffer its partial or complete withdrawal after they begin Colony life, show an increase in weight and a gratifying general improvement difficult to believe.

It is an extraordinary fact that since the introduction of the bromides in the treatment of epilepsy by Laycock, fifty-seven years ago, the prognosis of the disease (barring certain well regulated forms of treatment) is no better now than it was then.

After a few years of abandonment of the bromides with the employment of other harmless depressants in their stead, and a general recognition of the principle of first treating the individual instead of a symptom of his disease, we should soon attain a truer estimate of the very limited value of the bromides in epilepsy than we have to-day.

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**Hyperpyrexia.**—John Britton reports a case in which the patient's temperature on two occasions reached 110.2° and 112.3°. The writer regards the case as one of acute influenza in a neurotic subject. All of the thermometers used, four, registered the same temperature. The patient made a good recovery without suffering any apparently injurious effects.—*British Medical Journal.*

## CONVENIENT POINTS FOR INTRAMUSCULAR INJECTIONS IN THE TREATMENT OF SYPHILIS.

By VICTOR COX PEDERSEN, A.M., M.D.

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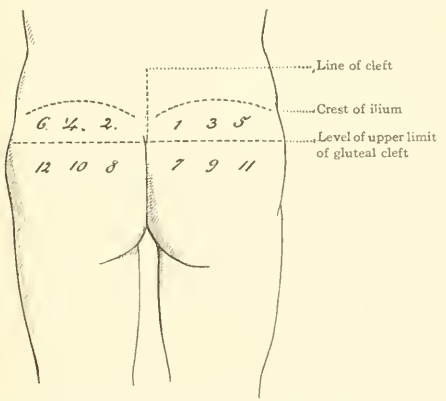
THE progress which has recently been made in the treatment of syphilis by injections, has been most satisfactory and indicates this method to be the choice in severe cases. The chief objection which has always been urged against the injection method, however, has been the secondary occurrence of subcutaneous or intramuscular nodes and infiltrations. After a little experience, the writer was impressed with the fact that possibly these defects arise only because the injections are repeated at the same point, at intervals too brief and spaces too close to allow full absorption of the drug injected. Salicylate of mercury is probably most commonly employed at the present time, and is the preparation preferred by the writer. His method of using this drug and therein correcting occurrence of nodes is as follows: The gluteal region is regularly employed. It is divided into four quadrants




Quadrants shown, as formed by the vertical line of the cleft and the horizontal line of the apex of the cleft. The numerals 1 to 12 inclusive show the points of injection which are two inches (*i. e.* a needle-length) apart in the vertical and horizontal directions.

by the vertical line of the intergluteal cleft and by the horizontal line passing through the upper limit of the cleft. The injections are given once a week, three in the upper part of each quadrant in the following order, alternating from week to week between the right and left sides: Right upper quadrant, 1 inch from the middle line; left upper quadrant, 1 inch from the middle line; right upper quadrant, 3 inches from the middle line; left upper quadrant, 3 inches from the middle line; right upper quadrant, 5 inches from the middle line; left upper quadrant, 5 inches from the middle line; lower right quadrant, 1 inch from the middle line; lower left quadrant, 1 inch from the middle line; lower right quadrant, 3 inches from the middle line; lower left quadrant, 3 inches from the middle line; lower right quadrant, 5 inches from the middle line; lower left quadrant, 5 inches from the middle line. The illustration indicates this arrangement distinctly. The injections are then repeated, beginning at the same point as the first. Thus it will be seen that thirteen weeks intervene between any two injections at the same point. Thus all tendency toward the promotion of nodes is obviated and full opportunity is given for complete absorption of the drug. The

writer has made several hundred injections in this manner and has never had any tendency toward infection or the production of painful lumps and nodes which persisted more than about two days after the injection, and even these have been rather rare. A large caliber needle, 2½ inches under the head is advised, which has been boiled fully five minutes before being used. Sterilized emulsion of the salicylate of mercury, 1 grain, in 10 minims of benzoinol is employed. The skin is sterilized by scrubbing with tincture of green soap, then with alcohol, and painting freely with iodine. When the skin is deeply stained by the iodine the injection is made. Massage of the point of injection is then carried out for two or three minutes vigorously with sterilized gauze. The mouth of the hole is again painted with iodine and flexible collodion is used as a seal. No other dressing is made. In this way thus far no difficulties whatever have been encountered and the patients greatly prefer the injection to any other method of treatment.

## A CASE OF ACUTE HEMORRHAGIC PANCREATITIS.

By CHARLES M. TINNEY, M.D.,

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The comparative rarity of this disease seems a sufficient excuse for the report of every case in order that we may obtain more definite knowledge for differential diagnosis and perhaps treatment.

The patient, a man 41 years of age, robust and apparently in good health, was first seen by me on April 23, 1905. At this time he complained of distressing pain in the epigastrium, severe frontal headache, eructations, loss of appetite and constipation for three days. The tongue was thickly coated, pulse 96, temperature 99.4°. He stated that he had had general malaise for several days prior to returning from a convention, three days before he went to bed, with gradually increasing discomfort. His habits were unusually good and past history negative, except for chronic constipation, and attacks similar to the present one, but not so severe. They were considered to be due to biliousness. Physical examination was negative except for slight abdominal tympanites. There was no tenderness on deep pressure. A provisional diagnosis was made of an acute exacerbation of a chronic lithemia and treatment was directed to the relief of this condition.

The next day the face had assumed an anxious expression, the headache was slightly improved, and the epigastric pain considerably increased. A free movement from the bowels followed the treatment of the previous day, and the tympanites was less marked. During the next two days the patient apparently improved with the exception of the epigastric pain, although this was intermittent in severity. The temperature ranged from 99° to 100.4°. On the third day a consultation was held with Dr. E. J. Taggert of Bremerton, who concurred in the diagnosis of lithemia and autointoxication.

On April 27 the patient's condition remained the same and Surgeon D. N. Carpenter, U. S. N., was called in consultation. He disagreed with the diagnosis and suspected typhoid fever, because of the duration of the fever, and the catarrhal symptoms of the gastrointestinal tract. Intestinal obstruction was not considered, in view of the free movement from the bowels three days before. There was no evidence of disturbance of the appendix or gall-bladder. Acute pancreatitis was thought of, but dismissed as the pain was not sufficiently intense, and the patient had been sick for over a week. A Widal examination of the blood was made with suspension culture of sterile bacilli, but the result was negative The strained specimen of the blood showed no malarial parasite or evidence of leucocytosis. The urine was negative and the diazo reaction not present. The next day the symptoms ameliorated and the following two days the patient was considered to be convalescent.

On Sunday, April 30 about 4 P. M., there was a return of the epigastric pain and at 7.30 P. M., while the patient was on the bedpan, he was seized with excruciating pain in the epigastrium with symptoms of collapse. Surgeon Carpenter and I were immediately summoned and diagnosed a severe intestinal hemorrhage. Treatment proved of no avail and death occurred at 10.30 P. M.

A partial autopsy was permitted. Upon opening the abdominal cavity evidence of an extensive hemorrhage was at once seen by the huge blood clots and serous fluid present. Seeking the origin of this hemorrhage the head of the pancreas was found to be indurated, hemorrhagic, and lacerated from the pressure of a large blood cyst that had ruptured. Several small blood cysts remained with clots in various stages of organization. Although the pancreas was enlarged and indurated, no areas of fat necrosis were observed. The omental fat was unusually opaque, and there was also fatty infiltration of the mesentery of the intestines. There was no inflammation or ulceration of the intestines or evidence of obstruction. The appendix and gall-bladder were normal. The heart showed hypertrophy of the left ventricle. The lungs in the dependant portions were edematous. The stomach was normal. The liver on section was fatty. The kidneys were not enlarged and apparently normal. The spleen was enlarged and friable.

The pathological diagnosis of this case is, therefore, a chronic pancreatitis with acute hemorrhage causing death.

## HOSPITAL BUILDING IN THE PHILIPPINE PROVINCES.

By DONALD G. McCASKEY, M.D.,

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THIRD LIEUTENANT AND MEDICAL INSPECTOR PHILIPPINE CONSTABULARY.

Because of the meager acquaintanceship of the profession in general with what a native-built Philippine bamboo hospital is, the following snap shots and account describing them may be of interest to many readers of the Medical Record.

First of all, Filipino building construction as revealed here at different stages does not essentially vary, and applies to native shacks or houses throughout the islands. Not a nail is used in the entire building. Everything is of bamboo wood, except the heavy foundation posts, a heavy coarse native grass for the roof, called cogon grass, and a native vine called "bayuka" which is used for tying the different joints and joist connections. For the large joint connections there is also used a wooden spike made of bamboo.

When the work is all completed the house is a neat, cosy looking, strong, and rain-proof structure, as cool as can be found anywhere underneath an intensely hot tropical sun.

Described from start to finish the native way of building is as follows: Natives with carabao, commonly called water buffalo, go out into the Philippine "bosque" or jungle, cut bamboo, and have their carabao drag five or six of the bamboo trees back. Carabao move very slowly, natives work more

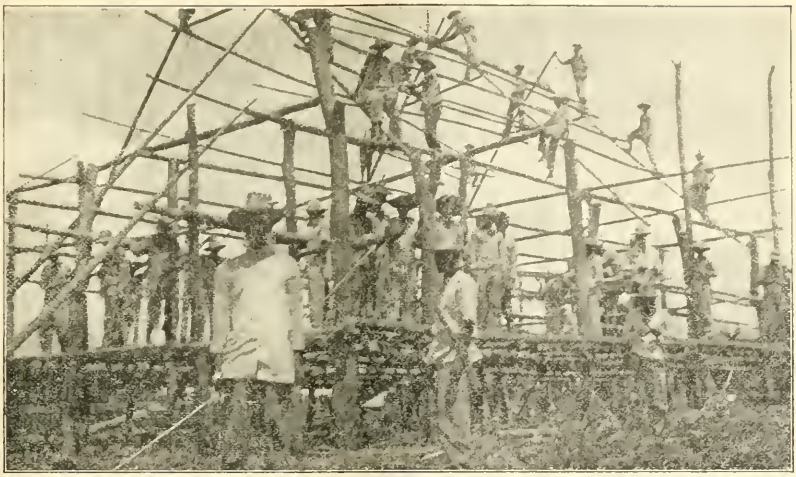

Fig. 1.

leisurely still, the Philippine sun is intensely hot, and one carabao load is considered a day's work.

The hospital pictured herewith, though only twenty by thirty-five feet in size, with a six foot porch around it, required over one thousand separate bamboo trees.

The floor is made of bamboo strips two inches wide and as long as the tree length, placed side by side, and held down by slender bamboo strips running crosswise at intervals of two or three yards. These crosswise strips are tied down with the tying vine, bayuka. This tying material must be stripped, and in the skeleton framework picture (Fig. 1) two natives may be observed preparing the vine for use.

Surprising as it may seem, the grass roofs rarely leak and afford a very comfortable and refreshing degree of coolness and protection from the sun. This cogon grass is cut from the bosque, where it grows in places to a height of twelve to fifteen feet. Its fiber is very coarse and strong, and its edge cuts the hand like a keen-bladed knife if the hand is suddenly slipped along it. Over two hundred bundles are required for this roof.

The grass, after being cut by the natives with their bolos, is sorted into large bundles shaped like wheat sheaves. It is then carried along the trails into town hanging from both ends of bamboo poles, which latter rest on the shoulders of the natives. Each man supports one pole, with from two to four grass bundles suspended from it, and the sight of over one hundred of them traveling along in single file with their freight, is a very curious and interesting one.

To build the Buena Vista Hospital required the services of eighty hombres (Filipino men) for ten full days. In American the same amount of work could and would readily be accomplished in two or three days. "Mañana" is the Filipino policy, and to let his mind wander aimlessly to most every subject except the one in hand. They are good workmen when they feel like working, which is rare, and when they do not have to think and attend closely to what they are doing. It is in doing the things which come easy to him that the Filipino may be useful.

Though no picture is displayed of the interior of

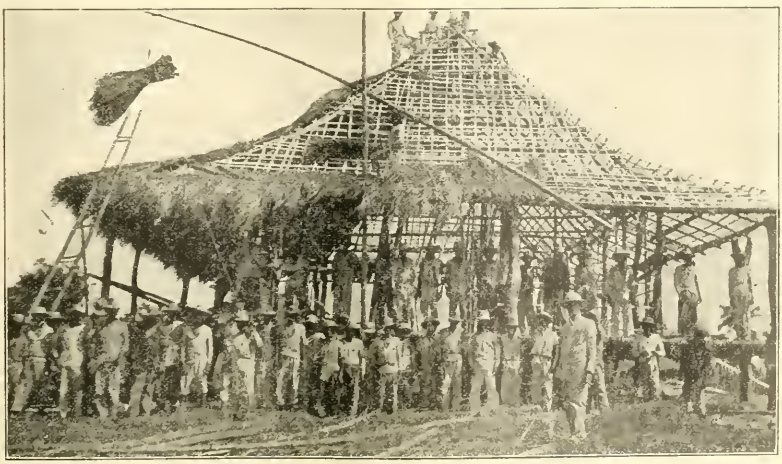

Fig. 2.

Fig. 3.

the hospital here revealed, the deficiency can readily be supplied when it is known that the room area of twenty by thirty-five feet is divided into two rooms, eight by ten feet each, one for sleeping quarters and the other a combination bath and operating room, a dispensary five by ten feet in dimensions, and the remainder one large ward. In place of cots or beds, the above hospital is provided with a continuous bamboo platform elevated two feet above the floor. On this latter the sick lie, the circulating air being able to reach them from all sides.

Besides the window and door spaces for ventilation, the air easily moves through the millions of spaces between the many pieces of bamboo of the flooring and walls, in addition to the foot of intervening space which exists between the top of the walls and the roof. There is barely a stir of air outside the hospital which is not felt within, so free is the ventilation. This matter of ventilation is one of the Filipino carpenter's chief aims, and is among the first things noticed by an American traveling through the islands.

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**Carcinoma of the Tongue.**—G. E. Armstrong declares that in making a diagnosis of epithelioma of the tongue one must think of simple ulcer, decubitus ulcer, syphilis, tuberculosis, and actinomycosis. In general, it is not difficult to exclude non-malignant conditions. Sometimes, however, this is very difficult for even an experienced clinician. In all of these conditions the microscope should be used to confirm or alter the clinical diagnosis. The two should agree. Operation for carcinoma of the tongue is most serious, and unless the diagnosis is absolutely certain and confirmed by microscopical examination, the writer does not think that the operation should be undertaken. In dealing with this disease all glands communicating with the focus should be removed. If the glands are at all enlarged it should be assumed that they may be malignant. They should be removed with the same thoroughness as those in connection with glandular carcinoma of the breast. The writer does not believe that the whole tongue should be removed in all cases. Recurrence after removal of the whole tongue is nearly always on the same side of the stump or about the tonsil, or in the lymphatic glands of that side of the neck. The object of the operation is to save life from a disease that is always fatal if it is left alone. Partial excision should be considered only in cases in which the disease is recognized early and is limited in its extent. The thorough removal of all the lymphatic glands which have been infected by the disease is most important. The writer concludes by saying that he thinks it would be well if the profession took a more hopeful view of epithelioma of the tongue. It is because the disease in too many cases is not recognized sufficiently early that results are bad; operative procedures, too, have not always fulfilled all the indications taught by the pathologists of to-day, and, besides, physicians have not been careful enough in urging their patients who have warts, fissures, or ulcers on the margins of their tongues, to get an early diagnosis, and when the growth is found malignant, to have it removed. Recurrences are exceptional.—*Montreal Medical Journal.*

**Reversal of the Patella.**—J. Hogarth Pringle records a case of reversal of the patella, occurring, with other serious injuries to the knee joint, as a result of a fall from a building, which necessitated the amputation of the leg above the knee joint. The patella was found lying on the outer margin of the external condyle, pivoting on the outer lip of the trochlea, inclined slightly outward, and it was impossible to bring it back to its position until an incision was made into the aponeurosis, when the cartilage-covered surface of the patella presented, looking forward, and with an elevator, the hip flexed, and after much trouble the bone slipped into place. When the knee joint was dissected it was found that the attachment of the vastus externus had been completely torn from the patella, as well as a part of the rectus and its fibrous expansion. The upper margin had been fractured off, and lay loose in the joint. The patella had been rotated so that the internal border had passed backwards. The author has found only seven published cases of reversal of the patella. In most of these the bone was easily replaced by the use of the thumb and fingers. There are two varieties—those from within outward, where the external margin of the patella passes backwards, the internal going to the front, and those from without inwards, when the external margin passes in front and to the inner side. The last is the rarest, and the recorded case is of this type. It has been found very difficult to produce this type of dislocation artificially, and Streubel gives it as his opinion that it cannot be produced unless there has been a rupture of the capsule of the joint and the extensor expansions. Meyer argues that reversal of the patella is the result of two forces, both of which are tangents to the circle of rotation, brought to play on the margins of the patella; the second force is the resistance of the sloping surfaces of the condyles, when the knee is flexed. The author has experimented with elastic webbing and a rigid band forming an artificial ligamentum patellæ, and finds that the patella is twisted to a varying degree, and may lie in several positions.—*Scottish Medical and Surgical Journal.*

MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, September 2, 1905.

## VISCERAL INVASION IN MAMMARY CANCER.

In cases of cancer of the breast the danger of metastasis is commonly believed to be along the lymphatic chain of the axilla, whence the malignant particles are carried to the supraclavicular glands and so enter the blood-current. This belief is founded upon the fact of the early involvement of the axillary glands, and upon it rests the universal practice of following the lymphatics to the axilla, in operations for mammary cancer, and cleaning out this region. It is thought, too, that the skin affords a ready means for the diffusion of the cancer cells, hence the practice of making wide incisions and removing the integument freely over a broad area around the primary growth.

In a paper read before the Surgical Section of the British Medical Association, at the recent meeting at Leicester, Mr. W. Sampson Handley of London attacked this belief, and expressed the conviction that the embolic transfer of cancer particles along this route was infrequent, or "a mere side issue in the process of dissemination." The diffusion of cancer was effected, he held, mainly by a process of permeation," a spreading growth of malignant cells along the minute lymphatic vessels. If the blood were the main channel of diffusion the thoracic viscera would naturally be invaded more frequently than they are relatively to the abdominal organs. In about 12 per cent. of autopsies the abdominal viscera are found to be the seat of metastasis from mammary cancer, while the thorax is free. This discrepancy is explained by Mr. Handley on his theory of permeation along the fine lymphatics of the body wall. The visceral involvement occurs as soon as this permeation process has reached the lymphatic plexus underlying the pleural or peritoneal endothelium. The cancer cells then escape, says Mr. Handley, into the serous cavities, and attack the serous membrane covering the viscera. Immediately below the ensiform cartilage the subperitoneal fat is separated from the lymphatic plexus of the deep fascia, along which the malignant outgrowth spreads, by the linea alba alone. The epigastric region, therefore, is the weak spot in the defences of the body cavity, and cancer of the breast frequently reaches the peritoneum by this route before it has been able to penetrate the resistant wall of the thorax.

If Mr. Handley is correct in his theory of metastasis from mammary cancer the inevitable conclusion is that the present method of operating in this condition is defective in that it ignores the danger of invasion by the epigastric route. This danger, he says, must be obviated by excising the deep epigastric fascia to a point two inches below the tip of the ensiform cartilage; this involves no technical difficulty and does not add in the least to the risk of the operation. A linear incision, two inches long, running downward over the ensiform cartilage from the circular incision surrounding the neoplasm affords access to the epigastric region, and another linear incision joining the outer part of the circular incision gives access to the axilla. The flaps should be undermined in all directions and a circular area of deep fascia from nine to ten inches in diameter removed, with the pectoralis major, except perhaps the clavicular portion.

The belief that cancer of the breast spreads along the skin is erroneous, in Mr. Handley's opinion, hence he says it is usually sufficient to remove a circle of skin from four to five inches in diameter centered in the primary growth. Theoretically this operation is well devised in that the edges of integument can be readily approximated without tension, hence the danger of sloughing is eliminated; the condition of the flaps is practically unimpaired, and consequently rapid healing, with no febrile complication, suppuration, or pain, is to be confidently expected.

## VEGETABLE JUICES FOR THE TUBERCULOUS.

THE function of a newspaper is to present to its readers an account of the various happenings of the day, apportioning to each event the prominence in position and the space which its importance demands. We have no cavil, therefore, with the papers which devoted several columns of description and editorial comment the other day, to a report by Dr. John F. Russell of this city, of the results of an addition to the dietary of his consumptive patients. There are, unfortunately, few readers of newspapers, that is to say few members of the community, who, if they are not themselves afflicted, do not number among the members of their own families or their intimate friends some one battling for life against tuberculosis. The subject is therefore one of general interest, and fit for discussion in the public press. We do, however, reprehend the method in which the subject was presented by the headliners. Dr. Russell has not found a "new cure" for consumption, nor ever a "new consumption remedy," as one of the medically sanest of the metropolitan papers labeled it, nor do we believe that he would authorize such a designation. He has simply found what may prove to be a useful adjuvant in the therapeutic management of this disease, and only harm can come from calling it a cure or even a remedy. He has for some time been treating tuberculosis along the recognized lines of hypernutrition and fresh air and has met with a fairly satisfactory measure of success in a class of patients to whom the sanatorium treatment is not available. Meeting, however, with certain cases of the apparently curable type in which ill success attended his best efforts, he was driven to the conclusion that there was an unknown something lacking in the prescribed diet of proteids, hydrocarbons, and carbohydrates, the want of which retarded or prevented the cure. This unknown something he was led to believe, by some process of reasoning

which the published report does not explain, to be vegetable juice. The lack was supplied by the addition to the diet of the expressed juices of all the vegetables in the market and also of apples and pineapples.

Theoretically this addition to the dietary is sound, for, as Fernie says in that delightful book "Meals Medicinal," the constitution of vegetable foods is "altogether of a building-up character, as distinguished from animal life (which involves excretions of the broken-down products as part of its being)." It is possible, therefore, that the raw vegetable juices may give just that fillip to the metabolic processes which is needed to ensure assimilation of the proteids, carbohydrates, and fats contained so abundantly in the dietary ordinarily prescribed for the consumptive.

Dr. Russell claims (or is said to claim, in the newspaper reports) to have had eleven "cures" of pulmonary tuberculosis since January 7, when he began to add vegetable juice to the dietary of his patients. We hope he did not really make such a claim, for it is only a wild optimist who would pronounce any consumptive cured in six months, and an assertion of this sort only throws discredit on the reasonableness of the one who makes it. The patient may have taken on flesh, the cough and fever may have ceased (temporarily), and the tubercule bacilli may have disappeared for a time from the sputum—but a "cold" may bring them all back next week. It is claims such as this, made by physicians, which justify the headliners of the lay press in announcing the discovery of infallible cures and raising false hopes in the minds of the incurably ill. It is possible, and we hope it is true, that Dr. Russell has discovered an aid to assimilation which will be an adjuvant to the recognized methods of treatment of tuberculosis, but that is the most that can be tentatively admitted, and even that remains to be proved.

## "IN CORPORE VILI."

The practice of experimentation on human beings for purposes of medical observation is one that has the sanction of antiquity. Herophilos of Chalcedon and Erasitratos of Keos, who flourished about 300 B. C., are both said to have made anatomical studies by dissecting living criminals, while records left by the Egyptian priesthood seem to indicate that anthropotomy was commonly practised by them. At any rate, the story of Cleopatra's experiments in toxicology, with slaves for subjects, has become fireside history, though it is less widely known that the same imperial dilettante, impelled by a curiosity to know at what period of gestation the sex of the fetus became recognizable, caused numerous slaves to be killed at various stages of pregnancy. During the middle ages, condemned criminals furnished the usual material on which neophytes practised capital operations, such as cutting for stone, the victim being set at liberty in case he was fortunate enough to survive the manipulations of the surgeon.

The nature of investigations in which the living human body is used as a test object has changed since then, but numerous studies of this sort, undertaken to throw light on questions of modern medicine, have been reported from time to time. Chief among these, in point of importance and value, were Jenner's classical inoculation experiments on the boy, James Phipps, which, if they had resulted less happily, would, no doubt, have subjected their author to opprobrium as great as the eulogies he actually received. Accounts of many later experiments have reached the public in more or less garbled form, and have given rise to much popular indignation, which, however, has not always been unjustified. A large proportion of the recent work in this field has been devoted to the study of the gonococcus, and while information of great value has been obtained, it is claimed that in only one instance, in which a general infection resulted, were the results of serious import to the patient. Neisser's experiments with syphilitic serum in 1898 have been looked upon with much disfavor, though as the four subjects inoculated were all prostitutes, it is alleged that the fact that they subsequently developed syphilis need not necessarily have been due to the inoculation. Other authors have studied the nature of leprosy, scarlatina, furunculosis, worm infections in children, tuberculosis, etc., in this way, and usually without consequences of serious moment to the patients, while the gain to science has been considerable. It must be admitted, however, that such work has been done almost exclusively by Continental investigators, and that observers in this country prefer to dispense with this method of experimentation.

Pagel, in an article in the *Deutsche Aerzte-Zeitung* of May 15, 1905, says that the fact that in all ages the best physicians have considered it their privilege and duty to test questions of biology and pathology on the persons of their patients justifies the principle in general. There are decided limits to its application, however, he continues, and any experiment which would jeopardize the life or health of the subject is not permissible. Temporary discomforts or slight disturbances need not be regarded as contraindications, but in all cases the permission of the patient must first have been obtained. In dealing with unconscious, insane, or morbid individuals all experiments which might have even the appearance of hastening death or of causing permanent injury should never be undertaken. In spite of the fact that numerous publications have appeared in Germany denouncing the perpetrators of such experiments, he believes that, judged by the above standards, only very few of the observations made on human subjects are of a nature to deserve criticism. This may be very true, but the matter cannot be settled so easily, for it is hardly one admitting of unqualified approval or disapproval, and each observer must decide for himself according to the merits of the particular case and the dictates of his own conscience.

## The Yellow Fever Germ.

A despatch to *The New York Times* on Tuesday of this week announced that Drs. P. E. and John J. Archinard of New Orleans have been for some time conducting a search for the microorganism of yellow fever, and believe that they have now found it. They have not made public announcement of the fact, but have said in private that they thought their search had been successful. Nothing is said of the nature of the parasite except that it is "a minute germ similar to the malarial germ." It is believed by most investigators that when the causative agent of yellow fever is found it will prove to be a protozoan

parasite, this belief being founded upon the fact of mosquito transmission, a certain period of time being necessary after the insect has bitten a yellow fever patient before she can infect a healthy person. There is no such interval necessary, so far as is known, in the case of any bacterial organisms, and so it is assumed that this time is occupied in the sexual cycle of reproduction of a protozoan in the body of the mosquito. The members of the Commission of the Public Health and Marine Hospital Service, working in Vera Cruz a short time ago, thought at one time that they had found the parasite, but Guiteras and Agramonte in Havana showed that the body pictured by them was only an abnormal blood cell. Before this time various investigators had announced the discovery of the causative agent of the disease—Freire a coccus, and Sanarelli a bacillus, and others, other forms, the two former even making protective sera from the use of which they claimed to have had excellent results. None of these alleged discoveries was confirmed by other observers. What the nature of the bodies may be which the Drs. Archinard have found in the blood of yellow fever patients or in the stegomyia mosquito cannot be known until they have published the results of their investigations, and in the meantime it is useless to make any surmises or to discuss the probability of the correctness of their deductions.

## News of the Week.

**The Yellow Fever** at New Orleans is now so well under control that it is believed the epidemic will be extinguished within three weeks. The danger being so nearly over the need for united action is becoming less urgent, and the inevitable disputes are beginning. Dr. Joseph Holt recently charged that the officials were long cognizant of the existence of yellow fever in the city, but suppressed the announcement of the fact. Dr. Kohnke, the city health officer, on learning of this, wrote to Dr. Holt asking for an explanation, and received a note of which the following is part: "In reply to your note, this instant received, I have this to say: You are evidently trying a bluff game, but, whether so or not, you can pop your whip and wade in, for I make to you neither apology nor explanation. I am only sorry you were not present to hear my speech last night." This cannot be characterized as the "soft answer which turneth away wrath," and we fear it is only the beginning of a most unedifying quarrel which will not be confined to Dr. Holt and the health officer. There will undoubtedly be a rigid investigation of the beginnings of the epidemic, which will be very right and proper, but it will be deplorable if it cannot be made without an angry bandying of accusations and counter charges. Mosquitos having been found breeding in the holy water fonts in the Cathedral, an order has been issued that the fonts be kept dry or else that the water in them be changed daily. Many cases of the disease have been discovered in Natchez, Miss., and an investigation shows that yellow fever has prevailed there for over six weeks, or before it was discovered in New Orleans, and all the time Natchez was enforcing the strictest kind of a shotgun quarantine. Gulfport is another town which trusted to the shotgun while the fever was already well established within its boundaries. The total number of cases reported in New Orleans up to Wednesday of this week was 1,832, and of deaths 267. The daily average of new cases is a little over 40, and is steadily declining.

**Druggists Protest Against the Compounding of Prescriptions by Physicians.**—The physician who enters the sick room and who diagnoses the case, administers his own medicines, and, in the event of death, writes the death certificate, is to be attacked by legislative measures if the recommendation of the resolution adopted by the Illinois Pharmaceutical Association at its recent meeting, held in Chicago, is followed. Resolutions were also adopted commending the prosecution of the drug-adulterating pharmacists and the indiscriminate dispensers of cocaine. The editor of the *Western Druggist*, George P. Engelhardt, delivered an address asserting that the dispensing of medicines by physicians is the overshadowing evil in pharmacy. Under the present laws the physician is permitted to provide his patients with his own prescriptions, not only prescribed, but compounded by himself. The pharmacists do not diagnose diseases, nor do they attempt to do so; therefore, physicians, he thought, should not be permitted to compound their own prescriptions. In consequence of Mr. Engelhardt's remarks a resolution was adopted unanimously favoring such legislation as shall require the coroner or other public officer, in case of death ensuing from disease or otherwise, when the physician in attendance has himself dispensed his own medicine, to issue the death certificate in place of the attending physician, thus placing such death in the category of accidental or violent deaths.

**Cottages for Insane Consumptives at the Watertown (Illinois) Hospital.**—Two cottages for the isolation of tuberculous patients are now in course of construction at the Watertown Hospital. These structures will effectually aid not only in the general care of the 1,200 patients but in more humane treatment for those who in addition to their mental affliction are victims of tuberculosis. The cottages were not provided for in the State appropriation, but this additional building was made possible by the economical expenditure of the general funds of the institution. One of the cottages will be for male patients and the other for female. A tent colony will be provided. Large yards will surround the cottages and provision will be made for six to ten tents in each.

**Free Antitoxin.**—Dr. Samuel G. Dixon, Commissioner of the Pennsylvania State Department of Health, has formulated plans looking to the free distribution throughout the State of antitoxin for the treatment of cases of diphtheria when the patients are too poor to pay for the medicament. Two or more distributing stations will be established in every county, and the antitoxin will be furnished on the prescription of physicians in charge of eligible cases. On August 24, for the first time in seven years, no case of diphtheria was reported to the Philadelphia Bureau of Health. A marked falling off in the number of cases has been noted since the city began to supply antitoxin gratuitously to physicians who desired it.

**Faculty Changes.**—The following changes in the faculty of the Medical Department of the University of California have recently been announced: Dr. Alfred B. Spalding, promoted from instructor in obstetrics to associate professor of obstetrics; Dr. John C. Spencer, from assistant to associate professor of genitourinary diseases; Dr. Raymond Russ, appointed instructor in surgery; Drs. J. Wilson Shiels, Rachel Ash, Milton B. Lennon, and George Blumer, assistants in medicine; Dr. Rawlins Cadwallader, assistant in obstetrics; Dr. A. J. Lartigau, assistant in gynecology and pediatrics; Drs. H. P. Robarts, Camillus Bush, and Jacob Schwartz, assistants in surgery; Dr. Howard Morrow, promoted from assistant to instructor in diseases of the skin,

and Drs. Lionel L. Schmitt, Harry E. Alderson, and Florence McCoy Hill, appointed assistants in diseases of the skin.

**Medical Colleges in Illinois.**—According to the *Journal of the American Medical Association* of August 19, Illinois, with a population of 4,821,550, has thirteen medical colleges, all located in Chicago, a city of about 2,000,000 inhabitants; they are as follows: Rush Medical College, Northwestern University Medical School, Hahnemann Medical College, Bennett College of Eclectic Medicine and Surgery, College of Physicians and Surgeons, Hering Medical College, Jenner Medical College, Illinois Medical College, American Medical Missionary College, College of Medicine and Surgery, National Medical University, American College of Medicine and Surgery, and Dearborn Medical College. Colleges in Illinois have to admit students in conformity with the minimum requirements of the Illinois State Board of Health, as follows: "A diploma or certificate of graduation from a high school; or a certificate signed by a principal of a regularly organized high school or by the examiner of the faculty of a recognized literary or scientific college or university, or by the State Superintendent of public instruction, or a superintendent of public schools, of having successfully passed an examination in all the several branches embraced in the curriculum of a four years' high school course. The matriculation examination shall not be conducted by any member of the faculty of the medical college. The Illinois State Board of Health will require each applicant for a State certificate to present documentary evidence of his preliminary education, together with his medical diploma, when taking the examination of the board."

**A New Medical School,** called the Nebraska College of Medicine, has been established at Lincoln, Neb. Twenty-seven of the physicians of Lincoln compose the faculty. It is announced that the new college, which will form part of the Wesleyan University, will have courses in Medicine, dentistry, pharmacy, and nursing.

**Failure of the Arsenic Treatment of Yellow Fever.**—Dr. Reginald Leach of St. Paul, Minn., who went to New Orleans to test his arsenization theory—that the taking of arsenic in small doses for two weeks will render a person immune against yellow fever—has failed to substantiate his contention, and has abandoned his experiments. A formal letter was issued to the press, signed by Surgeon J. H. White of the U. S. Public Health and Marine Hospital Service and by the President and advisory committee from the Orleans Parish Medical Society, telling how patients were under treatment for yellow fever who had partaken of the arsenic diet for the supposed sufficient period to render them immune, thereby overthrowing the claims made by Dr. Leach. It is said that 60,000 persons had become temporary arsenic eaters, led thereto by the confident assertions of acquired immunity made in the newspapers.

**Cholera in Prussia.**—A despatch from Dantsic states that two Russian raftsmen recently died at Culm, West Prussia, of what was diagnosed as Asiatic cholera. All Russian raftsmen there have been detained or isolated, and measures are being taken to prevent the spread of the disease. An investigation by the Prussian health authorities confirmed the presence of the disease, but it is believed that there is no danger of the spread of the disease westward. It has existed in certain provinces of Russia for several months.

**Opposed to Medical Control.**—Gov. Herrick of Ohio is said to be opposed to professional control of the benevolent institutions in the State. Former Governors, notably the late Governor Nash, regarded the benevolent institutions as practically belonging to the medical profession, and provided that a majority of the members of all the Boards of Management should be physicians. The latter have since been quite generally supplanted by business men. It is now proposed to treat the State Hospitals in the same way. Although these institutions were established and brought to their present state of efficiency by the physicians of the State (the Ohio Lunatic Asylum, opened in November, 1839, with a capacity of 120, had its origin in a memorial adopted and sent to the Ohio Legislature by the Ohio Medical Society in January, 1835), the medical profession is now but little represented on the managing boards, its counsels are entirely ignored, and the plan has been formulated and will soon, it is said, be put in operation to take from the medical superintendents of the hospitals all executive control.

**Hospital Corps Ohio National Guard.**—By orders just issued by the Adjutant General's office, the Second Company of Instructions, Hospital Corps, Ohio National Guard, stationed at Columbus, is changed to Ambulance Company, Section No. 2, the change being effective immediately. The entire Hospital Corps organization of the State is changed to make it more nearly conform to the field service regulations of the United States Army.

**Dr. Joseph Herbert Ford,** of the U. S. Army, recently stationed in Oklahoma, has been compelled to undergo an operation for appendicitis at the General Hospital, San Francisco. The latest report is that he is recovering rapidly. It is his intention, it is said, to sail for the Philippines on October 5, where he expects to make further study of the serum treatment of malaria. A preliminary report of his work in this direction appeared in the MEDICAL RECORD of December 24, 1904.

**Dengue in Florida.**—Dr. Joseph Y. Porter, Health Commissioner of Florida, has sent a circular letter to the physicians of the State warning them of the presence of dengue in several cities. The disease appeared first in Key West and spread thence to Port Tampa and Tampa. The mortality from the disease has been nil.

**No Leprosy at Oakland.**—A report recently circulated, to the effect that a family that had recently arrived from Honolulu was afflicted with leprosy has been investigated and found to be entirely without truth.

**Cholera at Manila.**—Some of the soldiers at Camp McKinley and several citizens in Manila, twenty-five in all, have died in the past two weeks of this disease. There were forty cases up to August 29.

**The National Negro Medical Association** held its third annual meeting in Richmond, Va., on August 22 and following days under the presidency of Dr. John Hunter of Kentucky. The opening session was called to order by Dr. R. E. Jones of Richmond, and an address of welcome was delivered by Mayor McCarthy. The next meeting will be held in Philadelphia. Dr. Jones was elected president for the coming year.

**Laboratory of the Board of Health.**—The new bacteriological laboratory of the Health Department has recently been opened. The building has been in process of construction for several years. It is attached to the old Willard Parker Hospital for contagious diseases in East Sixteenth street.

**Obituary Notes.**—Dr. JAMES HENRY SALISBURY died at his home in Dobbs Ferry, N. Y., on August 23, after a long illness. He was born in Scott, Cortland County, N. Y., in October, 1823, was graduated from the Troy Polytechnic Institute in 1846, and

from the Albany Medical College in 1852. He practised for a time in Cleveland, Ohio, and later moved to New York City. He was an accomplished microcopist and a member of many scientific societies. For many years he had devoted himself to the study and management of chronic diseases.

Dr. William Nutter of Malden, Mass., died August 17, after a long illness, at the age of forty-three years. He was born in Montreal and was graduated from the Medical Department of the University of Vermont in 1887. He was for three years City Physician in Malden, in which place he practised seventeen years.

Dr. J. W. Mooar of East Manchester, N. H., died August 18 at the age of sixty-seven years. He was born in Hollis and was graduated from the Dartmouth Medical School in 1862. He at once joined the medical corps of the army and served throughout the Civil War. He began practice in Manchester in 1867.

Dr. L. M. Willis of Bartow, Fla., died August 4, at the age of seventy-seven years. He was born in New York State and served during the Civil War in the medical corps of the Union Army. He removed to Tennessee in 1870, and later went to Hutchinson, Kans., where he remained until 1884, when he went to Bartow, retiring from practice at the time on account of feeble health.

Dr. L. J. Frazee of Louisville, died of pneumonia on August 12 at the age of eighty-six years. He was born in Mason County, Ky., and was graduated from the Medical Department of the University of Louisville in 1841. After a course of study in Europe he began practice in Maysville, moving later to Louisville. He was formerly in the faculty of the Kentucky School of Medicine and of the Medical Department of the University of Louisville, and for a number of years was editor of the *Transylvania Medical Journal*. He retired from practice several years ago.

Dr. Robert M. Stone of Omaha, Neb., died August 14. He was born in New York State and was graduated from the St. Louis College of Physicians and Surgeons in 1884.

Dr. Marcellus H. Felt of Hillsboro Bridge, N. H., died August 21 at the age of sixty years. He was a graduate of the Dartmouth Medical School in 1877. He was for many years treasurer of the New Hampshire State Medical Society and was its President in 1904.

Dr. Edward W. Shead of Seattle, Wash., died August 20 as the result of a fall. He was born in Eastport, Me., and was graduated from the Harvard Medical School in 1903.

Dr. Robert W. Hynds of Atlanta, Ga., died of typhoid fever on August 18, at the age of twenty-six years. He was a graduate of the Medical Department of Vanderbilt University.

Dr. William D. Pettus died at his home in Rep, Ala., on August 13, at the age of sixty-two years. He was a graduate of the Medical Department of the University of Nashville in 1868.

Dr. Morris Rogers of Deadwood, S. D., died suddenly on August 20, at the age of sixty-seven years. He was born in Kentucky and was graduated from the Medical Department of the University of Iowa in 1869. He had practised in the Black Hills since 1878.

Dr. Will Rininger of St. Louis, died at his home on August 22, as a result of burns received from the explosion of benzine while working in his laboratory. He was born in Tiro, O., and was thirty-two years of age. He graduated from the Marion-Sims Medical College of St. Louis in 1899. He was assistant to the chair of nervous diseases at the Marion-Sims Medical College, and chief of the clinic of nervous diseases at St. John's Hospital. He was a member of the St. Louis Medical Society and the American Medical Association.

Dr. Henry D. Stauf of St. Louis disappeared from his home on July 28 and on August 12 his body was taken from the Mississippi river at Barrows, Tenn. Dr. Stauf had been in poor health for some time and it is supposed he wandered to a favorite fishing resort near Barrows and was accidentally drowned. He was forty-two years of age. He was graduated from the Missouri Medical College (Medical Department of Washington University) in 1885.

## Correspondence.

### OUR LONDON LETTER.

(From Our Special Correspondent.)

IS ISOLATION TO GO?—PHYSICAL DETERIORATION—DEATHS OF CHRISTOPHER HEATH AND JOHN WILLIAM OGLE.

London, August 11, 1905.

Many have long suspected, and not a few have been convinced, that our system of hospital isolation in infective diseases is a huge failure. There are murmurings, too, among the public that they have been induced by sanitarians to enter on an extravagant and even disastrous course. Enthusiastic advocates of the system are reconsidering their position, and the reaction was well exhibited at Leicester, when, after a pretty full discussion, a resolution was agreed to requesting the Local Government Board to institute an exhaustive inquiry into the whole subject.

Dr. George Wilson, whose experience as a medical officer of health extends over thirty-two years, opened the discussion with the confession that he was at one time strongly in favor of hospital isolation for the benefit of the community, and welcomed the Act of 1893, though he regarded it as defective because it did not extend to small towns except by consent. But experience has changed his views. As to smallpox, he thought hospitals could be dispensed with if vaccination and revaccination were generally practised, even as in Germany there are no such hospitals.

Dr. Wilson then presented statistics as to scarlet fever in his district, showing no material difference between places with and without hospitals, the obvious inference being that isolation after years of trial has utterly failed in controlling the incidence or moderating the death rate of that disease. He thought slight cases had a better chance of recovery in their own homes, and the risk of infection to the household was less than is generally supposed.

Dr. Whiteside Hime, one of our foremost medical officers of health, followed with a paper in which he said twenty-five years' experience of isolation compelled a reconsideration of the matter. Illustrating the progress of preventable diseases by a number of charts, he showed there was no evidence of any controlling power, and this was the case in regard to all preventable diseases. In Leicester itself, when ninety-eight cases of scarlet fever were sown broadcast in the population to make room in the hospital for smallpox cases, there was no increase of scarlet fever, but actually a decrease in the next six months.

Dr. O'Connor, M.O.H. for the thirteen Leicestershire combined districts, followed. His statistics showed that during the last three years the rural district which suffered most from scarlet fever was the one that applied hospital isolation most completely. The disconcerting conclusion that isolation had utterly failed had to be admitted. Further, he had observed that children who had safely passed through the original infection had not been able to resist a recrudescence of an epidemic.

Dr. Waddy of Sheffield devoted a paper to return cases. His statistics showed that returns within fourteen days were half as many again in hospital treated than home treated, and after fourteen days the proportion rose to twice as many.

Dr. Marsden (Birkenhead) took up the cudgel on the other side, and said the arguments of the four papers amounted to the suggestion that if they took an infective center away and isolated it they did more harm than good, and this he thought preposterous. What the statistics did show was that we know nothing of the infection of scarlet fever. It is knowledge of the disease that is at fault—not isolation hospitals.

Professor W. R. Smith had a strong impression that sta-

tistics would not settle the question. He was for impartial inquiry.

Three or four other speakers discussed case mortality, and some said whatever statistics might point to, hospitals had come to stay, though more complete isolation would so increase expense that the rate-payers would have a say in the matter.

As I said above, an inquiry by the Government Board has been asked, and Dr. Willard remarked that some years ago he had proposed such a resolution, which was shelved by the "previous question."

In connection with the foregoing discussion, I may mention the proceedings of the Asylum's Board's last meeting. It was stated that 21,000 cases of scarlet fever and 538 of smallpox had been admitted to the board's hospitals in 1904. The mortality rates of scarlet fever and diphtheria were slightly higher, but typhoid fever showed a decrease. The mortality from diphtheria had fallen from thirty in 1893 to ten last year. The annual expenditure on cases of mistaken diagnosis was said to be about £12,000, an average number of 2,000 being admitted who ought not to have been sent, and of course such persons were exposed to risk of infection. A joint report of the superintendents of the hospitals stated that most of the patients discharged should be sent home in vehicles exclusively reserved for that purpose. There was further some consideration of a proposal to establish a motor ambulance service at the cost of the ratepayers, to supersede the one supported by voluntary contribution.

The subject of physical deterioration, so much discussed of late, was bound to come up at Leicester. It was introduced by Dr. Dawson Williams, who had no doubt of its existence at various ages, though mainly noticeable in children, and chiefly those of the working classes, and therefore attributed by some authorities to bad housing, overcrowding, unsuitable feeding, etc. He also admitted that there is evidence that the infants of mothers who work all through their pregnancy weigh less than others; so that it would be interesting to know whether preventing women working during pregnancy would really prevent them from obtaining adequate food. Intemperance in the father was more injurious than in the mother. Though much has been done to improve the public health, there remains much to be done. Dr. Williams did not think we can express an opinion as to the real cause, but we know the fact that children born in the poorest districts weigh less and grow up smaller in stature than those born in better localities.

Dr. Hall of Leeds said many causes were talked about, but the real cause was poverty. Fifty years ago the poorest mothers were cleaner, more sober and more domesticated. This had been done away by our boasted civilization and elaborate educational schemes. At a cost of twenty millions a year we have swept the poor man's children into schools, and he is unable, if his family be large, to provide properly for them single handed. Formerly the mother stayed at home. Now she often has to go out to work, with the result that the children are not properly cared for and are fed on most injurious food, spiced with pickles and condiments.

Dr. Spanton blamed the fashion of the age. A life of pleasure, he said, is the root of the evil. Life to-day is too full of excitement, too full of pleasure, too full of leisure, too full of hurry, too full of everything except honest work. We hear of the dignity of labor, but those who say most about it seem the most anxious to avoid it. What is wanted is to go back to a simpler life, and the rich as well as the poor need the same.

Dr. Rutherford said the twenty millions for education grudged by one speaker was small compared with the 160 millions spent on alcoholic drinks—the most serious thing for the working classes. He wanted a Minister of Public Health in the Cabinet.

Dr. Langley Browne said his large experience led him to conclude that deterioration did not begin until from thirteen years of age, and from that to eighteen the development was not kept up; in fact he thought development had improved up to about thirteen, and that accorded with the cheapness of food. Between thirteen and eighteen smoking and drinking came in and arrested development.

Two of our senior leaders have passed away this week—a consulting surgeon and consulting physician to their respective hospitals after long service, and each having held high offices in their respective colleges.

Mr. Christopher Heath died suddenly on Tuesday in his seventy-first year. Though you will remember him as for many years connected with University College, he was originally a King's College student, and took his M.R.C.S. in 1856. Four years later he was admitted to the Fellowship of the College of which he became president in 1895, having been examiner, lecturer, and Hunterian orator. He had also been examiner in surgery at the Universities of London, Cambridge and Durham, as well as at the College of Physicians. After full service as surgeon he became consulting surgeon to the hospital in 1900, and Emeritus Professor of Clinical Surgery to the College. He had held, too, a number of other appointments and honors. His "Operative Surgery" reached a second edition in 1884. His "Manual of Minor Surgery" ran through twelve editions by 1901; "Practical Anatomy" eight editions by 1903. Of his other works, the Jacksonian prize on "Injuries and Diseases of the Jaws" and his "Intrathoracic Aneurysm," 1871 and 1898, are the most important. He edited a "Dictionary of Practical Surgery," 1886.

On the same day died John William Ogle, consulting physician to St. George's Hospital, at the age of eighty-one. He was an Oxford man, M.A. 1851, M.D. 1857, F.R.C.P. 1855. He had been Croonian lecturer, Harveian orator, Censor and Vice-President of the College of Physicians. He had served both the old universities as an examiner, and in his long association with St. George's Hospital he filled many posts and always with distinction. He did much for the museum, put its catalogue in an excellent state, and was joint editor of the printed volume as well as of the "Hospital Reports." He was Vice-President of the Medico Chirurgical Society, to the *Transactions* of which he contributed valuable papers, as he also did to other societies and journals.

## OUR VIENNA LETTER.

(From Our Special Correspondent.)

DEATH OF PROFESSOR NOTHNAGEL—EHRLICH'S ALDEHYDE REACTION—MECHANISM OF GASTRIC PERISTALSIS—DIFFERENCES BETWEEN THE FAT OF INFANTS AND OF ADULTS.

VIENNA, July 31, 1905.

THE month of July has been one of mourning for the medical profession of Vienna, for on the seventh of the month Professor Hermann Nothnagel died at the age of sixty-six years. The loss of Nothnagel is a calamity not alone for the faculty of which he was so distinguished a member, but also for our entire profession. His reputation had extended over all the world, so that thousands of patients from all countries came to seek his advice. He held the chair once filled by Skoda, and served mankind in the manner laid down by that master. Like Virchow he came from the German Friedrich-Wilhelms Institute, and he there profited by the influence of his teacher, Traube. Whereas Traube concerned himself especially with the diseases of the vascular system, Nothnagel early devoted himself to the study of cerebral and nervous diseases, and those of the digestive system, and while still young he enriched this chapter of medicine with many important observations. He was graduated in 1863, and from 1865 to 1868 was v. Leyden's assistant at Königsberg. From 1868 to 1870 he served as Dozent and military surgeon in Berlin. He took part in the first battles of the Franco-Prussian war, but was then incapacitated by an attack of typhoid fever and had several relapses. The years from 1870 to 1872 were spent in Breslau, and he was then called to Freiburg in Breisgau to assume the chair of materia medica. He contributed largely to the experimental development of this branch, and his text book on this subject, produced with the collaboration of Professor Rossbach, has run through many editions and is a classic in pharmacology. He went to Jena in 1872, and the ten years spent there with his family and in the company of the most eminent scientists were among the happiest of his life. In 1882 he was called to Vienna as Duchek's successor in Skoda's clinic, and held his first lecture on October 16. In this he eulogized the achievements of his predecessors and praised the spirit of humanity which lends the ethical value to our science. It was on this occasion that he uttered his famous dictum that only a good man can be a good physician. Nothnagel was one of the most beloved of the Viennese teachers, and his brilliant delivery, the magnetism with which he inspired his listeners, and the masterly manner in which the phenomena of disease were analyzed caused his lecture room always to be filled with students and physicians.

At the meeting of the Society for Internal Medicine, Dr. Bauer read a communication on the subject of the Ehrlich aldehyde reaction in the urine and feces. This is carried out as follows: A few c.c. of urine are mixed with several drops of 2 per cent. solution of dimethyl paramidobenzaldehyde in 20 per cent. hydrochloric acid, and a little extra hydrochloric acid is added. In normal urine a slight red color is produced, which in pathological specimens becomes intensified and is associated with a band between the D and E Frauenhofer lines. The reaction is produced, as Neubauer first pointed out, by the urobilinogen present in the urine. The reaction disappears on the conversion of the urobilinogen into urobilin. Urobilinogen produced from urobilin and bilirubin also gives a distinct reaction with Ehrlich's aldehyde. The urine used must be fresh, as otherwise the urobilinogen is easily reduced on exposure to the air. In freshly passed urine urobilinogen is present to the almost complete exclusion of urobilin. Ehrlich's reaction is a simple test for urobilinogen and is positive in all diseases,

particularly those of the liver, in which urobilinuria has been observed. In biliary fistulæ and obstruction of the common duct urobilinogen and Ehrlich's reaction are absent from the urine, and it therefore appears that this substance originates in the intestine. Tests for urobilinogen and Ehrlich's reaction should always be performed in conjunction with each other, as the latter may be caused by the drugs or other undetermined substances in the absence of urobilinogen, and in some cases in which this principle is present, as in glycosuria, the reaction may be negative.

Dr. Rudolph Kaufman presented before the same society a new theory of the mechanism of gastric peristalsis. It has been supposed that in this peristalsis the stomach contracted progressively towards the pylorus. Beaumont, however, showed that a constriction is formed which divides the pylorus from the fundus. Kaufman experimented in this connection by using curarized dogs which were also under the influence of morphine. A glass tube was carried through the esophagus into the stomach, and another through the pylorus. Water flowing through the first emerges from the second, but on stimulating the vagus the flow is checked suddenly, showing that a water-tight septum must have formed in the stomach. By inserting needles it was possible to prove that the partition was situated at the junction of the pylorus and fundus. It is probably due to the contraction of the oblique muscle fibers of the abdominal wall which twist the stomach in opposite directions about with its axis, so that occlusion must occur.

Dr. Lehndorff and Dr. Knöpfelmacher have made interesting observations on the fat of infants. Adult fatty tissue is soft, yellow, and has fat droplets on the cut surface, whereas that of infants is white and shows no droplets. The fat itself in adults is fluid at room temperature and is yellow, but that of infants is white and firm and melts only at a temperature of 40° C. These differences are due to variations in chemical composition, for infantile fat contains 67 per cent. of the fluid oleic acid and 33 per cent. of the solid stearic and palmitic acids, while in adult fat there is 90 per cent. of oleic acid. According to Knöpfelmacher the oleic acid increases in amount from birth on, and at the age of two years reaches the adult proportion. In emaciated children the oleic acid is increased. In a new series of observations the authors have sought to find the explanation of the discrepant results obtained by other observers in this connection, and have come to the following conclusions: The fat of the newly born infant contains about 50 per cent. of oleic acid, and this quantity gradually rises until at the second year it is about 72 per cent. and approaches the fat of adults. At the same time the melting point drops from 40° to 45°, to a much lower figure. The fat of breast-fed children is richer in oleic acid than that of those artificially nourished. The cause of this is that the fat of human milk contains more oleic acid than that of cow's milk, that is, it seems that the composition of the fat depends on the nature of the food. In intestinal catarrhs and all diseases in which there is loss of body weight there is also a decrease in the oil component of the fat. Free fatty acids are also found in the fat, but their quantity does not appear to be related to the food or state of health. The composition of the fat remains constant to the ninth month of life, as until then the infant is fed exclusively on milk. The high melting point of the fat of nurslings underlies the fact that sclerema can occur only in little children, owing to a fall in temperature sufficient to permit tha fat to liquefy.

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**Prolonged Lavage a Preventive of Ether-Vomiting After Operation.**—George S. Brown assumes that it is the presence of ether in the system that causes the vomiting after operation by its direct effect on the vomiting center in the brain or its irritant effect on the stomach. He considers the appropriate treatment of the condition to be the washing of the ether out of the blood as rapidly as possible. Much of the ether is eliminated by the stomach, and if lavage is begun before the patient becomes conscious, and is continued for some time, the ether is rapidly eliminated and the vomiting is avoided. When the ether is all out of the blood, vomiting ceases; but this may require three or four days. The patient should be kept well under ether so that the tube can be introduced without causing retching. The lavage is continued until two and a half gallons of water have been introduced and removed. The last wash water will not smell of ether, the sleep will pass off in an hour or two, and at the end of twelve hours the breath will not smell of it. During the last three years this method has prevented ether vomiting absolutely in the author's cases.—*Surgery, Gynecology, and Obstetrics.*

# Progress of Medical Science.

*Boston Medical and Surgical Journal, August 24, 1905.*

**The Localization of Chronic Suppurations of the Urinary Tract.**—Arthur L. Chute says that a careful localization of chronic urinary suppurations is essential for accurate treatment and the conclusions drawn from the glass-tests, as applied to suppurations of the urethra, are often misleading, while those drawn from the irrigation test are more accurate. Without cystoscopic examination, it is at times almost impossible to differentiate chronic suppurations of the bladder from those of the kidney. Before operating upon a suppurative lesion of the kidney it is essential that one verify his diagnosis as to which kidney is involved, either by seeing turbid urine issuing from the corresponding ureteric orifice or by ureteral catheterization, and reliance upon symptoms alone, even when these seem to leave no doubt, may lead to serious error.

*New York Medical Journal, August 26, 1905.*

**Astigmatism, a Cause of Vomiting in School Children.**—Aaron Brav says that it is known to every practitioner that some children, during their school term, have regular attacks of vomiting, the primary cause of which is often obscure. These children, who go through a season of school life with dizziness, nausea, headaches, and vomiting, and have all the symptoms of anemia, are often treated for it without good results, and the only thing that gives them relief is the keeping them away from school environment for a few weeks. In considering the treatment of this condition it is essential that the primary causal factors be established and removed, if possible, and in determining the original cause of vomiting in school children one should think of the possibility of a faulty anatomical construction of the ocular refractive media. From a few clinical cases reported, and such are not infrequent, it will be noticed that the histories were nearly all alike, and the primary cause could be determined only by a careful urinary analysis and a thorough examination and search for ocular defects. The cause determined, the error corrected was followed by recovery which was complete, except in one case, and here complete recovery could not be expected from a chronic form of nephritis. The toxic form of vomiting is the only one simulating the vomiting due to astigmatism, and, of course, can only be differentiated by a urinary examination, which both the physician as well as the ophthalmologist will do well to bear in mind. In the absence of kidney conditions, in the absence of gastric pain, in the absence of fever, chills, epigastric fullness, all cases of vomiting in school children preceded by dizziness and headaches and visual disturbances, one can safely prognosticate a probably astigmatic error or refraction as the prime cause, and refer the case to an ophthalmologist for the proper correction of the ocular defect which is responsible for the suffering of the child.

**Preoperative and Postoperative Treatment of Surgical Cases.**—John Egerton Cannaday says that the preoperative and postoperative care of surgical cases is not secondary even to the technique of the operation itself. The value of habituation of the patient to the bed, giving a restricted non-putrefactive dietary, the alimentary canal emptied and put in good condition, the eliminative organs inspected, and normal action if possible secured, the lowered states of resistance as far as practical remedied, is inestimable. Shock may sometimes be averted and well treated by artificial heat and stimulants, of which the chief are physiological saline solution and adrenalin. One should empty the stomach and keep it so to prevent the vomiting. The devotion of special care to the cleansing of the site of incision on skin or mucous membrane is important. After the operation, conserving the energy of the patient in every possible way and avoiding needless purgation and unnecessary annoyances of all sorts are self evident procedures, as are the prevention of tympany by proper dietetic measures and the avoidance of opiates. The value of physiological therapeutics in the management of the convalescent need not be insisted upon.

**Sterility in Women: The Pathological Affections of the Ovaries and Tubes that Produce It, and Their Treatment.**—J. Riddle Goffe considers the intraperitoneal causes of sterility in women, or those which can only be reached by penetrating the peritoneum. The various pathological conditions that obstruct the passage of the ovum into the uterus he considers under three heads: (1) Those that relate exclusively to the ovary; (2) those that relate exclusively to the tube, and (3) those in which both the ovary and tube are involved. The ovary may be absent or it may be congenitally in so rudimentary a state of development as to be devoid of Graafian follicles or incapable of developing them. The most common affections are those that result from inflammation, such as atrophy,

cirrhosis, and cystic degeneration. Cirrhosis of the ovary is usually a process consequent upon an acute oophoritis and is a form of chronic hyperplasia of the connective tissue stroma, by which the follicles are compressed and eventually destroyed. The most frequent pathological conditions that are the cause of sterility in the tube are catarrhal, gonorrheal, and septic salpingitis, pyosalpinx, hydrosalpinx, and hematosalpinx which contorts the tube, giving it so tortuous a course at the flexure that it may become absolutely constricted. The most common condition is one in which the fimbriæ becomes agglutinated and the patency of the tube absolutely destroyed. Cases of atrophy of the ovary are beyond the pale of surgical interference. Hypertrophy and cystic ovaries are to be relieved only by surgical interference. In cases of tubal trouble operative procedures seem to be more efficient. The function of the tube is more mechanical than physiological, and mechanical contrivances are more amenable to mechanical interference. Where the fimbriæ are inverted and adherent, it becomes a simple matter, under a saline douche, to massage the tubes, rotate them between the fingers, and by gradually milking them out from the horn of the uterus to their extremity, gradually to unfold the fimbriæ and restore the ampulla to its normal condition. This is far better than amputating the tube. In cases of acute or chronic salpingitis a nd the long-standing destructive effects, now quiescent, of inflammatory invasion no longer producing symptoms or palpable by the examining finger, the peritoneal cavity is invaded for the deliberate purpose of relieving the condition of sterility and rendering the patient fruitful. Just what the scope and limitation of conservative work upon the tube may be in the presence of retained pus is still awaiting the decision of further experience. He protests against the indiscriminate sacrifice of tubes that are the seat of ectopic gestation. Rupture of the tube and hemorrhage in these cases is not always produced by distention of the tube, but the biological process inherent in the growth of the ovum and placenta erodes the epithelium and eats its way or grows through the wall of the tube and its peritoneal covering. Such cases are peculiarly adapted to such conservative work as opening the tube, evacuating its contents, and stitching up the incision.

*Medical News, August 26, 1905.*

**A Contribution to the Study of Chronic Nicotine Intoxication of the Nervous System.**—F. Robbins says that, theoretically, tobacco tolerance might be produced in either of two ways: (1) By compensation, through the formation of antitoxins in the organism, or (2) by a destruction of the poison through oxidation. In view of the fact that aggravation of minor symptoms due to the habitual use of tobacco is so frequently coincident with suboxidation caused by independent factors, the latter hypothesis would seem the more probable one. There is little doubt that the secret of its hold upon the user lies in its retardation of the metamorphosis of nitrogenous tissues. Like alcohol, tobacco retards tissue waste; and that is all that humanity instinctively craves for. The histories of two patients are given as an illustration of what is meant by failure of accommodation on the part of the nervous system to the habitual use and absorption of the tobacco alkaloid. In the selection of these two cases care was taken to limit the discussion of chronic nicotine poisoning to individuals who had used tobacco for periods extending over thirty-one and thirty-nine years, respectively. During the maintenance of fair general health the adjustment of the nervous system to the alkaloid seemed perfect, or nearly so, whereas the phenomena of failing nervous vitality due to the absorption of nicotine came to the front as soon as an additional nux from within or without turned the balance beam, as it were, and interfered with accommodation.

**The Natural and Artificial Protection of Man Against Tuberculosis.**—F. L. Figari says that it is now affirmed that if we have not succeeded in immunizing animals against tuberculosis with living cultures, it is experimentally ascertained that we can produce this immunity by injecting subcutaneously, or administering by the mouth, specific substances taken from animals treated for that purpose. As serum, blood, and milk have this property, certainly the flesh of these animals will possess it. These for the present are the sole means on which we can count for the cure of tuberculosis, by rendering immune the children of tuberculous people and individuals who are predisposed to it. It is only by widely practised preventive immunizing that we can hope to stop the spread of tuberculosis.

*American Medicine, August 26, 1905.*

**What Action Should Be Taken To Suppress Smallpox.**—H. M. Bracken urges that the Conference of State and Provincial Boards of Health of North America put itself on record as follows: Believing that all attempts to restrain smallpox by means of quarantine in a community not protected by vaccination will fail; that rigid quarantine in a well-vaccinated community is unnecessary; that the attempt to control the spread of smallpox by means of quarantine is unscientific, irrational, unsuccessful, and misleading; that in laying down strict rules for the quarantine of smallpox, sanitary authorities are favoring unscientific and illogical methods and are conveying false ideas as to safety, this conference protests against further attempts to control smallpox by means of quarantine and requests the passage of compulsory vaccination laws similar to those of Germany, requiring (1) the compulsory vaccination of infants, (2) revaccination at puberty. The conference should further place itself on record as requesting that steps be taken to secure a safe and efficient vaccine, and that vaccination be carried out by official vaccinators acting under the authority of the various Boards of Health; also that steps be taken to secure a vaccine the quality and efficiency of which are beyond question. Legislators and the people should be advised as to their responsibilities in suppressing smallpox, and a time should be set for the total abandonment of quarantine as a means of attempting to control this disease.

**Nature and Cause of Hunger, Appetite, and Anorexia.**—Mark I. Knapp says hunger is the sensation produced by the contraction of the muscularis of the pylorus, of the entire stomach, of the duodenum, or of all these structures. It is the contraction of the muscularis, most especially the contraction of the pylorus, which, when felt in not too intense a degree, is interpreted as hunger. If the contraction is more intense it is felt as a painful hunger. If the contraction is of a slight degree then the sensation of the hunger is also of a slight degree, it is evanescent. This is the reason the hunger passes away after a certain lapse of time, even if no food has been taken; it means simply that the contraction has given way to relaxation. A "hearty" appetite should not be encouraged. Such an appetite must be considered as pathological and must be suppressed by the physician, as it is caused by a stronger contraction, hence greater irritation of the mucosa, which should not be. Absence of contraction, the inability to contract, relaxation, distention—these being the opposite, the reverse of contraction—result in the opposite of appetite, anorexia.

**To What Extent Is Climate a Negligible Factor in the Treatment of Pulmonary Tuberculosis?**—W. L. Dunn states that since the dietetic-hygienic regimen may be much more thoroughly and efficiently conducted under certain climatic conditions, climate is a negligible factor only: (1) When the financial status of the patient is such that he cannot live in the health resort under conditions just as good as those obtainable at home, with or without the expenditure of the same amount of money; (2) when the patient has not the moral strength to make a business of getting well; (3) when the disease has become hopelessly advanced.

**The Medical Treatment of Excess of Uric Acid in the Urine.**—Byron Robinson says the rational treatment of excessive uric acid in the urine consists in the administration of ample fluids at regular intervals and of foods containing elements to produce basic combinations with the uric acid forming urates which are freely soluble. He advises the administration of a flavored 12-grain sodium chloride tablet. The patient places on the tongue a half tablet and drinks a glassful of water (better hot) before each meal, and in the middle of the forenoon (10 A. M.), middle of the afternoon (3 P. M.), and at bedtime (9 P. M.). The patient thus drinks three pints of (¼ to ½) decinormal salt solution daily. This practically renders the urine normal, and acts as ample prophylaxis against the formation of uric acid calculus. If parenchymatous nephritis exists the sodium chloride should not be administered, as it excessively stimulates the renal parenchymatous cells. In such cases the water only should be given. An alkaline tablet is also given. It is composed of: cascara sagrada, 1.6 mg. (1-40 gr.); aloes, .022 gm. (1-3 gr.); sodium bicarbonate, .065 gm. (1 gr.); potassium bicarbonate, .022 gm. (1-3 gr.); magnesium sulphate, .13 gm. (2 gr.). One-sixth to one tablet (or more as required to move the bowels once daily) is placed on the tongue before meals and followed by 236 c.c. (8 oz.) of water (better hot). At 10 A. M., 3 P. M., and bedtime one-sixth of one tablet is placed on the tongue and followed by a glassful of fluid. In the combined treatment the sodium chloride tablet and alkaline tablet are both placed on the tongue together. This method furnishes alkaline bases (sodium and potassium) to combine with the free uric acid, in the urine, producing perfectly soluble alkaline urates and materially diminishing the free uric acid. The alkaline and sodium chloride tablets take the place of all so-called mineral waters.

*Journal of the American Medical Association, August 26, 1905.*

**The Elimination of Mosquitos.**—A. H. Doty describes the habits of the mosquitos, so far as they are known, with special reference to the extermination of the insect. The first important fact is that mosquitos propagate only in water, and the commonest form, the culex, has a special preference for contaminated or foul waters. There is a salt-water mosquito which abounds on the Atlantic coast and breeds in the salt marshes, hibernating in the mud when they are not overflowed. The common impression that the mosquito is a short-lived insect is not altogether correct, and Doty thinks that a large proportion of the earlier mosquitos of the season are insects that have hibernated during the winter. They can live for many weeks during the warm weather, and have been kept for weeks in captivity. The anopheles or malaria-bearing mosquito differs from culex in not preferring contaminated waters, but breeds rather in surface water with green scum. It may be found together with the culex in offensive water, but this is rare. As a rule, mosquitos do not go far from home, though they may be carried by the winds or public conveyances. In localities where they abound their breeding place is generally at no great distance. These breeding places are sometimes in the most unexpected locations, and he gives an instance of malaria traced to an old cakepan, nearly buried in long grass, which abounded in anopheles. The prevention of the propagation of mosquitos consists in abolishing or removing the water receptacles in which they breed, by drainage, filling, covering, and screening cisterns, and the use of petroleum oil as a temporary measure, when these other measures cannot at once be carried out. The oil is cheap, practically harmless, and destroys the larvæ. Chemicals, besides being possibly dangerous, are comparatively ineffective. All mosquitos are most active after sundown. In the daytime they live in the high grass and underbrush, and in mosquito-infected districts this should be removed.

**Summer Diarrhea.**—M. Ostheimer discusses the methods of prevention of infantile summer diarrhea. The most important thing, he states, is to educate parents to keep children properly bathed, to keep them cool, to remove soiled napkins, to see that the children obtain sufficient sleep, to protect them from infection by flies, and to regulate their diet. Frequency of feeding, cleansing of bottles, etc., must all be taught. With the appearance of any gastrointestinal disturbance, the milk should be stopped and barley water or whey given. This education of the parents is best accomplished by the judicous distribution of pamphlets, instructing mothers in the care of infants during the heated term. In the fifteen largest cities of the country such distribution is provided for only in nine, and details are given as to the extent of this useful practice. It would be advisable, Ostheimer thinks, to have special "milk" courses given in the public schools, the high schools, especially, and in the medical schools and hospitals. The fact that clean milk can be procured will then be recognized. It would be well also if large cities would run a dairy under the supervision of the health department. If this is impracticable, such a dairy could be established by private subscription. Ostheimer gives a sample of instructions to be issued by health departments, based on the pamphlets already mentioned, to be given out by district physicians and medical inspectors, and also to be distributed from dispensaries, milk depots, etc. Some should also be given to physicians in general practice for the benefit of patients, the well-to-do as well as the poor.

**Summer Diarrhea.**—J. C. Cook reports the results of bacteriological and blood examinations in fifteen infants suffering apparently from summer diarrhea during the months of July and August, 1904. In eleven non-fatal cases, averaging nine and one-third months, in which the children had been carelessly fed by poorly nourished and ignorant mothers, the most striking bacteriological findings were the frequency of the pneumococcus, this microorganism being found in seven cases each of examinations of the stools and the throat. The colon bacillus was found in the stools in seven and in the throat in six cases. The bowel movements were not excessively frequent, averaging four daily in these milder cases. In one of the fatal cases, well-marked bronchopneumonia existed and the pneumococcus was present in every organ examined, as well as in the blood and stools. The same complication was present in another of the four fatal cases, and the pneumococcus was found in the stools as well as in the lungs. In another fatal case there was found a red pigmenting bacillus of the colon group staining the stools blood red and causing the attending nurse to report hemorrhage, though microscopic examination revealed no evidence of it. Cook remarks that in some cases of infantile diarrhea a septic condition is probably set up by the entrance into the system, through the bowel lesions, of well-known pathogenic germs like the pneumomococcus, and that this specific intoxication may be masked by the symptom of the milder infection.

**Iodine as a Germicide.**—The results of an elaborate study of the antimicrobic action of iodine are published by Guy C. Kinnaman. The tests were made with solutions of different strength, tested as to their asepticity, and applied to growths on solid media, so as to approach as nearly as possible to the actual relations of bacteria to the body in disease. Thus, by the thickness of the growth, the penetration and germicide action of the liquid could be ascertained. The microorganisms tested were: (1) Bacillus prodigiosus; (2) Bacillus anthracis and spores; (3) Bacillus tuberculosis; (4) Staphylococcus pyogenes aureus; (5) Streptococcus pyogenes; (6) Blastomyces dermatidis; and (7) Actinomyces bovis. The method of making the tests and controls is described, with details of the experiments with each species, and the results are discussed. The conclusions reached are summarized in substance as follows: in a solution of iodine, varying from 0.2 to 1 per cent., we have a very potent germicidal agent, far superior to bichloride of mercury, the acknowledged leader of all other antiseptics. It approaches nearly to the ideal antiseptic in that: (*a*) It is easily prepared and is stable; (*b*) it is nontoxic and nonirritating in strength effective, being only one-fourth as toxic as bichloride of mercury; (*c*) it does not coagulate albumin or form inert compounds with tissues; (*d*) it is effective in a very brief time; (*e*) the stain it produces soon disappears; (*f*) last and most important, it possesses a remarkable penetrating power. In conclusion, he remarks that an 0.5 per cent. solution is amply strong enough for all practical purposes.

**Dynamic (Spastic) Astigmatism.**—This is defined by F. B. Eaton as a condition of the eye due to dynamic changes in its media which prevent homocentric rays from being brought to a focus on the retina. While its occurrence is questioned by some authorities, there is a predominance of opinion in its favor, and Eaton, besides quoting from others, gives the results of subjective and objective investigations of his own and of others' eyes, which, he says, apparently prove that dynamic astigmatism is caused by the accommodative apparatus on the one hand and by the extraocular muscles on the other. He thinks the condition exists very frequently, and nearly always in tired, irritable eyes affected with organic (corneal or lenticular) astigmatism. It is often overlooked because it is thought that the ciliary muscle and the convergence excess have been completely paralyzed by some weak or strong cycloplegic. While it usually disappears at the presbyopic age, there are exceptions. Eaton has seen it once in a woman aged seventy-three. While its mechanism is not easy to explain, Eaton is inclined to believe, as a result of his studies, that both the accommodative apparatus and the extraocular muscles may have a part in its production. He insists on its practical clinical importance, and pleads for caution in estimating the total refractive error in many cases "until time, cycloplegic's rest, aided, if necessary, by the hypodermic use of hyoscin hydrobromate and bromids or other sedatives, with patient 'fogging' at times, has eliminated all dynamic contractions." The condition, he says, is frequent, and failure to recognize it often accounts for the discrepancies in the refractive findings of competent ophthalmologists.

*The Lancet, August* 19, 1905.

**Subdiaphragmatic Transperitoneal Massage of the Heart as a Means of Resuscitation.**—H. M. W. Gray reports the case of a female aged fifty-five years, who suffered for three months with increasing dyspnea from laryngeal obstruction, so severe as to necessitate her removal to the hospital. On admission she was deeply cyanosed and expiration was much interfered with. No intralaryngeal examination was made. Soon after admission he was informed that the patient was dying, and he found her making a feeble, choky inspiratory effort. High tracheotomy was at once performed and artificial respiration proceeded with. There was no pulse at the wrist nor any cardiac impulse. No cardiac sounds could be heard. All reflexes had disappeared, the pupils were widely dilated, the muscles flaccid, and the eyes assumed the "glassy" look. Various methods of resuscitation were attempted but were unavailing. Four or five minutes after the tracheotomy was done the abdomen was opened and the outlines of the heart were easily palpated with the two fingers; it was absolutely flaccid. Massage by intermittent pressure was carried on at the rate of 70 to 90 per minute, and at the end of 15 to 30 seconds he felt the heart muscle becoming firm. After remaining thus for a few minutes a slight tremor was felt. Then very slowly the heart began to beat, at first very feebly. He massaged the heart for a few seconds more and then it beat gradually more strongly and quickly until at last it beat at the rate of 90 and more vigorously than on admission. Very soon after the heart began to beat the patient took a rather deep

spontaneous breath and gradually respiration became normal. Two hours after the tracheotomy the patient, much to his surprise, died, having never regained consciousness. The cause of the laryngeal obstruction was a fairly large cancerous growth. Probably ten minutes elapsed between the times the heart stopped beating and when it began again.

**The Presence of Pigment Containing Iron in the Thyroid Gland.**—G. Lovell Gulland and Alexander Goodall make a preliminary report on this and summarize their findings as follows: (1) In cases of diseases of the blood and in animals injected with phenylhydrazin we found pigment in the thyroid gland. The greater part of the pigment gives the iron free reaction. (2) The pigment is most commonly found in connective tissue cells between the vesicles. It is also present in small scattered areas in the epithelium lining the vesicles and may be found in cells lying free among the colloid material. (3) It is most abundant in the more cellular parts of the thyroid where the colloid vesicles are small.

**A Case of Mixed-Celled Leukemia, with a Short Account of Recent Views on Atypical Leukemias.**—Carl Hamilton Browning says that: (1) Myeloid leukemia is due to a hyperplasia of myeloid tissue; but the unknown causative agent is irregular in its action, so that any of the various granular types may predominate or a mixed-cell blood picture may result from the reversion of many of the cells to the condition of the non-granular undifferentiated leucoblast or from the hyperplasia of such non-granular cells normally present in the marrow in small numbers. These undifferentiated leucoblasts may assume their embryonic activity and secrete granules. (2) In leukemias a mixed-cell blood picture may be due to: (*a*) a reversion of myeloid cells to the embryonic non-granular type; and (*b*) a reaction or mechanical disturbance of myeloid tissue owing to lymphoid hyperplasia with as a result the passage of myelocytes into the circulation. (3) It is to be understood that it is left quite an open question as to whether or not myeloid and lymphoid tissue may be concomitantly affected in a way similar to what occurs in myeloid and lymphoid leukemias respectively. If such occurred then we should have a mixed leukemia in the strict sense.

**The Staining Reactions of the Spirochætæ Found in Syphilitic Lesions.**—Leonard S. Dudgeon brings forward the results he has recently obtained by employing a slight modification in the strength and method of using Leishman's stain. A number of cover slip preparations were made from the exudate from a condyloma and these were stained as follows: (1) A few drops of a 1 per cent. solution of Leishman's powder (Grübler) in absolute methylic alcohol (Kahlbaum's) were poured on to the surface of the film preparation, just sufficient to cover completely the whole of the cover-slip. This was allowed to fix the specimen and to stain it for 30 minutes. (2) Double the volume of distilled water as to stain was now run on to the surface of the cover-slip and the stain and water were carefully mixed. The staining was further continued for five minutes. (3) The diluted stain was poured off and distilled water was run on the cover-slip and allowed to remain on for one minute. (4) Surplus stain and any precipitate were now removed by squirting some distilled water on to the film from a pipette. (5) The film was then dried with cigarette paper and mounted in Canada balsam. Excellent preparations of the organism were obtained by this process and he was able to observe a large number of spirochætæ in most of the film preparations. Its morphological characteristics corresponded to the type described by Schadinn and Hoffmann as the *Spirochæta pallida*. It was found to be extremely delicate, but perhaps the most noticeable point concerning this organism was the typical corkscrew arrangement; in some cases from ten to fifteen turns were seen. Each spiral was sharply defined.

*British Medical Journal, August 19, 1905.*

**On the Care of Soldiers' Feet.**—G. S. Crawford says that one of the principal points to be attended to in examining new recruits is to see that their feet are well formed. He gives some suggestions as to the best way of keeping the feet in good order. Boots should be fitted indoors over thick socks, lacing them and testing their comfort in walking. They should be large enough to allow for expansion in hot weather and should never have pointed toes. The heels should be broad and low, soles thick but pliant, the vamp roomy over the toes, as pressure on the toes must be prevented. They should fit comfortably over the instep. Socks should fit comfortably after three washings, and should be of wool, with no irritating dyes. They must be smoothly darned, and washed clean. Canvas shoes rest the feet after a long march. The feet should be frequently washed, and if tender, soaked at night in alum or soft water, and rubbed in the morning with zinc or boracic acid ointment. The author suggests treatment for the common ailments. The common causes of swelling and inflammation are seams, wrinkles or projections in the socks, grit in the boots, lack of cleanliness. Sweaty feet may be relieved by cleanliness, boracic acid or zinc powder in the socks, and rubbing with belladonna ointment. Blisters are caused by pressure. If not yet raised, protection of the surface by a piece of plaster soaked in hot water, with a hole cut out the size of the blister will prevent the blister from filling. Over this is put a larger square piece with corners cut off. If the blister is raised, draw off the fluid with a clean surgical needle, entered one-eighth of an inch from the edge of the blister, in the sound skin, and passed horizontally. Flatten the blister and apply a pad and bandage. Hard corns should be carefully pared and pressure prevented. Soft corns should be treated by wearing cotton between the toes to soak up perspiration, when they become hard and may be pared. Lead and opium wash is the best application for inflamed corns. Chilblains arise from sitting by the fire with cold wet socks and boots on. A tendency to chilblains is rendered by keeping the feet dry. rubbing with a stimulating liniment and wearing thin socks. The toe nails should be cut square. Slight cases of ingrowing nail are cured by removing pressure, and pressing a wick of cotton under the corners of the nails.

**Temperatures During the Puerperium.**—John W. Duncan found a subnormal temperature daily in the axilla in sixty consecutive cases during the puerperium. Eight cases showed a temperature of 100° or over. These cases were under strict antiseptic precautions. The highest temperature, of 103°, was due to tense breasts, complicated with tinea of the breasts. The daily average mouth temperature was 99.3° on the third day, on the fourth 99.5°. Temperature above normal is due to faulty cleanliness, external skin infection, infection before labor, as in vaginitis, and small tears early in labor. Instrumental delivery does not cause rise of temperature as a rule. The author believes that infections come more often from the skin, cervical or vaginal mucous membranes or pudindol surfaces of the patient than from the doctor and nurse.

**A Case of Quinine Amblyopia.**—G. Victor Metler details a case of amblyopia due to the taking of quinine in 5-grain doses three times a day for several weeks. The vision was 5-15, and he was unable to read or write. The retinal vessels were very small, the optic discs pale, and outline hazy. He used a great deal of tobacco. This and the quinine were stopped, and nitroglycerine given. Recovery was complete.

**Measles.**—Hugh M. Raven observed an epidemic of measles among schoolboys, one of whom was said to have had the disease as a child. This one developed, at the same time that the others had the rash, an ulcerative tonsillitis, complicated with nephritis, probably due to the poison of measles acting on the kidney. The glands at the angle of the jaw were much enlarged; the urine contained much blood, epithelial and granular casts. Conjunctivitis and postnasal catarrh and bronchitis were present, but no eruption. The amount of urine was 30 to 60 ounces per day; specific gravity, 1.010. The urine was not normal until the eighth week.

*Berliner klinische Wochenschrift, August 7, 1905.*

**Governmental Supervision in the Control of Trachoma.**—Greeff calls attention to the prevalence of trachoma in some districts of Germany as opposed to its relative rarity in other sections. Improvement in the supply of water with resulting increase of cleanliness, but, above all, the efforts of competent physicians in control of the dispensaries, working with the support of the government, thus enabling them to receive and treat poor patients—these are the factors to which Greeff ascribes the disappearance of trachoma from districts in which it was formerly one of the most widespread of contagious diseases. Prophylaxis is especially important, since cases rarely remain under treatment long enough to effect a complete cure, and therefore remain for years a dangerous source of infection.

*Münchener medizinische Wochenschrift, August 8, 1905.*

**A New Hemometer.**—Grützner has elaborated an instrument for the determination of hemoglobin for which he claims both simplicity and accuracy. The apparatus consists of a wedge-shaped glass receptacle with glass-lined metal sides varying from 3 mm. in depth at the rounded apex to 15 mm. at the base. Into this wedge a small amount of blood diluted with water is poured from a glass mixing chamber. This dilution is effected by means of two pipettes, one for water, the other for blood, so graduated that an exact dilution of 1:100 is obtained. As a standard the author has selected a layer of normal blood of this dilution 5 mm. thick. This standard corresponds to 100 per cent. Hb. A strip of clay stained with pierocarmin to correspond to this color is attached to the wedge to serve as a standard for comparison. A sliding metal sheet perforated with three horizontal openings each 1 mm. wide is fitted over the front of the wedge and of the colored stand-

ard. This sheet is now raised or lowered until the middle band coincides in color with the standard. The upper band will then be darker, the lower band lighter than the standard. From the thickness of the layer of blood at this point the amount of Hb. can be determined from tables supplied with the instrument. To avoid errors caused by oblique illumination the readings should be made through the black paper tube that accompanies the apparatus, and can be accurately adjusted to the wedge.

**The Relation of Leucocytes to Erythrocytes in the Treatment of Leukemia with Röntgen Rays.**—Arneth has carefully followed the blood changes in cases of leukemia under treatment with *x*-rays, and comes to the following conclusions: The number of leucocytes constantly diminishes until in some cases, at least, the norm is reached. Simultaneously there is an increase in the number of erythrocytes, but this increase is relatively slower. The hemoglobin also increases, but not in proportion to the increase in the number of red blood cells. The color index never reaches the normal point. The erythrocytes reach their maximum some time after the leucocytes have become normal in number, and may even continue to increase when a recurrence, with increase of leucocytes, has already begun. In such cases there is a subsequent decrease in the number of erythrocytes, and a still more rapid fall in the amount of hemoglobin. With the increase of red blood cells normoblasts disappear from the circulation, only to reappear as the blood again assumes its leukemic character. Their reappearance occurs even before the blood has reached the point at which they were no longer found in the circulation. Other changes in the blood will be discussed in a later paper.

**The Perviousness of the Gastrointestinal Tract of Newborn Animals to Bacteria and to Albumins.**—Uffenheimer concludes from his experiments in feeding newborn guinea-pigs with cultures of micrococcus tetragenes, anthrax, bacillus prodigiosus, and tubercle bacilli, that the intestinal mucosa does not permit the passage of bacteria through it into the blood and tissues. An exception is offered in the case of the tubercle bacillus. With this organism positive results were obtained in every experiment both with young and with old animals, the latter, however, requiring a larger dose of the culture. The passage of the bacilli is effected through an intact mucosa. Tuberculous lesions of the intestine the author ascribes to retrograde infection from the mesenteric lymph nodes. Infection proceeded either from the mouth or from the gastrointestinal tract, most often from the appendix vermiformis. Inoculation of a second series of animals with gland substance and blood obtained from animals fed with tubercle bacilli a short time after the feeding was followed by the formation of non-tuberculous nodules in the lungs of the inoculated animals. Neither specific hemolytic serum nor casein from cows' milk is absorbed in newborn guinea-pigs. Slight amounts of egg albumen were occasionally absorbed into the blood, but no antibodies were formed. With diphtheria and tetanus antitoxin small amounts were constantly found in the blood of young animals, but none was absorbed by older animals. Control experiments with newborn rabbits fed with bacillus prodigiosus and with egg albumen gave uniform positive results. Histologically the gastrointestinal mucosa of the newborn guinea-pig differs in no way from that of the adult animal.

**The Influence of Red Rays on Scarlet Fever.**—Cnopf finds that the exposure of scarlet fever patients to red light and the exclusion of all other rays results in a prompt diminution in the intensity of the cutaneous eruption, and in an early fall of temperature, usually by crisis, on the fourth to sixth day. A lytic defervescence is occasionally seen. Recrudescences in temperature usually denote some complication. The paling of the skin is not indicative of a subsidence of the dermatitis, the skin again becoming red on exposure to ordinary light.

*Deutsche medizinische Wochenschrift, August* 10, 1905.

**A New and Active Constituent of Ergot.**—Vahlen has isolated from Secale cornutum a non-toxic principle to which he assigns the name clavin. This substance exerts a specific action in stimulating the contractions of the uterus. It causes neither gangrene like sphacelinic acid nor tonic convulsions like cornutin, the other active principles of ergot heretofore known. Clavin is soluble in water and can be obtained from its aqueous solution by evaporation in the form of a microcrystalline powder. From a warm concentrated alcoholic solution it is thrown down in the form of prismatic crystals 7 to 8 mm. long, that can be sublimated by careful heating. Clavin is insoluble in cold alcohol, ether, and acetic ether. Its empirical formula is $C_{11}\ H_{22}\ N_2\ O_4$. It does not form salts. Intravenous injection of several decigrammes in dogs and cats was followed by no toxic symptoms, while a far smaller dose exerted a marked action upon the uterus, especially in gravid animals. The writer cites two cases of protracted labor in the human female in which the subcutaneous injection of 0.01-0.02 gm. of clavin in a 2 per cent. aqueous solution was promptly followed by increase in the number and duration of labor pains, and by rapid delivery. No local irritation follows this method of administration.

**The Treatment of Mammary Tumors in the Female.**—Braatz emphasizes the necessity for early removal of all tumors of the mamma, on the ground that malignant degeneration in a benign tumor is by no means uncommon. Encapsulated benign tumors may be removed under local anesthesia of the skin alone by the Schleich infiltration method. Enucleation is effected by cutting with scissors towards the capsule of the tumor. No pain is experienced unless the surrounding breast tissue itself is incised. Malignant tumors should always be removed under general anesthesia, as the large amount of fluid used in the Schleich method not alone obscures the limits of the tumor, but may also force tumor cells into the lymph spaces through the increase of pressure in the tissues. To secure the best possible exposure of the axilla Braatz recommends an incision extending from the middle of the sternum to the posterior axillary fold about 5 cm. below the apex of the axilla. This is joined by a vertical incision beginning at the junction of the outer and middle thirds of the clavicle. The external triangular flap thus formed is dissected back to expose the attachments of the pectorales major and minor to the humerus and coracoid processes respectively. These attachments are cut through, exposing fully the axillary vein. The axillary lymph nodes are now dissected out. A third incision is made curving below the breast, and uniting the ends of the first incision. Breast, pectoral muscles, and axillary contents are now removed together. The skin flaps are best approximated by passing a double ligature through the lower edge of the wound opposite the end of the vertical incision, either ligature being then continued through one of the apices of the upper flaps. The ligatures are united laterally as well as from above downward. The remainder of the wound is closed with interrupted sutures. Its most dependent part is drained with a split tube drain passing through a buttonhole in the skin. Motion of the arms is unimpaired since this operation leaves no scar in the axilla to interfere with extension through contraction.

**The Pathogenic Significance of Bacillus Funduliformis.**—Kisskalt isolated this organism from pus obtained from a pelvic abscess incised through the abdominal wall. Incision and irrigation with hydrogen peroxide were followed by prompt recovery. The organism is a non-motile, polymorphous streptobacillus. It is stained with difficulty with the ordinary dyes, not at all with Gram's stain. The best results are obtained with dilute borax-methylene blue and with dilute carbolfuchsin. The bacillus is an obligatory aërobe. It grows upon all the ordinary media, but poorly in the absence of albumin. Gas is formed in the presence of glucose, lactose, and saccharose. Milk is not coagulated, nor is gelatine fluidified. Indol is formed abundantly in older cultures. No spores are present, but in the first generation many bacilli showed a distinct thickening at the center. The bacillus is non-pathogenic for mice, guinea-pigs, and pigeons. Subcutaneous injections of a pure culture into rabbits gave inconstant results. Where these were positive, a localized emphysema of the tissues developed after twenty-four hours, gradually increasing in extent. Later an abscess formed from which the bacilli could be recovered in pure culture. The infected animals recovered spontaneously. Agglutination experiments were negative. The author believes the determination of the presence of anerobic bacilli in infections of importance, since disinfection with hydrogen dioxid will probably in such cases aid materially in the destruction of the invading organism.

*French and Italian Journals.*

**Prophylaxis of Epidemic Cerebrospinal Meningitis.**—M. Vergote gives us the results of the consultation of the Council appointed to decide what measures were necessary to prevent the entrance of epidemic cerebrospinal meningitis into Belgium. From the point of view of its contagiousness, cerebrospinal meningitis is not to be compared with such diseases as smallpox. Local conditions, at present unknown, and a peculiar individual susceptibility have much to do with the passage of the disease from one person to another. Propagation from one person to another in a family is so rare that direct transmission seems doubtful. Where it appears we find conditions of overcrowding, yet rarely is there more than one patient in the same family. Schools and barracks have been spared. The present appearance has been rather sporadic than epidemic, the cases being isolated. Its transmission is limited to the immediate neighborhood and to direct contact. The fact that it has occurred so sparingly is due to the lack of individual receptivity in the persons exposed. Hence, the ordinary measures used in the common contagious diseases are sufficient.

and no new and more severe measures are necessary to prevent its spread.—*Le Mouvement Hygiénique*, June, 1905.

**Treatment of Nurselings of Retarded Development.**—Eugene Terrion considers as retarded in development any child at birth weighing less than 2,500 grammes. The principal cause of such lack of development is premature birth. It may result also from improper feeding and alimentary disorders. Absorption is difficult, assimilation is poor, the entire digestive tube is badly developed. If milk is given in sufficient amount it is rejected. The amount given should be reduced, and the time of feeding brought nearer together. Mother's milk is the only desirable food; cow's milk is not digested. When mother's milk cannot be taken, pepsin may be given with it. A sort of mixed feeding is sometimes necessary, consisting of bouillon of vegetables, with a small amount of cream of rice, and this may be tolerated when milk is rejected. Before the tenth day the amount of milk is regulated by the weight of the child; after that time it should be equal to, or a little more than a fifth of his weight. The food should be given in small quantities and at short intervals. As the alimentary troubles lessen the amount of food is increased. These children must be kept very warm.—*La Presse Médicale*, July 22, 1905.

**The Genital Crisis in the Newborn.**—R. Romme calls attention to what he considers to be a genital crisis, arising soon after birth, in the newborn. The changes in the skin which belong to the formation of the vernix caseosa and fetal acne are the signs of an infantile puberty. The phenomena of puberty are all due to the establishment of the internal secretions of the ovaries and testicles. All these phenomena are imitated to a less degree in the first weeks of life. There is sometimes observed in little girls, about the sixth or seventh day, a true hemorrhage from the genital passages, corresponding to the menstrual discharge. It is variable in amount, but sufficient to form a drop on the labia. It lasts no longer than thirty-six to forty hours. It occurs in 35 per cent. of all cases. When this does not occur, if the vaginal secretions are examined, red blood corpuscles will be found. It is the result of modifications going on in the uterus. The uterus diminishes in size during the first week of life, and decreases up to two years of age. When this early hemorrhage occurs there is a marked congestion of the uterus, and subepithelial hemorrhages take place. Some believe that there is no congestion of the ovaries, while it is stated by others that the Graafian follicles are already formed. A similar phenomenon occurs in the testicles of the boy, a passing congestion. The prostate is congested, increased in volume, the glandular epithelium filling the canals of secretion. Hydrocele that is soon absorbed is quite frequent, due to changes in the testicles. On the sixth to eighth day after birth both sexes have a congestion of the mammary gland, with secretion of creamy fluid; this occurs in forty-one out of one hundred cases. It is produced by proliferation of the epithelial elements, and their transformation into a milky fluid. Involution goes on naturally until the gland returns to the natural size. The vernix caseosa and miliary seborrhea of the newborn also belong to this crisis, as well as fetal acne. There are two theories as to this crisis; Jacquet tells us that this is the close of the development of the genital organs, which begins at the fourth month, and ends at birth. Halban refers it to the internal secretion of the placenta acting on the fetus in the womb, and ceasing at birth. This is the process of involution following its action.—*La Presse Médicale*, July 19, 1905.

**Puerperal Pyemia the Result of the Staphylococcus Alone.**—J. Schwetz publishes a case of puerperal pyemia resulting from a pure culture of staphylococcus, because this is a form of pyemia that is quite rare. We now know that puerperal pyemia is produced by other microbes, namely, streptycoccus pyogenes, staphylococcus pyogenes albus and aureus, pneumococcus, gonococcus, bacterium coli, and the septic vibrio of Pasteur. Those produced by the other microbes are always associated with the streptococcus. This case was observed at the maternity at Lausanne, was followed by an autopsy and a complete bacteriological examination. It occurred after a four months' miscarriage, in a woman who had had three normal labors. Curettage was done to remove the secundines, and intrauterine injections given, as well as injections of antistreptococcic serum, but without effect. At the autopsy it was found that there were thrombi in the right spermatic and uteroovarian veins, and abscesses in the right ovary and parametrium. The bacteriological examination showed only staphylococcus aureus. Only eleven cases of this variety of infection in puerperal patients have been reported. The author believes that during life we cannot diagnose between a pyemia due to staphylococci and that due to streptococci by the clinical symptoms; only a bacterial examination can decide this. The streptococcus infections are in general more severe. Of the cases due to the staphylococcus that have been reported, only two have recovered. It is rather the virulence than the kind of germ that is important. The gonococcus infections are also serious. The treatment of a case of puerperal fever with antistreptococcic serum would be useless, if the infection were produced by the staphylococcus. Hence bacteriological examination becomes of value in directing the kind of serum to be used. Curettage is also useless when the infection has passed from the mucous membrane of the uterus into the veins and become general.—*Annales de Gynécologie et d'Obstetrique*, July, 1905.

**Etiology and Pathogenesis of Acute Pemphigus in Babies.**—Olympio Cozzoline tells us that, although acute pemphigus is frequent in young babies, it is by no means confined to them, occurring in children of all ages. Its rarity in infants after the early weeks is due to their lessened susceptibility to the disease, and their relative isolation from the sources of contagion. The source of contagion is often found in the birth of the children in maternity institutions, which are frequently affected by epidemics. When the child is taken home to live, he is less liable to come in contact with other cases. All the other members of a family may be affected from the infant who has the trouble. In adults with normal skins we never see a diffuse bullous eruption, but only a few spots, especially around the breasts and in the axillæ, where the child puts his hands in nursing. It is asserted that the disease is quite common in the tropics, diffused over the entire body. The author has made bacteriological examinations of the blood in a case contracted by the baby from his brother. They were completely negative. He made cultures of the blood, and found two colonies of staphylococcus aureus. He tested the agglutinating power of the blood of this baby, the serum diagnosis was positive in dilutions of 1-100. From his brother he got the agglutination positive at 1-40. His conclusions are as follows: (1 Pemphigus acutus is a general, febrile affection, of eruptive type, not a simple skin disease. It is contagious, and inoculable at all ages. (2) The location of bullæ on the soles of the feet is not peculiar to syphilis. The cause is probably the staphylococcus aureus.—*Rivista di Clinica Pediatrica*, July, 1905.

**Secretory Activity of the Thyroid in Some Morbid Conditions.**—N. Tiberti believes that a minute histological study of the organs of internal secretion will contribute to throw light on the complex question of their function. He has studied the secretions of the thyroid in animals after ligation of the ductus choledocus, suppression of the renal functions by bilateral nephrectomy, occlusion of the intestine, in experimental diabetes, and in the human subject in cases of cystic and parenchymatous goiter. There are two secretions of the thyroid glands, a colloid substance and a series of granules found in the cells, especially in the portion near the lumen of the vesicles. These begin to be produced as soon as the gland begins to functionate. The author believes that his experiments tend to confirm the theory of the antitoxic function of the thyroid. His conclusions are as follows: In grave cases of autointoxication the granular secretion is modified, both in the number and the size of the granules. The increase is greatest in uremic poisoning, and present in icterus and intestinal occlusion. In diabetes it is diminished, while the colloid substance is increased. In tetanus the secretion is increased. In cystic gotier the granules are diminished in proportion to the atrophy of the gland. In parenchymatous goiter it is increased, especially in the new-formed alveoli.—*Lo Sperimentale*, Vol. III-IV, Anno LIX.

**Serious Puerperal Anemia.**—I. Clivio details his observations of twenty-five cases of grave anemia in pregnancy seen at the hospital at Parma. They were taken from a region where anemia is frequent, but the degree was much more severe than in men, or in non-pregnant women. Several of the cases were so severe that they responded to no treatment, and a fatal issue resulted. The author's conclusions are as follows: (1) Pregnancy has a marked influence on anemia of a certain degree, and simple anemia is changed to the pernicious form. This is probably due to the feto-placental changes, and is much increased in the last three months. (2) There is a condition of lessened resistance to putrefactive changes, both of intestinal and placental origin, and intestinal complications are serious and fatal. (3) The increase in the volume of the spleen, which has been observed in all severe cases, is the expression of increased activity in the destruction of the incomplete red blood corpuscles that have been formed. (4) The treatment should be both obstetrical, by induction of premature labor, and medical. (5) Labor is easy and rapid in this condition. (6) In severe puerperal anemia the use of red bone-marrow is of the greatest value, especially after pregnancy has been interrupted.—*Annali di Ostetricia e Ginecologia*, June, 1905.

# Book Reviews.

A Manual of Midwifery, for Students and Practitioners. By Henry Jellett, B.A., M.D. (Dub. Univ.), F.R.C.P.I., L.M., Gynecologist and Obstetric Physician to Dr. Steevens' Hospital, Dublin; Extern Examiner in Midwifery, Royal University of Ireland; Examiner in Midwifery, Royal College of Physicians, Ireland; Ex-Assistant Master, Rotunda Hospital; Ex-University Examiner in Midwifery and Gynecology, Dublin University. With the assistance in special subjects of W. R. Dawson, M.D., F.R.C.P.I., Medical Superintendent, Farnham House, Dublin; Examiner in Forensic Medicine, Royal College of Physicians, Ireland; H. C. Drury, M.D., F.R.C.P.I., Physician to Sir Patrick Dun's Hospital, and to Cork Street Fever Hospital, Dublin; T. G. Moorhead, M.D., Physician to the Royal City of Dublin Hospital, Demonstrator in Anatomy, School of Physic, Trinity College, Dublin; R. J. Rowlette, M.D., Pathologist to the Rotunda Hospital, and to Dr. Steevens' Hospital, Dublin; Lecturer on Pathology, Queen's College, Galway. With Nine Plates and 467 Illustrations in the Text. New York: William Wood and Company, 1905.

In this volume the reader will find a complete account of the theory and practice of modern obstetrics. The first part of the book deals with obstetrical anatomy, both maternal and ovular. This is followed by chapters on obstetrical asepsis and antisepsis, the obstetrical armamentarium, and obstetrical diagnosis. The physiology of pregnancy, labor, and the puerperium are next considered. The succeeding parts discuss in considerable detail the various questions concerning the pathology of pregnancy, labor, and the puerperium. This is much the largest and most important part of the work, and the reader will find here an adequate presentation and solution of the many difficulties which beset this branch of the subject. There is a section on obstetrical operations; and the last part consists of two chapters on the infant.

While there is little new in this volume (and one neither looks for nor welcomes the merely new), old views are presented in a new light, and everything is discussed in a pleasant and lively style. Among the chapters which have particularly interested us may be mentioned those on the bacteriology of the genital tract, extrauterine pregnancy, and the hemorrhages, both antepartum and postpartum. The author's wide experience and grasp of the subject are apparent in every chapter; and throughout, the reader feels that he can not only rely on every statement made, but can also with safety and confidence consult the volume when in need of information.

The New Knowledge. A Popular Account of the New Physics and the New Chemistry in Their Relation to the New Theory of Matter. By Robert Kennedy Duncan, Professor of Chemistry in Washington and Jefferson College. New York: A. S. Barnes & Company, 1905.

This is a fascinatingly interesting book, holding the reader's attention from first page to last, and holding it in spite of the fact that to understand it attention must be directed most fixedly to the subject matter. The ordinary layman, who is not a specialist in any given science, seldom has the time to keep abreast of its advances by studying the technical treatises, nor can he always get satisfaction from the popular and sketchy magazine articles, yet, as one in the world who would not be absolutely ignorant of any of the wonderful things about him, he must have some source of authoritative information. Such a source of information he will find in Professor Duncan's book, so far as regards the nature and properties of matter as explained by the new chemistry and the new physics. The author begins with the atom, which as boys we were taught to believe was the smallest divisible particle of matter, but which we now learn is made up of hundreds or thousands of almost infinitely smaller corpuscles. It is the discovery of these corpuscles which has opened up a new and vast unknown country, of which we have as yet seen only the boundaries. Radioactivity, the nature of electricity, creation, life, the cause of the sun's heat, the destruction and the recreation of worlds, disease—the solution of these and a thousand other mysteries may or may not lie concealed in this new field which science is beginning to explore, but that a solution or explanation of some of them at least will be found here there can be no doubt. If one would be in position to understand these explanations when they are made, he must be conversant with the main facts and theories of this new knowledge, and it is the mission of this book to put him in possession of them. The book is not one to while away an idle hour or to be read in odd moments—it must be studied; but the wonders that a careful study of it will reveal will well repay one for the time spent and the attention given. So far as a difficult subject can be made lucid, the author has made it so—he has certainly presented it in a wonderfully interesting way.

Northnagel's Practice; Malaria, Influenza, and Dengue. By Dr. J. Mannaberg, of Vienna, and Dr. O. Leichtenstern, of Cologne. Edited, with Additions, by Ronald Ross, F.R.C.S., F.R.S., Professor of Tropical Medicine, University of Liverpool; J. W. W. Stephens, M.D., D.P.H., Walter Myers Lecturer in Tropical Medicine, University of Liverpool; and Albert S. Grünbaum, F.R.C.P., Professor of Experimental Medicine, University of Liverpool. Authorized Translation from the German, Under the Editorial Supervision of Alfred Stengel, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Philadelphia and London: W. B. Saunders & Company, 1905.

As the article on malaria in this volume was written by Prof. Mannaberg at a time when the mosquito had not yet been dreamed of in the philosophy of the student of this disease, the duties of Dr. Stephens in remolding it from its original form into one nearer to present conceptions have been rather more extensive than those usually devolving upon the editors of productions of this sort. He has, however, performed his function of ringing out the old and ringing in the new with highly commendable tact, and though the discussion of the disease has perforce become a somewhat particolored mosaic, to the casual observer, at least, it presents a fairly homogeneous appearance. A section of over one hundred pages from his pen has been interpolated bodily, and forms what is perhaps the most interesting portion of the monograph, as it is devoted to the Hamlet of the play, the mosquito itself, and contains a wealth of information on the natural history of the Culicidæ, their relation to malaria, and the methods employed in studying the problems involved. The name of Major Ross, one of the pioneers in this work, appears on the title page of the book, but we have not been able to find any additions to the text accredited to his hand. The chapters on influenza and dengue by Prof. Leichtenstern have been revised by Dr. Grünbaum, who states that there has been but little addition to our knowledge of the former disease since the volume was first published, several years ago. He calls attention to the fact, however, that it should be remembered in reference to the remarks on the etiology of dengue, that it was written before the publication of Ross's researches on malaria and the discoveries which have arisen therefrom. An interesting table is included in this section, in which the differential diagnosis between influenza and dengue is made clear.

First Aid in Illness and Injury, Comprised in a Series of Chapters on The Human Machine, Its Structure, Its Implements of Repair, and the Accidents and Emergencies to Which It Is Liable. By James Evelyn Pilcher, M.D., L.H.D., Major and Brigade Surgeon of United States Volunteers; Captain in the Medical Department of the United States Army; Secretary and Editor of the Association of Military Surgeons of the United States. Ninth Edition. Revised, with 208 Illustrations. New York: Charles Scribner's Sons, 1905.

Although books dealing with the treatment of injuries are legion, this volume deserves a prominent place among them. Not only are injuries and their treatment discussed, but also "the construction of the human machine" and "the implements of repair." The first section includes the subjects: The skin, the fat, the bones, the joints, the muscles, the brain and nerves, the blood and its circulation, the larynx and the lungs, the stomach and bowels, the excretory apparatus, and the senses. One chapter is devoted to the emergencies of the battle-field. The last part of the book deals with such subjects as dwellings, disinfection, food, and infection.

Operative Surgery. By Joseph D. Bryant, M.D. Fourth Edition. New York: D. Appleton & Co., 1905.

This new edition of Bryant's classical work will be most gratefully received by the profession. Both volumes have been entirely revised, largely rewritten, and brought entirely up to date in every detail. The illustrations, of which there are about 1,800, many in color, are expressive and clear, and the subject matter is presented in the characteristic admirable style of the author. Both Dr. Bryant and his publishers are to be congratulated on this new edition, and we wish it the same success as was enjoyed by its predecessors.

Le Traitement de l'Hypertrophie Sénile de la Prostate. Par le Docteur A. Guépin, Chirurgien Chef du Service des Voies Urinaires à l'Hôpital Péan. Paris: Félix Alcan, 1905.

In this brochure Dr. Guépin reviews the three anatomicopathological phases and the three clinical stages of senile hypertrophy of the prostate, and indicates the hygiene, diet, and medication appropriate to each. The reader will find here formulæ, clinical reports, and enough of theory to justify the various methods of treatment advocated, and to serve as a basis for the selection of one or the other procedure as indicated in the individual case.

# Society Reports.

## AMERICAN LARYNGOLOGICAL ASSOCIATION.

*Twenty-Seventh Annual Meeting, Held in Atlantic City, June 1, 2 and 3, 1905.*

THE PRESIDENT, DR. CLARENCE C. RICE, IN THE CHAIR.

**President's Address.**—Dr. CLARENCE C. RICE, in his opening address, stated that it was the work of this association to study and understand the qualities of the mucous membrane, which were probably much more varied than was to-day suspected. It was their special province to determine what conditions of the nasal passages and of the throat were most favorable for the entrance of the many varieties of bacteria, not only for those germs which find their entrance through these channels, but for all diseases whose methods of attack were less thoroughly, or, perhaps, not at all, understood. It was his belief that many diseases might be stopped altogether if the method of entrance and the pathological peculiarities of the mucous membrane were better understood. Was there, for instance, a condition of the nasal passages by reason of which the germ of cerebrospinal meningitis found easy access into the organism? No association had greater responsibility in fighting the ravages of tuberculous infection than had the Laryngological Association. The well-being of the entire respiratory surface, which it was the duty of the members of this association to safeguard, meant in a large majority of cases comfortable protection against the attacks of innumerable varieties of infection. Dr. Rice suggested as a wise measure that there be a special committee empowered to arrange a schedule of work for the annual sessions which would cover all the burning questions of the day, and appoint commissions to investigate such vital subjects as the phases of tuberculous infection, malignant growths, the etiology of hay fever, etc., and that such committees should report at later meetings in order that the American Laryngological Association might place itself on record, and so keep fully abreast of progress in all scientific research.

**Partial Turbinectomy Followed by Acute Otitis, Mastoiditis, and Sigmoid Sinus Thrombosis, with Extension to Internal Jugular Vein.**—Drs. CHARLES H. KNIGHT, and JAMES F. MCKERNON of New York presented a paper with this title. The authors stated that one was apt to lose sight of the risks attending what are called "minor" operations until brought to realize them by rude shock, like that experienced in the case reported. It was quite possible that similar cases were not infrequent. In this connection reference was made to a paper presented to the association last year by Dr. F. R. Packard of Philadelphia, dealing with the fatal results of operations upon the nose and throat. Dr. Knight stated that all were quite ready to accept the conclusion in the paper referred to, that meningitis as a complication of intranasal operations should not be lightly regarded. In the case reported by the authors the precise source of infection was difficult to trace. The usual precautions as regards cleanliness and asepsis were observed. It did not seem that the patient suffered an excessive degree of surgical shock, and so far as could be discovered she was not subjected to any special exposure. It was suggested that certain pathogenic conditions of unusual virulence found their opportunity in an organism of low resisting power. The case was reported at length. An interesting point was that there were no chills, nausea, or vomiting throughout the entire course of the disease.

**Further Report on a Case of Lupus of the Pharynx and Nasopharynx.**—Dr. HERBERT S. BIRKETT of Montreal said that the first report of this case was made before the American Laryngological Association in 1904. The author saw this patient in May, 1904. At that time the lesions which had shown themselves in the nose, ear, and nasopharynx had entirely disappeared. In December of the same year the patient again presented himself at the Out-patient Department of the Royal Victoria Hospital. He came merely to report. Examination of the sites of the former lesions, viz., the ear and nasopharynx and the cartilaginous portion of the septum, showed the local conditions to have remained absolutely healed, and the only indications of their former presence were fine, linear cicatrices. Upon examination of the larynx the epiglottis was noticed to be swollen and infiltrated, and its surface studded with minute infiltrates, pinhead in size. At the extreme end of the epiglottis these infiltrations stood out clearly, but proceeded from this point to the body of the epiglottis after gradually becoming smaller, and merged into the smooth surface of the mucous membrane. The epiglottis was so swollen and enlarged that when lying in a quiescent state it came in contact with a point directly opposing the posterior wall of the pharynx. In this portion of the pharynx a small ulcer was noticed, in size about 7 mm. wide and 5 mm. broad, and in outline almost circular, the edges of which were infiltrated with small round nodular thickenings, corresponding closely in color with those on the edge of the epiglottis. The patient was entirely unaware of the newly existing conditions in the throat. There was no question from the appearance of the local trouble that the same pathological process which had existed in the upper portions of the respiratory tract were now making themselves known in another region. The application of the *x*-rays was at once begun. They were applied externally through the tissues of the neck corresponding to the parts infected within. The applications were made four times a week, their duration being increased from ten to twenty minutes. This treatment had resulted in cicatrizing all the right half of the epiglottis. This had persisted satisfactorily toward the remainder of the epiglottis, and the ulceration on the posterior wall of the pharynx had been so far diminished in size that it now measured 3 x 2 mm. In the previous report of this case a brief note was presented of a patient suffering from lupus of the nose which, before coming under observation, had destroyed the greater portion of the nose and had infected the epiglottis in a similar process. *X*-ray treatment was instituted in this case also. The patient had been seen quite recently, and there was a complete disappearance of the lesion with the result, however, that it had left the epiglottis destroyed to half of its extent. The author thought that with a fair amount of justice one might look upon the results obtained in these two cases as sufficient to warrant the trial of this treatment in place of so many other therapeutic measures, the results of which have been anything but satisfactory.

**The Treatment of Acute Inflammations of the Nasal Accessory Sinuses.**—This paper was presented by Dr. THOMAS HUBBARD of Toledo, who dealt with the subject in a most comprehensive manner. Attention was called to the fact that in individuals weak in resistance there might be a chronic purulent condition, and a virulent attack of purulent sinusitis in such cases might terminate in a catarrhal flux. Reference was made to the various conditions which might cause acute inflammation of the nasal accessory sinuses. With regard to the treatment of such inflammations, the author had found that bicarbonate of potassium in doses of 20 to 30 grains, administered in an ounce of camphor water in a half teacup of water every two hours was especially efficacious. In severe general sinusitis dry heat, even when applied continuously, gave but little relief, and moist heat should be advised according to the following manner: Cover the eyes with pads of dry cotton and then poultice the face thoroughly as hot as can be tolerated, making four changes an hour for about two hours. Then dry the surface and apply a mask of quilted cotton, holes having been cut for the eyes. This latter precaution is essential, whether dry or moist heat is used. The primary effect of this treatment might be to increase tension pains, but there was no doubt that it relieved venous and lymph stasis even in the deeper tissues, and soon there would follow evidences of resolution, and bone pains and neu-

ralgia were alleviated. This should be repeated with intervals of two or four hours' rest until general resolution had been established. It might even then be necessary to apply moist heat once daily for several days, since there was usually a period of daily tension pains due to filling of certain previously drained sinuses. In the interval between the hot applications it was advisable to apply a vasogen-camphor-chloroform preparation, rubbing this into the skin of the forehead and nose and superior maxillary region, the cotton mask being reapplied. The use of the nasopharyngeal douche was most strongly deprecated. The author also entered a protest against the indiscriminate use of chilling sprays, such as cold detergent solutions and methyl oil sprays, as the reaction was decided, and mucoperiosteal pain was increased following the shock of the cold blast. It was the author's opinion that all applications to the nares should be warm and applied without force. He described one method of using a douche which prevented the fluid from reaching the nasopharynx, and which in selected cases might be used satisfactorily in general sinusitis. The head should be held face downward so that the floor of the nares was vertical; the nostrils were immersed in a two-ounce glass full of carbolized, cocainized, tenth-normal saline solution of 105°, and then by closing one nostril with pressure on the ala and exerting gentle suction, a solid volume of the warm solution could be drawn up into the anterior third or half of the nasal chamber, and then allowed to flow back into the glass. Dr. Hubbard advised that since there seemed to be a decided tendency to recurrence of localized sinusitis with each attack of severe coryza, in the interval following the attack any obstruction to free drainage should be removed.

**An Intranasal Operation for Draining the Frontal Sinus.**—Dr. E. Fletcher Ingals of Chicago, called attention to a procedure which he believed of great value, presenting four cases illustrating its technique and showing its results. He did not offer this method as a certain cure for chronic suppurative sinusitis, but stated that it was safe, efficient, and caused no secretion. He recommended it in suitable cases after establishing free drainage, an essential factor in the curative treatment of every case. He had devised a special instrument, which he minutely described, detailing the operation step by step. With this instrument in the performance of this operation, he secured most gratifying results.

**A Case of Vaccination in the Nostril.**—Dr. Francis R. Packard of Philadelphia presented a picture illustrating this case. The patient had scratched the original vaccination point with the finger nails, and had then, before washing her hands, scratched or picked her nose, causing an accidental vaccination in the nostril.

**Symposium on Sinus Disease.**—In this the two following questions were considered: (*a*) What symptoms in diseases of the nasal sinuses demand radical surgical intervention? (*b*) What have been the comparative results of conservative and radical methods of treatment?

**The Maxillary Sinus.**—Dr. Robert C. Myles of New York gave it as his opinion that radical surgery should be employed in nearly all cases of exposed bone necrosis beneath the periosteum and at the roots of the teeth; in all cases of extensive polypoid changes in the mucosa; in all cases of osteomyelitis. Nearly all cases of neoplastic growths required extensive radical surgery. The earlier and more complete the surgical procedures, the more favorable the results would be. Dr. Myles said he had performed several hundred operations through the canine fossa and malar route, more or less thoroughly curetting the anterior cells, but had now practically abandoned this procedure. With regard to the comparative results of conservative and radical methods of treatment, radical treatment was supposed to remove the pathological condition as well as the cause, or root of the disease, and to leave no ground for a future disease condition. After experiments carried on for many years, it was found that the irrigation method through the normal opening produced a cure in a number of patients, but the treatment was too slow and uncertain to merit more than occasional favor. Such good results had been secured in this class of cases by a conservative operation that the writer in almost every instance used it as a curative procedure, or as a preliminary operation to the more extensive one. This conservative treatment consisted of an operation with curved chisels, which cut going in and coming out, the use of the rongeur forceps, with the occasional aid of the electric trephine. As much as possible of that part of the anterior nasal wall which was situated within the inferior meatus was removed, and in certain cases it was best to remove a part of the inferior turbinate. After irrigation, the cavity was thoroughly curetted and packed with iodoform gauze. The cavity was irrigated through this opening until the discharge practically ceased. The author stated that in a series of cases in which this procedure was followed better results were obtained than after the other methods.

**The Maxillary Sinus.**—Dr. George A. Leland of Boston reported a case of chronic empyema of the antrum of Highmore. The patient was a woman, thirty years of age, who had suffered for nine months previous to operation with pain, headache, vertigo, insomnia, foul discharge, etc. In this case the dentist had perforated the alveolar process above and anterior to the first molar, a perfectly sound tooth. This perforation gradually closed, so that the drainage tube could not be reinserted, and the dentist then passed in a roll of rubber dam. This was lost. After this, syringing was continued through the aperture until it became so narrow that it was impossible to introduce the probe-pointed syringe. The suffering at this time began to be more intense, but operation was delayed because of a soon-expected confinement. It was notable that transillumination showed this side as clear and bright as the other, evidencing that the antrum was full of polypi, the layers of pus being too thin, however, to cast a shadow. At the operation the canine fossa was entered, the anterior wall resected up to the infraorbital formation, and an enormous mass of polypi curetted out, together with the rubber dam. The anterior end of the lower turbinate was removed, and a large opening made into the nose. The cavity was packed with iodoform gauze, and the external wound sutured. Although the interior of the nose soon appeared in a satisfactory state, the vertigo continued, and the headache was very intense—in fact, so severe that the second turbinal had to be almost entirely removed because it pressed on the septum. The patient still suffered, and there was an annoying formation of crusts, which required constant care. There was no evidence of other sinus disease. A notable result of the operation was that the area of the cheek just external to the nose and the lip below it still was anesthetic. Another case was presented of far less severity, but in which radical treatment was called for. This patient was still annoyed by crust formation on the stumps of the turbinals, though the antrum was dry, and a probe introduced through this opening in the outer nasal wall showed it to be nearly filled with fibrous tissue covered by a mucous membrane, apparently healthy. Dr. Leland dealt comprehensively with the etiology and treatment of these affections, going into the subject quite exhaustively.

**The Frontal Sinus.**—Dr. Cornelius G. Coakley of New York mentioned the following symptoms in acute frontal sinusitis as demanding external opening of the sinus: (1) Edema and redness of the upper eyelid, accompanied by throbbing pain over the sinus with tendency to increase in severity after more than twenty-four hours from the resection of the anterior third of the middle turbinate, and the thorough contraction of the mucous membrane in the middle meatus by means of local applications of adrenalin and cocaine. (2) Marked prolapse of the orbital wall of the frontal sinus. (3) Displacement of the globe of the eye downward and outward, accompanied by diplopia. (4) The development of a fistula at the upper angle of the

orbit, as evidenced by redness, great swelling, and fluctuation in this region. (5) Intense supraorbital and frontal pain, which cannot be relieved by establishing drainage through the nasofrontal duct, with a tendency to an elevation in temperature, and symptoms of beginning inflammation. In answering the question regarding the comparative results of conservative and radical measures, Dr. Coakley stated that the above-enumerated symptoms were not very frequently encountered. In a series of fifty-eight cases of acute frontal sinusitis occurring in his private practice between January 1, 1903, and January 1, 1905, fifty-four made complete recoveries as a result of intranasal treatment, such as the excision by forceps and snare of as much of the middle turbinate as lay anterior to the opening of the nasofrontal duct in the middle meatus of the nose, in conjunction with the use of douches of hot normal solution, and the local contracting effects of adrenalin and cocaine applications. One fatal case was cited, which was seen forty hours after the onset of the attack. The patient died twenty-three hours later from an acute meningitis, with symptoms of great intracranial pressure. In this case the anterior third of the middle turbinate was excised, and, judging from the discharge, drainage was good. It was believed that the infection of the meninges occurred prior to the time when the patient came under observation. Another fatal case was also recorded, and two successful ones. In chronic frontal sinusitis the following symptoms were given by the author as demanding radical operation: (1) Chronic suppurative frontal sinusitis accompanied by a multiple polypi formation in the nose. In elderly people, or those with marked organic lesions of the heart, lungs, or kidneys, a radical operation might be inadvisable. (2) In severe acute exacerbations of the chronic condition whenever any of the symptoms enumerated under acute frontal sinusitis develop. (3) If intranasal treatment of a frontal sinus does not suffice to prevent the discharge from passing into the antrum, and the odor and taste of the fetid discharge from the latter annoy the patient, then, in order to cure the antrum, the frontal sinus must be operated upon radically. (4) Very large frontal sinuses with multiple septa, and particularly those with recesses extending backward over the roof of the orbit, can be but imperfectly irrigated. Skiagraphy will give the exact height and breadth of the frontal sinus, indicate the number and position of the septa, and, in many cases, give evidence of an orbital recess. The radical operations should be advised for such patients. (5) Patients with narrow nasal cavities offer greater difficulty in carrying out intranasal treatment than those with more patent nares. (6) In certain cases where the patients desire to be cured as quickly as possible a radical operation is advised, for, although it may take as long to effect a cure, when the cure is once obtained it is permanent. (7) The neurasthenic patient who is prostrated each time intranasal treatment is attempted and rarely submits to enough being done at any one time to make much progress, is more satisfactorily treated by the radical method. There is seldom any pain after the second dressing by the latter method. (8) If a fistula has formed leading into a frontal sinus, a radical operation is the only treatment likely to effect a cure. Dr. Coakley briefly mentioned the conservative treatment, the radical treatment, the Kuhnt, the open, and the Kilian operation.

**The Frontal Sinus.**—Dr. William E. Casselberry of Chicago, in dealing with this subject, spoke of the radical and conservative methods, mentioning the statistics collected from the literature on the question of brain complications from frontal sinusitis. The demand for radical surgical interference was imperative, the author believed, if there were actually present symptoms of commencing intracranial infection, such as severe, persistent headache, chills, fever, centric paralysis, etc., but the mere indefinite chance complications of this kind did not necessitate an external operation without additional valid reasons, in so much as one risk might be said to balance the other. Hence, it was stated that the intranasal or conservative methods were especially suitable for latent and mild chronic uncomplicated single sinus suppurations. The question of sinus suppuration being contagious was alluded to. It was the writer's belief that certainly the recurring attacks of tonsillitis and erysipelas, to which sinus patients were prone, were communicable to others. Other reasons mentioned for the external operation were persistent failure of the general health or impaired vitality from septic absorption, serious mental depression, destruction of the sinus, abscess of, or encroachment upon, the orbit, external fistula, impermeability of the nasofrontal duct, syphilitic necrosis, inveterate multiple sinusitis, and economic conditions or occupations which precluded the more tedious methods. Dr. Casselberry advised, however, that the conservative methods should be tried even in such instances. To illustrate these questions, he very briefly reported sixteen cases. Summarizing the results of the conservative treatment in these cases, he said that six were of mild type, and these were now well; of the remaining ten typical severe cases, only one could be called cured; two were much improved, suffering but little inconvenience; three more were somewhat improved, but were still dissatisfied, and the remaining four were unbenefited.

**The Ethmoidal Sinus.**—Dr. John O. Roe of Rochester, N. Y., after discussing the various sinuses, their construction and diseases, mentioned the presence of pus or pain as indicating the necessity for radical surgical interference. He said that acute inflammatory conditions rarely demanded surgical intervention, except where they were engrafted upon chronic condition, as in the case of a fresh infection superimposed on a chronic catarrhal process or a chronic empyema. In other cases where an acute condition became chronic and purulent, resisting all local treatment of a detergent or antiseptic nature, radical measures were demanded. Dr. Roe reported a case in which there was found a condition of chronic inflammation and infiltration in the posterior ethmoid region, which could only be approached in the most cautious manner, but in which finally the infiltrated structures were safely removed. He laid great stress upon a frequent source of infection of cells in sinus disease, viz., the forceful blowing of the nose during a coryza, or while infected with an influenza. He considered the use of the sharp curette dangerous, except in cases of polypoid growths within the cells. He stated that in all ordinary cases of ethmoid disease the cells could be freely and safely opened by means of Grünwald's punch forceps, with the assistance of the probe, to determine the parts requiring removal, and that it was in those cases only which are complicated by disease of the frontal sinus that the external operation was required. Dr. Roe advocated radical measures in the treatment of diseases of the ethmoid cells attended by the symptoms of pus or pain, as in such operations the abscess cavity was properly opened, thoroughly drained and medicated, the danger of infecting other sinuses or parts was avoided, and recovery was comparatively certain, speedy and permanent.

**The Ethmoidal Sinus.**—Dr. John W. Farlow of Boston summarized the symptoms calling for surgical intervention as follows: Severe or long-continued headache, disturbances of vision, displacement of the eye, orbital abscess, inflammation of the meninges, syphilis and forms of necrosis, obstinate polypi, especially when combined with polypoid degeneration of the middle turbinal, frontal disease caused by ethmoidal obstruction, pus in the antrum of ethmoidal origin, severe or obstinate forms of ethmoidal suppuration with pus flowing into the postnasal space causing laryngitis, bronchitis, asthma, or other disease of the upper air passages. He believed that the removal of a considerable portion of the middle turbinate followed by opening and curetting of the cells was very satisfactory in nearly all ethmoidal affections, even the severe forms, although a certain amount of discharge might persist after the active symptoms have been relieved. He was not in

favor of too vigorous treatment, especially in the region of the orbit or the cribriform plate, as an element of danger was unnecessarily added to the symptoms of the patient. In Dr. Farlow's experience, it had not been necessary or advisable to operate externally except where there was an orbital abscess, or where the pus had already formed or was on the point of forming an external opening, say, at the root of the nose. He had seen cases of syphilis and necrosis where an external opening was necessary in order to remove the diseased bone.

**The Sphenoidal Sinus.**—Dr. J. W. Gleitsmann of New York detailed the symptoms of acute and chronic affections of this sinus. He mentioned several reports of cases of secondary hemorrhage. It was stated that although secondary hemorrhages due to extravasation from other localities were not so infrequent, primary hemorrhages were, according to Citelli, very rare, there only being six cases on record. Dr. Gleitsmann upheld the theory of radical measures in vital affections of the sphenoidal sinus.

**The Sphenoidal Sinus.**—Dr. T. Passmore Berens of New York presented a paper on the comparative results of conservative and radical methods of treatment of diseases of the sphenoidal sinus, and reached the following conclusions: (1) Acute uncomplicated empyema of the sphenoid sinus is amenable to conservative treatment provided that the ostium is accessible through the nose. (2) Acute multiple sinusitis involving the sphenoid is amenable to conservative treatment provided drainage is not blocked by anatomical deformities or diseased conditions. Anatomical deformities may render surgical procedures necessary to gain access to the ostium. (3) Acute or chronic pyosinus of the sphenoid can be cured only by the removal of its cause, and that is by treatment of the disease of the ethmoids. (4) Simple chronic empyema of the sphenoid sinus alone, when unaccompanied by serous tissue, changes in the interior of the sinus, is amenable to conservative treatment. (5) Chronic empyema of the sphenoid sinus when it occurs as a complication of diseases of other sinuses, as it frequently does, or when accompanied by tissue changes in its interior, can be cured only by radical procedures involving not only the destruction and removal of all the tissues diseased, but also the removal of all other tissue that may be a hindrance to drainage and to after treatment. (6) The tendency of the anterior wall of the sphenoid sinus to reform is a sufficient warrant for as complete a removal of it as possible. (6) The location of important vessels in the region of the sphenoid is a strong argument in favor of the maxillary route when the antrum is involved, for this route gives double access to the sphenoid sinus, and thus the more readily permits of proper instrumentation.

**The Deflection of the Nasal Septum in Children.**—Dr. Arthur Ames Bliss of Philadelphia read a paper with this title. He discussed the subject most thoroughly, its causes, results, and the conservative and radical measures to be employed in such cases. This paper brought out a great deal of most interesting discussion in which were reported several cases by the various members of the association. Dr. Bliss also presented a photograph, showing three pieces of rubber tubing used as supports for the septum after resection operations.

**A Second Note on a Case of Sarcoma of the Nose.**—Dr. J. Price-Brown of Toronto presented this case, and also reported two others. The first case was operated upon for this condition ten and one-half years ago, and except that the right nasal passage, from which the growth was removed, was always so open that it sometimes became dry, and that the slightest cold blocked up the left passage so effectively that the patient could not breathe through it at all, he was absolutely well. The second case was that of a man fifty years of age, in whom the growth was situated on the left side of the perpendicular plate of the ethmoid. This was removed, as in the first case, by the electrocautery. It had now been two years and nine months since the operation, and there was no return of the growth. The third patient was one on whom a note was made before this association two years ago. The patient had been under observation for several years, and the growth had returned from time to time, although it each time had been relieved for several months. After the first operation there was an interval of four months of good health; after the second operation an interval of six months, and after the third operation there had so far been a period of nine months. The patient at present was in good health, with no evidence of recurrence. Each removal of the growth in this case was done by the electrocautery.

**A Further Study of Hay Fever Clinically, with the Employment of Pollantin.**—Dr. Alexander W. MacCoy of Philadelphia read a paper with this title, giving his experience with Dunbar's antitoxin serum.

**Tonsillotomy, the Basis for the Treatment of Tonsillar Affections.**—Dr. George B. Hope of New York recommended the early removal of the tonsils. It was stated that there is still great uncertainty as to the physiology of this organ, and that some investigators took the radical view that there were no tonsils in the healthy throat. The author believed their removal as a prophylactic measure was warrantable, since when left until a time of necessity their removal was much more difficult. He further showed that the operation of tonsillotomy was practically without danger, there being but four fatal cases on record. In a study of the statistics of the Metropolitan Throat Hospital, Dr. Hope found that in a series of 2,000 cases, in but two was there free hemorrhage so marked as to be placed on record. Dr. Hope's chief point was that in his opinion it was wise to remove the tonsils, as they had no known work to perform, and were a source of easy infection.

**Two Cases of Gangrene of the Tonsil.**—Dr. Charles W. Richardson of Washington, D. C., said that one of these cases had been previously reported in a paper read by title before this association two years ago. He also presented abstracts of the only three other cases found on record under the head of "gangrene" of the tonsil. He considered himself rather fortunate, this being apparently so rare a condition, in having seen two such cases within fourteen months. He stated that the diagnosis was easy, the characteristic odor, once recognized, was never forgotten, and the physical signs and constitutional manifestations were very positive.

**Sequel to a Case of Epithelioma of the Larynx, Shown to the Association Two Years Ago.**—Dr. Walter F. Chappell of New York stated that the first report was of a thyrotomy for malignant disease, after which the patient recovered good health. Since this report was made he had undergone tracheotomy and laryngectomy for malignant growth in the larynx, but was now in excellent condition, and could carry on a conversation at a distance of six feet. He still wore a tube, however. The author presented a detailed account of the growth removed at the primary operation.

**Foreign Body (Impacted) in the Esophagus.**—Dr. Gordon King of New Orleans reported these two very interesting cases. In the first one, a child of two years, the foreign body was a patent, brass bachelor's button, and was removed by the use of forceps, although the mouth of the esophagus and posterior surface of the larynx were somewhat lacerated. The child recovered. The second case was that of a sailor, thirty-four years of age. In this instance esophagotomy was done, and a large, jagged piece of bone, which was the foreign body, was removed with forceps. The after-course of this case was unfortunate, the patient developing an empyema of the thorax. He was still under treatment for the latter condition. Dr. King protested against the indiscriminate use of the Graefe coin-catcher except in skilled hands and in selected cases. He believed its use should be limited to cases of foreign bodies of the flat, circular variety, such as coins and buttons, and if the exact nature of the foreign body was not known it should be determined by means of the *x*-ray or the eso-

phagoscope. The author was a strong advocate of the latter instrument.

**Papilloma of the Larynx in Children.**—Dr. J. Payson Clark of Boston reported fourteen interesting cases of this condition. He summarized his views by saying that papilloma of the larynx in children was a very serious condition, the cause of which was unknown. The best method of treatment in all cases was tracheotomy and non-interference with the growth. If after this treatment it still persisted after an age when the child would be treated as an adult, it had probably lost its activity of reproduction, and attempts at removal might be made.

**Rest in the Treatment of Laryngeal and Pulmonary Tuberculosis.**—Dr. W. Peyre Porcher of Charleston, S. C., urged complete rest in all cases of laryngeal tuberculosis or any severe affections of the larynx. He reported a case in which he tried this method of complete rest, with suitable medication, and in which the outcome was most successful. This result was obtained without special reference to climate.

**The Relation Between Laryngeal and Pulmonary Tuberculosis.**—Dr. Walter F. Chappell of New York in a second paper presented a lengthy but comprehensive article on this subject, dealing with the various methods of infection in which both organs might either be infected from a common source, or in which one organ might infect the other. He presented the following factors which made possible a tuberculosis of the larynx of independent origin: (1) Direct, prolonged exposure of the larynx to infected dust. (2) Penetration of tubercle bacilli beneath the superficial tissues whether by natural or artificial openings, or through the intact epithelial covering. (3) A lax, permeable state of the tissues in special cases, which permits tubercle bacilli to enter in large quantities and reach the submucous lymphoid tissue. (4) Ability of the tubercle bacilli to survive for a long period in these tissues without causing active changes. (5) Rousing of bacilli to virulence by a lowering of vitality incident to anemic or cachetic states, etc. (6) Coincidence of mixed infection, which not only promotes the virulence of tubercular bacilli, but determines many of the clinical forms of the local disease.

**A Case of Complete Adhesion of the Vocal Bands with Laryngeal Stenosis Following Diphtheria.**—Dr. D. Braden Kyle of Philadelphia reported this case. The patient, a child, aged six years, had worn a tracheotomy tube for nine months. Laryngeal examination showed a fairly free movement of the epiglottis, but the lumen of the larynx was entirely occluded. There was complete absence of phonation. A fenestrated tracheotomy tube was first introduced to determine whether any air passed through the larynx, and it was found that the child could not get the slightest amount of air by this route. The patient was then anesthetized, the tracheotomy wound enlarged, and a pair of small, slightly curved hemostatic forceps gradually worked up through the structures until the end of the instrument could be felt distinctly by the finger beneath what should have been the vocal bands. This structure was then separated by means of a short curved bistoury and the laryngeal dilator introduced. An extra long intubation tube was then inserted into the larynx and extended below the tracheotomy wound. The tracheotomy wound was temporarily closed by adhesive strips, and the child breathed perfectly through the intubation tube. After three or four minutes the respirations began to diminish, and grew more shallow and less frequent until its condition became alarming. The temporary dressing was removed and the intubation tube withdrawn. Under artificial respiration the child quickly recovered. The intubation tube was introduced a second time with the same results. Dr. Kyle concluded that this inhibitory action of the respiration was due to pressure of the intubation tube on either the recurrent laryngeal, or else on the internal branch of the superior laryngeal nerve, and decided to abandon the attempt to establish laryngeal breathing by the above method, and at a later date split the larynx and dissect out the obstructing tissue. The child rapidly recovered from this operation, and was able to quite distinctly pronounce several words, but the speech was largely limited to lip enunciation. The child was allowed to leave the hospital, arrangements being made for its return in a week for the second operation, but, unfortunately, it contracted a severe cold, and developed pleuropneumonia and died in twenty-four hours. The two points of interest in this case were (1) the inhibition to respiration caused by the pressure of the intubation tube, and (2) the interesting histopathologic condition of cartilaginous cell formation within the inflammatory structure.

**Rogers' Modification of the O'Dwyer Treatment of Chronic Stenosis of the Larynx.**—Dr. D. Bryson Delavan of New York stated that he believed that in this modification Dr. Rogers had opened a new era in the history of chronic laryngeal stenosis, and had illumined every department of the subject. He had made valuable additions to the O'Dwyer tube itself, having devised an attachment to it which rendered its use possible in cases where the ordinary O'Dwyer tube could not be retained. The author reported twenty-two cases which emphatically established the success of this modified method.

**Papilloma of the Nasopharynx Simulating Epithelioma.**—Dr. Thomas J. Harris of New York reported a case which was of interest, particularly on account of the rarity of this condition, and he briefly mentioned three other cases collected from the literature.

**Fibroma of the Larynx in a Child of Three Years, Necessitating Tracheotomy; Subsequent Laryngo-Fissure for Removal Followed by Prolonged Intubation.**—In a second paper by the same author the following conclusions were reached: Fibroma of the larynx is not a particularly rare form of tumor, occurring only second in frequency to papilloma, according to Sir Felix Semon. Cases of fibroma in children are, however, rare, and we have failed to discover a similar case where tracheotomy was called for on account of the degree of dyspnea. Again, while laryngofissure is regarded as one of the forms of procedure in exceptional cases of multiple papillomata, we do not recall a case where it has been practised in an infant for fibroma. Since operating upon this child, the author had come to the conclusion that it might have been wise to have removed the tumor intralaryngeally by means of the Dundas-Grant safety forceps, either under cocaine or under ether, although the possibility of wounding the vocal cords was, of course, to be considered. The child now seemed to be entirely well, although a year must elapse before a relapse could be excluded.

**Laryngeal Diphtheria in an Adult (Necessitating Intubation) Complicating Cerebrospinal Meningitis.**—Dr. W. K. Simpson of New York reported a most interesting case, through which he wished to demonstrate that cerebrospinal meningitis and true diphtheria might coexist in the same patient, and that the respective bacilli were not necessarily antagonistic one to the other. The importance of recognizing this fact was very timely, owing to the existing belief that it was impossible.

**An Unusual Case of Edema of the Glottis.**—Dr. Emil Mayer of New York reported this case. The patient was a man aged 51, admitted to the hospital with a diagnosis of dyspnea. He had had a chronic cough, with mucopurulent expectoration, never bloody; no night sweats or dyspnea; no swelling of the feet. Had never had syphilis or gonorrhea. The voice had always been clear. He had never had an attack like the present one, but had waked at night with a sensation of choking, which he attributed to cough. The present attack of dyspnea came on suddenly; in spite of leeches to his neck and cups to his chest, he rapidly became worse. His voice was that of a whisper. He was removed to the hospital on the day following; on admission he had severe inspiratory dyspnea, and could not lie down. Lips and fingertips were cyanosed. There was a profuse mucous discharge from mouth and throat; the breath was fetid, and

the epiglottis could be felt as a thick, hard ridge. When Dr. Mayer saw him, two hours later, the patient's expression was anxious, he was cyanotic, his breathing was very labored, with notable inspiratory difficulty. There was a gurgling sound to each inspiratory effort, and quantities of mucus were expelled. Laryngoscopic examination showed a large, glistening mass at the base of the tongue at the right side, filling the entire pyriform sinus on that side, extending over the epiglottis to such an extent as to leave but a narrow opening on the left side for breathing. An intralaryngeal examination was impossible. Diagnosis of an acute septic inflammation was made, the parts were partially cocainized, and a deep incision was made with the Hartman laryngeal knife. A quantity of thick, bloody, and ill-smelling fluid exuded, and the patient was returned to the ward. A spray of adrenalin, 1-5,000, was frequently applied, alternating with steam inhalations. The distress was relieved, breathing becoming quieter hour by hour, and all inspiratory difficulty ceased on the second day. At this time a laryngoscopic examination showed a large white slough where the edematous mass had been. A portion of this was removed, and examination showed the presence of staphylococcus albus and streptococcus. The dysphagia also became less and less, and there was now a solid mass of new growth of firm consistency lying in the pyriform sinus, covering three-quarters of the epiglottis, but not adherent thereto, and which did not interfere with deglutition or respiration. The glands of the neck were not enlarged. The patient's recovery was rapid, and he was discharged two weeks after admission, although he subsequently came to the Out-Patient Department of the hospital for treatment. The pathological report of two specimens of the growth was that there was no evidence of anything other than connective tissue in either specimen. An examination of the patient six weeks later showed a most unusual state of affairs. More than half of the epiglottis on the right side had sloughed away, and a band of adhesion had formed, running across the lateral pharyngo-laryngeal space on that side. The remaining portion of the epiglottis on the left side stood erect like an index finger, and here two bands of adhesion existed from the epiglottis to the lateral pharyngeal wall. Both of these bands were about half an inch in length. The patient, however, appeared to be perfectly well. An interesting point in this case was the fact that there was an edema of the glottis engrafted upon a hereditary syphilis of the epiglottis, the latter never producing any notable symptoms relative to the throat, except perhaps a constant cough of twenty-eight years' duration. The patient stated that fluids often came through his nose of late years. The presence of so large a mass of inflammatory tissue beneath an edematous process is remarkable. The case illustrated the advantage of performing free and deep incisions into the edematous tissue, thus avoiding the greater operation of tracheotomy, and emphasized the value of adrenalin in the subsequent treatment of these conditions.

**Recommendations for Fellowship.**—The Council recommended the following candidates for election to active fellowship in the American Laryngological Association: Dr. Lewis A. Coffin of New York City. Thesis, "The Choice of Operation for the Relief of Chronic Empyemata of the Frontal Sinus and the Anterior Ethmoidal Cells." Dr. Otto T. Freer of Chicago, Ill. Thesis, "Deflections of the Nasal Septum; A Critical Review of the Methods of Their Correction by the Window Resection, with a Report of 101 Operations." Dr. Charles P. Grayson of Philadelphia, Pa. Thesis, "Some Follies of Vocalists." Dr. Thomas H. Halsted of Syracuse, N. Y. Thesis, "Angioneurotic Edema of the Upper Respiratory Tract." Dr. George L. Richards of Fall River, Mass. Thesis, "My Personal Experience with Empyemata of the Frontal Sinus, with Deductions Therefrom." Dr. George B. Wood of Philadelphia, Pa. Thesis, "The Lymphatic Drainage of the Tonsils."

The date and place of the next meeting were left to the action of the Council.

**Officers Elected.**—*President,* Dr. J. W. Gleitsmann of New York City; *First Vice-President,* Dr. J. L. Goodale of Boston, Mass.; *Second Vice-President,* Dr. Charles W. Richardson of Washington, D. C.; *Secretary and Treasurer,* Dr. James E. Newcomb, of New York City; *Librarian,* Dr. Joseph H. Bryan of Washington, D. C.; *Council,* Dr. Clarence C. Rice of New York City.

## BRITISH MEDICAL ASSOCIATION.

*Seventy-third Annual Meeting, Held at Leicester, July 25, 26, 27, and 28, 1905.*

(Special Report to the MEDICAL RECORD.)

*(Continued from page 361.)*

### SECTION OF TROPICAL DISEASES.

*First Day—Wednesday, July 26.*

**Guinea-worm and Its Hosts.**—Dr. W. H. GRAHAM presented a communication on this subject. He said that in 1904, while studing the incidence of the disease at Gambaga in the hinterland of the Gold Coast Colony, he was struck by the preponderating importance of guinea worm as a cause of disease. A tabulation of the statistics of guinea worm for 1904 and three preceding years showed that the month of June was the month of greatest incidence and that from this month backwards and forwards the incidence of the disease declined to zero. Now, as the Guinea-worm requires for its propagation the alternate services of two hosts, man and cyclops, the induction appeared legitimate, that the month of maximum manifestation in man should be the month of maximum infection of cyclops. Fedschenko had shown that in Turkestan the Guinea-worm embryos required five weeks for complete development in cyclops. Embryos therefore beginning this development in June would become capable of infecting man in July or August of the same year. Further as the parasite acquired by man in July or August would become manifest by discharging embryos in the following May or June, it would appear a legitimate inference that ten months represent roughly the period required by the Guinea-worm for its complete development in man. If then the infection of the cyclops with Guinea-worm occurs during the months of May and June, it becomes worth while to inquire whether during this period any natural facilities are afforded to the process of infection which are subsequently withdrawn? To answer this question an intimate acquaintance with the habits of cyclops and a minute knowledge of the locality is necessary. At Gambaga almost all of the water used by the natives was drawn from three wells situated about half a mile from the town. These wells contained subsoil water only and were very greatly influenced by drought and rainfall. They were connected by streams that flowed during the greater part of the year. During the last few months of the dry season these streams dried up and then the communication between the wells ceased, in some cases altogether and in others during the daytime only. Dr. Graham noticed that cyclops inhabited the streams and wells alternately and that it bred in the wells. He believed that the young of the cyclops whilst moulting during development afford greater facilities for penetration by the Guinea worm embryo and thus explained the limitation of the infection for cyclops to a few months of the year. August and September were the months of greatest rainfall at Gambaga. At the end of September, or earlier, according to the rainfall, the wells become full and the increased current swept the cyclops of the wells into the streams. In a pool of clear water the cyclops kept mostly close to the bottom. When the level of the water in the well was low, the calabash used for drawing the water was swept near to or against the bottom, and this facilitated the taking of cyclops; but at the end of September the volume of water in the well was large, and the water being therefore drawn from the top, the cyclops in the well were less easily caught by the calabash. Speaking of prophylactic methods, Dr. Graham stated that to prevent the infection of man drinking water should

be filtered, and to prevent the infection of cyclops it would be necessary to make structural alterations converting the existing wells into concreted troughs.

Dr. W. M. Carnegie Brown said that in the Straits Settlements a unique opportunity for studying some points in the life history of the Guinea-worm was presented by the circumstance that in the Malay Peninsula there was no endemic infection of Guinea-worm. No one, so far as he knew, had ever acquired Guinea-worm in the Malay Peninsula. But many cases were to be seen there. Immigrants, natives of the Coromandel Coast, where the disease was endemic were frequent sufferers. Some idea of the length of time that it took for a female worm to mature, or more correctly to arrive at a stage of discharging her ova and thereby setting up suppuration, was to be had from observation of the length of time after the immigrants' arrival before the assistance of the surgeon had to be sought to evacuate a worm abscess. He had seen a case so late as eighteen months after arrival, and he had observed no periodicity, no greater seasonal frequency; the Guinea-worm turned up all the year round with fair regularity. In all such cases it was certain that infection took place in India before the patient left for the Malay Peninsula. Another point was the peculiarity of the fact that though *Cyclops quadricornis* was found in the meres and canals of the Malay Peninsula in considerable numbers, and though undoubtedly embryo Guinea-worms were discharged into these waters from infected persons, the cyclops seemed unable to develop the embryo or at least to render it hurtful to man. It did not act there as a host. The fact was peculiar and worth further study. Dr. Graham was apparently of opinion that a certain method of preservation was in seeing that drinking water was pure. That excluded the popular and he might also say the scientific belief that entry was gained by the skin. From analogy with other worms, this method was at least possible and the prevalent idea was that it explained the circumstance of nine-tenths of all the cases of Guinea-worm finding their favorite site in the legs, because infection took place while the patient was standing in water, which, needless to say, was an ordinary method of bathing. The question was not to be resolved by trying if Guinea-worm embryos could pass through the skin—they could not—but it was possible that after a specialization of function in the cyclops they might be able to do so.

Dr. Claus Schilling of Berlin said that one of his friends, a district commissioner and colleague, had many cases of Guinea-worm amongst his native soldiers in Togoland. After opening good wells and prohibiting the natives to take the drinking water from the places in which they used to bathe, the cases of Guinea-worm ceased almost entirely. This observation was in support of the opinion that the infecting germ entered the body by the alimentary canal.

Dr. F. M. Sandwith of London corroborated Dr. Graham's remarks with regard to the periodicity of the disease in man. Observers in the Egyptian Sudan had noticed that there are two or three months when human beings suffered from *Filaria medinensis*, while during the rest of the year the worm was not met with. He believed the embryo of this parasite could enter the human skin, and he urged those who dwell in Guinea-worm countries to try and prove the point as to whether the embryo could or could not gain direct entrance into man's body without passing through any species of cyclops.

Dr. A. J. Chalmers of Ceylon said he had noticed years ago the periodicity of the Guinea-worm infection in Accra, and had looked for infected cyclops without finding them. He had noticed one case of what he considered to be infection by the skin. He thought that the authorities of the tropical schools were not sufficiently alive to the importance of this disease.

Dr. J. T. Clarke of Perak said that in the Malay Peninsula the Tamils bathed in and drank everywhere the dirtiest of water and yet did not acquire the disease, although cyclops, according to Dr. Brown, were present.

Dr. C. Prout of Sierra Leone said he wished to emphasize what had been said as to the necessity of a more particular study of the mode of entrance of this parasite, as on the Gold Coast there was an enormous amount of inefficiency due to this cause, more especially among the Hausas. He had had experience of both the Gold Coast and Sierra Leone, and he had been struck by the fact that while Guinea worm was very common on the Gold Coast, it was very rare at Freetown. It was not a disease of Sierra Leone. Now there was one condition in which the Gold Coast differed from Freetown, and that was that in the latter there was a very pure and good water supply derived from the hills behind, whereas on the Gold Coast the water was mainly derived from surface water collected in pools and shallow wells. This would appear rather to support the theory as to the entrance into the body by means of drinking water.

Dr. L. W. Sambon of London said that the greater incidence of Guinea-worm manifestation had long been known to take place in connection with the rainy season. This was the case not only in West Africa, but in other parts of Africa, in Arabia, in Persia, in Turkestan and in India. The larvæ were eliminated at the beginning of the rainy season because water was necessary for their further development just as it was necessary to the cercariæ of the liver fluke (*Fasciola hepatica*) which left the host of their parent under the very same circumstances. This connection between water and the liberating of the young larvæ was emphasized by the fact that *Filaria medinensis* did not only perforate the skin of its host at the most favorable season, and in that part of the body which came most frequently in contact with water, but waited for the actual contact with water before extruding its young. This fact was well known to the natives of highly infected regions and had been acted upon from time immemorial for the extraction of the worm. In the case of *Fasciola hepatica* it was interesting to note that in very dry seasons the rediæ harbored in the liver of *Limnea truncatula* did not give birth to free-living cercariæ, but to a second generation of rediæ which continued to live in the host of this parent awaiting a more favorable season to venture into the outer world. The theory that the larvæ of *Filaria medinensis* penetrate the body of man through the skin was a very old theory, and certainly had much in its favor, notwithstanding that it was derived from an erroneous conception as to the reason of the peculiar location of the parasite in man. It was also supported by analogy since it had been amply proved by Looss, Smith, and others that *Uncinaria duodenalis* entered through the skin. Other parasites, such as *Strongyloides intestinalis* and certain Trematodes, may likewise enter the body of their host through the hair follicles of the skin. As Dr. Sandwith had remarked, the point should be settled by actual experiment. However, we should not forget that in the case of uncinariosis infection may also be acquired by way of the alimentary canal, as numerous experiments had proved. Not long ago it was firmly believed that the young larvæ of the warble-flies (*Hypoderma*) penetrated through the skin of cattle. Recently, however, Curtice had shown that they were licked by the cattle and that they penetrated the walls of the esophagus, and from thence moving slowly through the tissues of the host they reached the skin in the region of the back. In the case of *Filaria medinensis* Dr. Sambon doubted very much that the infection of man could take place by the immediate entrance of the young larvæ either through the skin or the alimentary canal. Professor Leuckart, from analogy with the life history of a similar parasite, the *Cucullanus elegans* of the perch, had suggested the necessity of an intermediary host, and had incriminated cyclops as the probable alternative host. Fedschenko, in Turkestan, had actually proved the truth of Leuckart's wise suggestion, and Sir Patrick Manson had confirmed it. The larvæ of *Filaria medinensis* having reached some pool or well, attacked the young cyclops, penetrated their bodies and underwent a certain amount of growth and development. This discovery was a decided step in our knowledge of the life history of *Filaria medinensis*, but it was only a step. So far the experiments

made by Fedschenko and others to bring about infection through the ingestion of infected cyclops had proved negative. Possibly cyclops was not the real intermediary host of *Filaria medinensis*, notwithstanding that the nematode might attain a certain amount of development in its body, or perhaps only certain species of cyclops could bring about its complete development; or, again, a second intermediary host might be necessary, or there might be another free-living stage and subsequent encystment, as in *Fasciala hepatica*. That ar intermediary host was necessary was shown by the peculiar limitations observed in the geographical distribution of *Filaria medinensis*, and by the fact that the parasite had not become established in many places which seemed to offer the most favorable surrounding conditions and in which it had been repeatedly and plentifully introduced during a long number of years, as, for example, in the Malay Peninsula, already mentioned by Dr. Brown.

*Second Day—Thursday, July 27.*

**Tropical Diseases of the Skin.**—Dr. J. M. H. Macleod of London opened a discussion on this subject. He went rapidly through the wide field of tropical dermatology, stating the theories held at the present time on the etiology of the various diseases, which he classed into four groups, according that (1) they were due to some known parasite, (2) were obviously parasitic, but the parasite had not been established, (3) were possibly parasitic, and (4) had a non-parasitic causation.

In speaking of frambœsia or yaws, a subject on which important information was elicited during the meeting, he stated that its virus was unknown, but that the clinical features and course of the disease all pointed to a parasitic origin. Various microorganisms had been found in the lesions, such as bacilli by Breda, micrococci by Pierez, Nicholas, Hirsch, and others, and a yeast by Powell. There was still some variance of opinion with regard to the occurrence of a primary lesion corresponding to the syphilitic chancre. Charlonis maintained that it existed, but this had been doubted. Nama Rat had described also certain symptoms of the type of the tertiary lesions of syphilis, consisting of subcutaneous nodules, ulcerations of palate and fauces, and bone diseases, but these were uncommon, and several observers denied their existence altogether, and maintained that such resulted from the concomitant infection of yaws and tuberculosis or syphilis. It was also at present under consideration whether yaws was a local disease or a constitutional affection, with skin lesions. The latter view seemed to be the one most generally accepted since Charlonis had shown that twenty-eight out of thirty-two persons inoculated with the disease suffered from "initial phenomena." including pains in the limbs, evening pyrexia, and other symptoms of general disturbance. Its relation to syphilis was still under discussion, since it had been maintained by several observers that the two diseases were identical, or that syphilis was yaws modified by life in a temperate climate, or, *vice versa*, that yaws was syphilis of the tropics. Till the microorganisms of yaws and syphilis were discovered, it was improbable that the last word in this controversy would have been said. Clinically and microscopically, the two diseases presented many points of similarity, but, after all, so did syphilis and tuberculosis. The facts that in certain countries, such as Fiji, loko or yaws occurred, while syphilis was unknown, that it was never a congenital affection, that although the skin lesions of yaws presented various stages in their evolution, but were not polymorphous as were those of syphilis, and, lastly, that the histopathology of the disease in a well-marked case was distinguishable from that of syphilis, all went to prove that we had to deal with two separate diseases.

**Yaws in Indo-China.**—Prof. M. E. Jeanselme of Paris contributed some "Notes on Pian (Yaws) in French Indo-China." The author saw the first cases of this disease in 1899 in Cambodia, where it is very widespread. Of all diseases syphilis most resembles yaws, so that Hutchinson and others had suggested that yaws was perhaps only a form of syphilis modified by race and climate. This opinion could not be accepted, partly because in the same part of the world and among natives of the same race the two toxins were found simultaneously, each preserving its distinct characteristics, and partly because Charlonis had furnished us with the undeniable proof of the duality of the two diseases by inoculating with syphilis an individual who was already suffering from yaws. However, it was quite true that the differential diagnosis was sometimes impossible. Among the signs which were common to both diseases were the pains in the bones and joints, which became worse at night, the tendency of the eruption to take a circular form, the preference for the neighborhood of the orifices of the body, and the curative power of iodide of potassium and mercury. The chief differences of the two diseases were shown in the following table:

| SYPHILIS. | YAWS. |
|---|---|
| Pandemic, and acquired by heredity and contagion. | —Tropical, and acquired only by contagion. |
| Begins by a primary pathognomonic lesion at the point of inoculation. | —The initial lesion is not constant, and is not different to later appearances. |
| The immunity conferred by syphilis is almost certain. | —Reinfection of yaws is possible. |
| Autoinoculation is impossible. | —Autoinoculation is possible during a long and unknown space of time. |
| A hard chancre and other syphilitic signs can be found on an individual who has suffered from yaws. | —A syphilitic person can become affected with yaws. |
| A great variety of eruptions. | —There is only one eruption, the papilloma. |
| The eruption, especially the tertiary form, damages the skin and leaves indelible scars after cure. | —The eruption leaves no scar behind it, unless it has been unduly irritated. |
| The three definite stages, with primary, secondary, and tertiary symptoms. | —All the appearances of yaws are identical, whatever their date. |
| The mucous membranes are involved. | —The mucous membranes escape. |
| The internal organs are affected. | —No affection in the internal organs. |
| There is no itching. | —There is much itching. |
| Hair falls out in the secondary stage. | —Hair never falls out. |

With regard to the curability of the two diseases by the same drugs, it must be remembered that actinomycosis, which, of course, has nothing to do with syphilis, is also cured by iodide of potassium. Unless some rare complications were present, yaws generally ended favorably, though the prognosis was by no means always mild. The prognosis was unfavorable in cases of chronic ulceration, of progressive serpiginous invasion of healthy skin, and where the tissues undermined as far as the ligaments, and even the bones. These phagedenic ulcers left horrible scars.

No disease was more contagious than yaws. When a child in a hut had been attacked all the other inhabitants contracted the disease if up to that time they had been free from it. The apparently great preference of the illness for the young was due to the fact that many adults had become immune by a previous attack. Children were, of course, more exposed to contagion than adults. In Cambodia and Laos it was quite common to see an infant being suckled by a woman whose breasts were covered with yaws, and when the child was to be weaned the mother put into its mouth pellets of rice which she had previously masticated. Up to the age of five or six the children of both sexes were naked, and their skin was covered with scratches and the ravages of mosquitos and scabies. Was it not possible that insects were the carriers of the disease? In certain countries the parents anticipated the inevitable attack of yaws by encouraging inoculation in every possible way! Among adults the disease was propagated by the chopsticks which were used instead of forks, the water pipe which was handed from mouth to mouth, and the sleeping mats which were common to all. The natives of Cambodia, Laos and Siam avoided all drugs during the first three months of the disease. The patient was then subjected to fumigations of mercury while wrapt in a mosquito net. Now and then he washed out his mouth with water or tea, which did not prevent his getting stomatitis and loose teeth. This treatment was remarkably successful for a time, though relapses usually occurred. Iodide of potassium in antisyphilitic doses had a good effect on yaws in two or three months.

**Spirochætæ in Yaws.**—Dr. Aldo Castellani of Colombo, Ceylon, contributed a paper on "The Presence of Spirochætæ in Two Cases of Ulcerated Parangi (Yaws)." In February, 1905, while examining some films made from the secretion of the ulcers in a case of parangi and stained by the Leishman-Romanowsky method, he noticed several extremely minute and almost invisible spirillum-like bodies. He did not attach much importance to this discovery at the time, because the spirilla were found together with huge numbers of other microorganisms, and were so faintly stained that their proper study could not be carried out. In June, 1905, having received from Prof. Schaudinn communication of the latter's discovery of spirochætæ in syphilis, and remembering the great similarity between parangi and syphilis, he at once began investigations to ascertain whether an identical or similar organism might not be present in yaws. He was able to examine four cases. Two of these, presenting only dry lesions, proved negative, but in the other two, who, in addition to dry lesions, presented some red fungoid, slightly secreting ulcerated excrescences, he found spirilla, which were, however, mixed with various kinds of bacteria. One of the positive cases he was able to examine many times. He was a Singhalese lad, ten years of age, who had never been out of Ceylon, and neither presented any other disease nor any signs of acquired or congenital syphilis. He was in the second stage of the disease. The skin of his hands and arms presented several patches of furfuraceous desquamation, the lower parts of the legs and the soles of the feet presented several fungoid, roundish, elevated, slightly secreting formations. The patient was undergoing mercurial treatment, and was improving. The spirochætæ found were always mixed with a prodigious number of bacteria in preparations from the surface of the lesions, but in preparations made after a thorough scraping of the superficial layers the bacteria were fewer, although the spirochætæ were not sensibly diminished. The spirochætæ were extremely thin. They stained very faintly, and, indeed, were often scarcely visible. However, they became fairly well stained when the Leishman alcoholic solution was allowed to act for five minutes and after admixture with distilled water for fifteen minutes. They generally take a purplish and occasionally a bluish tint. The spirochætæ measure on an average from fourteen to twenty microns in length, though short forms of from seven to ten microns are also met with. They are pointed at both extremities, and present a variable number of undulations. Two types might perhaps be distinguished—one with numerous small undulations, the other with fewer, broader, and more graceful waves. Here and there in the stained preparations a few shorter, thicker, and more deeply stained spirillum-like organisms, presenting one or two chromatin points within their cytoplasm, might be seen, as well as bacilli of various shapes and cocci innumerable. In fresh preparations (hanging drop) the spirochætæ, though extremely thin, could be distinguished from the many motile bacteria, on account of their peculiar movements, so well described by Schaudinn.

**Pellagra.**—Dr. Louis W. Sambon of London read a paper entitled "Remarks on the Geographical Distribution and Etiology of Pellagra." He said he believed pellagra was far more common in tropical and subtropical regions than was supposed. When we spoke of the geographical distribution of any disease, of course we meant our limited knowledge of its distribution. This was especially the case with regard to pellagra. Pellagra was still unrecognized in many of its endemic areas; its nervous symptoms, gastric derangements, and skin lesions being ascribed to other and separate diseases. A parallel example was that of kala-azar, a disease which was believed to be confined to the Assam valley until the discovery of its specific agent showed that it had a very wide distribution, not only in India, but throughout the tropical world. The recognition of pellagra was not always an easy matter for those who were not familiar with its symptoms and course. In Spain and Italy pellagra had been known for over a century and a half. In 1818 it was discovered in France, in 1833 in Roumania, and in 1839 in the Island of Corfu. More recently other endemic centers had been discovered in northern Portugal, Tyrol, Croatia, Bosnia, Benarabia, and Kherson. In Africa it was first recognized in 1847 by Pruner, who had studied the disease in Italy. Pruner's statements had been discredited by Hirsch and others, but recently Sandwith had shown that pellagra was very prevalent in Lower Egypt. The disease had been reported from Algeria and from the coast of the Red Sea. It had been encountered in South Africa and amongst the Kaffirs and Zulus. From Asia we had no definite information, but Dr. Ray had seen cases which agreed with the description of the disease, and Sandwith stated that Indian medical officers to whom he had shown photographs of pellagra patients admitted having seen similar skin lesions. In America pellagra was known to exist in Mexico. Dr. Low, who had had the opportunity of seeing cases of pellagra in Italy, had told him that he had recognized the disease in the West Indies, and a further inquiry had convinced Dr. Sambon that the disease was not uncommon in some of the West Indian Islands. Finally Dr. Neiret had reported it from New Caledonia. This proved that pellagra must be far more widely distributed than was generally believed, and, considering the grave importance of the disease, he thought it most urgent that medical men should learn to recognize it. In Italy pellagra was rightly considered to be one of the worst disease scourges of the country. Over 100,000 cases were known, and the disease was dreaded, not so much on account of its deadliness, but because of the indescribable wretchedness and suffering to which it gave rise during its slow, cruel course of many years. The disease was characterized by an erythema affecting the unclothed parts of the body most exposed to the sun, recurring each spring, and leaving behind a peculiar roughness and pigmentation of the skin which had given rise to the Italian name pellagra, meaning "rough skin." In its later stages it was characterized by progressive weakness, great emaciation, and by severe melancholia alternating with maniacal phases. The disease presented, moreover, very marked gastrointestinal symptoms—the tongue and palate lost their epithelium, and diarrhea was frequent, becoming unrestrainable and colliquative towards the end. The disease had been attributed to isolation, to bad water, to unsanitary dwellings, to poverty, to irritant oils, to garlic, and to maize. Most of these theories had been abandoned long ago. But the maize theory needed a serious scrutiny, because it was the theory now almost unanimously accepted. At first it was believed that maize lacked in nutritive principles; later it was surmised that it contained normally some toxic substance; finally it was agreed to ascribe the disease not to normal maize, but to decomposed maize, some holding that it was caused by certain toxic substances developed in the course of the decomposition of the grain under the influence of vegetable organisms; others that it was caused by the organisms themselves. Consequently, the various fungi and bacteria found on maize had all been incriminated in turn as the causative agents of pellagra. Dr. Sambon described the numerous researches, and pointed out that each investigator had claimed to have reproduced in animals true pellagra by the inoculation of the toxic substance or organism which he had isolated. These experiments had no better value than those by means of which Klebs and Tommasi-Crudeli sought to prove that their famous bacillus was the real cause of malaria. The most recent investigations were those of Di Petri, Ceni, and Besta, who incriminated certain varieties of *Aspergillus* and *Penicilium*. Their experiments were by no means convincing. These organisms were amongst our most common fungi; they could be found not only in diseased bread, but on the most heterogeneous media, such as fruit, cloth, jam, old boots. Their pathogenic properties were well known.

Dr. Sambon stated that he did not believe in the maize theory of pellagra any more than he believed in the current rice theory of beriberi. However, he was inclined to think

that, like the swamp in malaria, so maize and rice might represent necessary ecological factors in the natural history of the diseases with which they had been so long associated in popular belief, but, so far, he considered that no conclusive evidence had been adduced in favor of the maize theory of pellagra.

The maize theory of pellagra was chiefly an Italian theory. It had never found much favor in Spain, one of the principal seats of pellagra endemicity, where the disease was to this day regarded as a true "*morbus miseriæ*." It had been frequently remarked that the endemic areas of pellagra and the areas of maize culture were by no means overlapping, and, indeed, vast areas of maize cultivation had no pellagra, as, for example, the United States of America. On the other hand, it had been pointed out that pellagra had been observed in places in which maize was not cultivated and in people who had never used maize as an article of food. A comparative study of the distribution and prevalence of pellagra at different periods was decidedly unfavorable to the maize theory. In the days of Casal the Province of Oviedo in Spain was one of the chief centers of pellagra. In 1900 it was the province which suffered least from this cause, whilst the highest incidence of the disease occurred in the Province of Madrid. Now, no change whatsoever had taken place in the maize cultivation of the Province of Oviedo. The people there eat maize just as much as before, and no improvement had ever been adopted in the storage or preparation of maize. On the other hand, maize was hardly ever eaten in the Province of Madrid. Even more striking were the facts afforded by the spread of the disease in Italy. Pellagra was still very prevalent in the north of the peninsula, where maize formed the staple food of the peasants, but in recent years the disease had become far more prevalent in other provinces in which maize did not represent a principal article of food. It had also invaded the Campagna, the Puglie, Sicily, and Sardinia, thus proving that it had a tendency to spread slowly, but widely, and independently of maize cultivation. When once established in a region pellagra was very permanent, but its prevalence might vary considerably from year to year in connection with ecological conditions as yet undetermined. The general opinion was that pellagra had appeared soon after the introduction of maize into Europe, and that it had advanced *pari passu* with the extension of maize cultivation and the more general adoption of the new cereal as an article of food. This opinion had been repeated by almost every writer on the subject, but it was very questionable. One writer had stated that it would be difficult to find the term pellagra in books published before the beginning of the eighteenth century, and this was more than likely, because the term had been introduced by Frapolli in 1771, but the absence of the term pellagra did not mean the absence of the disease pellagra, and, indeed, Frapolli himself stated that the disease was already known at the end of the sixteenth century by the name of *Pellarella*.

An important fact was that pellagra did not attack indiscriminately all those who fed chiefly on maize, but picked out the field laborer. The poor who lived in towns, although they fed exactly in the same way as the field laborer, were not attacked. Towns in the very heart of intensly pellagrous areas showed that same remarkably immunity towards pellagra that was witnessed in the case of malaria. Possibly, therefore, it was in the maize field that the field laborer came in contact with the causal agent of the dread disease. Another important fact was the age incidency of the disease. Pellagra was chiefly a disease of middle age. The majority of cases occurred between twenty and sixty years of age. If maize or diseased maize were the cause of pellagra, children would be the principal sufferers, as in the case of ergotism. Pellagra did not attack all the members of a family at approximately the same time, as would be the case if the disease were due to some toxic food partaken of equally by all. Pellagra exhibited a marked seasonal incidence, and in those who had contracted the disease there was a pronounced recrudescence of all the symptoms each successive spring. These facts were incompatible with the maize theory. The characteristic erythema of the disease reappeared constantly every spring in the chronic pellagrous lunatics who spent several hours a day in the open air, notwithstanding their seclusion for years in asylums in which maize was not an article of diet.

Dr. Sambon thought that the unquestioning acceptance of the maize theory was most regrettable. The Italian Government was spending considerable sums of money for the elucidation and eradication of the disease, but so potent was the influence of the current theory that the investigations were limited to the study of the fauna and flora of stored maize. The Prefects of the various provinces attacked by the disease were directed to collect specimens of diseased maize and forward them to the laboratories of the Government Board of Health in Rome, where they were examined and experimented with. He regretted that the disease was not more fully investigated in the field and independently of any theory. If he were asked to suggest a new theory, merely as a working hypothesis, he would be inclined to draw attention to the many analogies between pellagra and some of the protozoal diseases which had been recently worked out. But his reason for bringing the subject before the meeting was not to propound a new theory, but to urge the necessity of a thorough investigation of this widely distributed disease.

(*To be continued.*)

## Surgical Suggestions.

**Toothache.**—H. B. Ray gives the following advice on the treatment of toothache by the practitioner: Toothache is essentially an inflammatory condition, and in 99 per cent. of the cases there is a cavity in the tooth. In those cases where there is a cavity, but no nerve exposure, the treatment is simple—apply a sedative and exclude the secretions of the mouth from the cavity; prompt relief will follow, and then advise the patient to visit a competent dentist. A very effective agent, and one always at hand, is the oil of cloves. It should be applied by saturating a pledget of cotton with the remedy and introducing it into the cavity with a toothpick or other pointed instrument; that being done, the secretions are kept out by filling the cavity with a little beeswax, a household remedy always at hand. The wax can be applied by warming over a lamp on the point of a knife and forcing into the cavity. The wax filling serves not only the purpose of keeping the secretions of the mouth out, but prevents thermal changes from affecting the nerve when hot and cold things are taken into the mouth.—*Southern Clinic.*

**Fistula in Ano.**—J. A. MacMillan says that the sterile gauze packing after fistula operations should be applied so as to serve the following purposes: (1.) To control hemorrhage and give relief during the first twenty-four hours by firm packing. (2.) To keep the sides of the wound separated during the second and third days by loose packing. (3.) To control exuberant granulations and maintain uniform healing, pressure from the gauze is applied as indicated, namely, firm packing where the granulations are exuberant, and very gentle pressure where they are frail. (4.) Besides these special purposes, the packing has the general function of drainage.—*Detroit Medical Journal.*

**Scalp Wounds.**—Bayard Holmes gives the following rules for the treatment of such injuries: (1.) Shave three inches about every scalp wound. (2.) Make every scalp wound a large incised scalp wound, so that it may be explored with the finger. (3.) Use no probe except the index finger. (4.) Trim with the scissors the edges of the scalp wound; the razor and the brush are not effective. (5.) Scrape out an old wound with a sharp spoon as a part of the mechanical removal of infection.—*Denver Medical Times.*

**The Umbilicus** is always difficult to disinfect in cleansing the skin before a laparotomy, but a measure much used in French clinics greatly adds to the efficiency of the sterilization. The fold of skin at the bottom of the depression is seized with a rather blunt Kocher's clamp, and is pulled upon so that the hollow becomes an elevation. All the folds are smoothed out in this way and thorough mechanical and chemical cleansing is possible.

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending August 26, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 115 | 6 |
| Diphtheria and Croup | 132 | 15 |
| Scarlet Fever | 54 | 2 |
| Smallpox | ..... | ..... |
| Chickenpox | 3 | ..... |
| Tuberculosis | 429 | 175 |
| Typhoid Fever | 329 | 20 |
| Cerebrospinal Meningitis | 14 | 15 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | ..... |
| Totals | 1,076 | 233 |

**The Therapeutics of Water Drinking and Some of Its Dangers.**—Eliza H. Root believes that the advice "to drink water copiously" often works serious harm. She believes that brain workers with too little muscular activity, or men who have excessive muscular activity without proper hygienic supervision, nearly always take a sufficient amount, if not an excessive quantity, of liquids in the form of tea, coffee, beer, milk, or water. The writer declares that the normal amount of water daily required is a mathematical calculation regulated by the sensation of thirst; a reduction of the body water by one per cent. produces thirst. Life can be sustained for a longer time when water is taken without food than when dry food is taken without water. It is said that six and a half pounds of water, holding in solution waste products, is excreted in twenty-four hours from the body weighing one hundred and sixty-five pounds; this will serve as an approximate guide to the necessary amount of water for daily ingestion. Many conditions must be considered before water drinking is prescribed, and its effects, so the writer believes, should be watched as carefully as those of any other therapeutic measure. If the amount of fluid is abnormally increased, it must be gotten rid of, oftentimes with deleterious effects on the system. The writer describes three cases in which excessive water drinking had become a habit in "nervous" women. She refers to the number of deaths that took place at a foreign water cure establishment for gout, and declares that excessive amounts of fluid can doubtless cause disease of the circulatory system and of the digestive tract, and in cases in which disease of either system exists the drinking of much water may be positively dangerous.—*The Woman's Medical Journal.*

**Rheumatoid Pains Following Injuries in High Altitudes.**—Charles F. Kieffer declares that rheumatism is so commonly associated in the minds of those who live in high altitudes with the low levels and damp atmosphere of the sea-board that they lose sight of its very great prevalence in their own regions. This disease, if not more prevalent in high, dry altitudes is at least equally so. The writer adds that it is not apparent just why this should be so unless it be that the climatic conditions favor the spread of a virulent, follicular tonsillitis which must be considered as a very common precursor of acute articular rheumatism. Special attention is paid in this article to the very frequent development of severe rheumatoid pains after injuries of the most varied nature. These pains may be out of all proportion to the severity of the original injury. They are often rebellious to treatment. They should not be confounded with the immediate painful reaction of joint, muscle, or aponeurotic structures to the injury done them, for they are strikingly rheumatic in character, and follow the injury at a considerable interval of time, while they have a distinct period of incubation. This disturbance commonly develops in from two weeks to two months after a Pott's fracture, for example, or a dislocation of the shoulder, or a sprain of the ankle joint. The patient experiences a severe crippling pain in the injured part, and sometimes in the neighboring articulations or muscles besides. The pain also is observed in all sorts of scar tissue, being noted in some instances in the scar of an abdominal incision. In a few cases this condition arises in very old injuries. Practically these cases yield to active antirheumatic treatment only. The pain disappears with systematic salicylate saturation. Probably the sodium salt is the most generally useful. Whenever possible the part should be put at rest. Soothing lotions may be applied. Heat is most beneficial, especially in the form of dry, superheated air, the old-fashioned ironing is very effective. Acupuncture is an excellent remedy in selected cases for pain in the lumbar muscles. The needle should be thrust laterally into the lumbar muscles for three or four inches. The resulting relief is most striking.—*Denver Medical Times.*

**Diagnosis of Lobar Pneumonia in the Child.**—M. G. Variot tells us that the classical symptoms of pneumonia in the adult, cough, bloody expectoration, physical signs of consolidation are often not marked in the infant. There is a rise of temperature, that has marked daily remissions and oscillations. The physical signs may not appear until the fifth or sixth day of the disease. Dyspnea and acceleration of respiration are far from constant. Cough is absent for several days. Expectoration is swallowed; when obtained it is not bloody. Hypothermia is the most constant symptom, accompanied in older children by pain in the abdomen. Defervescence takes place on the fifth to the seventh day. If the location of the pneumonia be central, and limited, the physical signs are not clear, and the diagnosis may be uncertain until the fall of temperature indicating resolution. The diagnosis has to be made from typhoid and from meningitis; the physical examination is rendered difficult by the irritability of the child, who cries when one wishes to percuss or auscultate. The signs of percussion appear earlier than those of auscultation. There is tympanic note over the affected lung, explicable by the vicarious emphysema. There is a slight dullness below the clavicle of the affected side. Bronchophony and crepitant râles are common. The x-ray gives a fair picture of the spot of hepatization when of any size. The diagnosis from bronchopneumonia is simple; in the latter the respiration is 60-80, cyanosis marked, physical signs are bilateral, percussion gives greater difference between the two sides, auscultation gives fine moist râles, with or without bronchi.—*Gazette des Hôpitaux.*

**Edema of the Lung.**—H. W. Syers draws our attention to edema of the lung as always secondary and a complication of other serious diseases. It is in no sense inflammatory, but purely mechanical. It is a pouring out of blood serum into the ultimate cells of the lungs. It is usually found to some degree in cases of death from all causes, except in sudden death in apparent health. It is most frequent at the bases, though any portion of the lungs may be involved. The two main causes are cardiac disease, with failing heart, and the renal disease with hypertrophy of the heart. In failing compensation it is an early sign of breaking down of the heart muscle. The venous circulation is over full and the serum is poured out into the lungs, giving signs such as crepitation, high-pitched percussion note, and diminished voice sound. In renal disease we have, instead of a low tension, a high one, with a hypertrophied heart. The signs are the same, but the edema is more apt to be in the upper portion of the lungs. It is an extremely serious condition. Edema is one of the most formidable complications of typhoid fever, occurring in the third or fourth week of the disease. In cases with feeble heart the treatment consists in digitalis, in combination with iodide of potash, to increase the contractile power of the ventricles. Another valuable procedure is venesection, or wet-cupping. In uremia the treatment is quite different; nitrate of amyl, nitroglycerin, and ether, to relieve tension and remove toxins. Iodides are valuable. In enteric fever stimulants and supportive remedies are in order.—*Treatment.*

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 11.
Whole No. 1818.

New York, September 9, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### SCIATICA AND ITS TREATMENT.*

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ATTENDING NEUROLOGIST TO THE LEBANON HOSPITAL; CONSULTING NEUROLOGIST TO THE MANHATTAN EYE AND EAR HOSPITAL AND THE HARLEM HOSPITAL.

Pain in the course of the sciatic nerve is of very common occurrence, but genuine sciatic neuralgia is extremely rare. Most of the cases assumed to be sciatic neuralgia are usually either a mild or a severe form of perineuritis or interstitial neuritis, and should be so designated, and others are symptomatic of interference with the nutrition of the nerve through some extrinsic lesion. Unfortunately, the indefinite term "sciatica" has been indiscriminately applied to all painful affections in the course of this nerve, regardless of its etiology or the nature of the pathological process. Nevertheless, for brevity's sake, and for lack of a better substitute, I shall use this traditional but euphonious term as descriptive of the affection under consideration. It will be appreciated later in the course of my remarks that sciatic pain is obviously a symptom in the vast majority of cases, and this point I wish to emphasize at the outset.

In my experience, the commonest causes of sciatica are exposure to cold, over-fatigue of the lower extremities, and pressure on the nerve from sitting habitually on a hard chair or bench, in susceptible individuals whose metabolic processes are impaired, be it in the form of rheumatism, gout, diabetes, or alcoholism. It often arises from injuries which may easily involve such a large vulnerable nerve, which in its course is mostly surrounded by muscle. It is thus affected by the strain of lifting heavy weights, after prolonged horseback or bicycle riding, long drives over rough roads, overwork at the treadle of sewing machines, etc. This will explain the frequent occurrence of this disease in males between the twentieth and sixtieth year, as they are more exposed to the above-mentioned causes than women.

The mildest and most favorable type of sciatica with which we have to deal is the following: A rheumatic patient, after sitting on a hard surface for a few hours at first notices numbness (from pressure) in the foot or leg, and later sciatic pain develops. Such patients are also subject to similar sensations in the ulnar distribution from pressure during sleep.

As a symptomatic manifestation, its correct interpretation is of paramount importance, as sciatic pain occurs in all diseases of neighboring organs that are associated with compression of the sciatic nerve or the sacral plexus. Tumors and inflammation within the pelvis or of the spinal meninges, vertebral caries, uterine disease, pressure of the pregnant uterus, injuries accompanying parturition, malignant disease of the rectum or its distension with hardened feces, internal hemorrhoids, aneurysm of the abdominal aorta, and sarcoma of the femur have all been recognized as the cause of sciatic pain.

Sciatica may result from a dislocation or fracture of the thigh, ischiadic hernia, neuroma, aneurysm of the popliteal artery, flatfoot, and even tight shoes.

While in some instances it is in all probability a local manifestation of a general toxemia, it is very rarely observed as a result of toxemia from lead or mercury. The same may be said of sciatic neuritis of syphilitic origin. Sciatic pain has often been noted as an accompaniment of gonorrheal urethritis and epididymitis, which is evidently a referred pain. It has also occurred in patients with malarial toxemia. Chronic interstitial nephritis and arteriosclerosis may also present a causal relation to sciatica.

Anemia, chlorosis, hysteria, and neurasthenia have much less influence in its production than in other forms of neuralgic pain. Climatic and atmospheric conditions are not to be underestimated. In the more pronounced forms, that are secondary to organic disease of adjacent structures, the affection should always be regarded as neuritis, for several or many signs of neural inflammation are invariably present.

In an individual case, the cause is often more difficult to determine than would at first appear. After observing a large number of cases, one discovers that no two cases are exactly the same in their origin or course.

For simplicity in classification they may be divided into two groups, according to the duration and the stage of development. In the first group are those which develop suddenly or very rapidly while in the second are those which develop slowly. Sciatica due to exposure to cold develops rapidly and often suddenly. Cases that develop slowly are often either symptomatic of intra-pelvic disease, or due to some form of external pressure, or are secondary to inflammation of adjacent structures.

The diagnosis of sciatic perineuritis is based upon the presence of pain or tenderness on pressure over the nerve trunk, which sometimes radiates to the foot or toes; pain elicited or increased by passive extension of the leg upon the thigh while the thigh is held at a right angle with the pelvis; and diminution or loss of the Achilles reflex. The absence of these symptoms leads at once to the assumption (which in nearly every case is confirmed by further examination) of either a very mild degree of perineuritis, or a symptomatic or reflected pain resulting from intrapelvic disease. However, the signs of neuritis vary in degree in every case just as the element of pain. In doubtful cases, particularly in women, pelvic and rectal examination are absolutely essential.

Degenerative neuritis (interstitial or parenchymatous), which is very rare and usually due to injury or growths directly involving the nerve, is attended by unmistakable phenomena in addition to pain, such as paresis or paralysis, atrophy, loss of the Achilles reflex, anesthesia, vasomotor disturbances, and loss

* Read before the Bronx Medical Society, April, 1905.

* In preparing this paper, I have not had the necessary time to review my records and classify the cases from an etiological standpoint. But a statistical report is not of much clinical value anyway, so that nothing has been lost by the omission.

of faradic irritability in the distribution of the sciatic nerve.

A man thirty years of age was dragged some distance under one of the cars of a freight train, which resulted in dislocation of the hip-joint and an extensive lacerated wound, dividing the trunk of the sciatic nerve. When seen a year later, the hip-joint was normal and the wound had completely healed, but there were pain, paralysis, atrophy, and anesthesia in the sciatic distribution, yet he was able to walk without assistance. He remained in the same condition for several years, and then passed from observation. This case is mentioned in order to recall the remarkable fact that even when the conductivity of the nerve is destroyed, whether from traumatism, growths, or degenerative neuritis, the patient is still able to walk, although all of the muscles supplied by the nerve are completely paralyzed. What a contrast, when from neuritis or injury of the anterior crural nerve, the patient's leg becomes absolutely useless for locomotion, owing to paresis or paralysis of the quadriceps group!

The sciatic nerve has also been involved in tumors, such as sarcomata, myxomata, and fibromata. The growths are usually sarcomatous, and spring entirely, as a rule, from within the nerve sheath, and, forming an infiltrating mass, ultimately destroy the nerve. Such patients have been treated unsuccessfully for sciatica for a long time, before the true nature of the trouble has manifested itself.

Lumbago, *i.e.* lumbar myositis, which is frequently accompanied by pains radiating towards the thigh, is sometimes mistaken for sciatica. Periostitis or osteomyelitis of the femur or tibia may also be confounded with sciatica, a fact often discovered later by the surgeon. Or the presence of foci of rheumatic myositis may induce a clinical picture resembling sciatica.

Mr. B. for several years visited the baths as Sharon and Richfield Springs, in order to be relieved of a supposed sciatica. I saw him for the first time in 1895, and his gait and the position of the limb did not correspond with that usually seen after a sciatica of several years' duration. After a careful examination, not a single symptom of involvement of the sciatic nerve could be found. However, a region was discovered over the femur which was painful and swollen. On exploratory operation, considerable periostitis with infiltration of surrounding tissues was evident. Surgical measures resulted in complete recovery in a few weeks.

Acute rheumatic inflammation of the hip-joint is not so likely to be mistaken for sciatica as the more chronic forms of coxitis, such as tubercular arthritis. Inflammatory affections of the sacro-iliac-synchondrosis are commonly mistaken for sciatica. The same may be said of osteoarthritis of the lumbosacral region, the pain being caused by involvement of the nerve roots in the inflammatory exudation along the vertebræ. Pain in the course of one or both sciatic nerves may be an early and premonitory symptom of tumor of the spinal cord. Hence, in all cases of sciatica of long standing, a search should be made for evidence of a possible neoplasm. When a growth or meningitic process involves the cauda equina, the pain is more likely to affect both sides. In this connection, let me call your attention to the necessity of distinguishing sciatic neuritis from the pains of tabes. In the latter, the pains are often bilateral and more or less periodical; they are momentary in duration, usually affecting small spots in different parts of the limbs, and are associated with other symptoms of tabes, such as loss of knee-jerks, etc. In uncomplicated sciatica the knee-jerks are always exaggerated.

At times, from overwork of the healthy extremity in unilateral sciatica, similar pain is developed on the other side. The uninitiated may be readily deceived in such a case, for it also happens that one side becomes affected shortly after the other in beginning disease of the cord and its meninges. Of course, the diagnosis of spinal cord disease is not based only upon the location of the pain, but upon its association with other phenomena.

A brief narration of a few unconventional cases selected from my records will, do doubt, prove interesting.

A man forty years of age had for a long time complained of unilateral sciatic pain. He was treated ineffectually for several months, when it was for the first time noticed that the great trochanter was slightly enlarged. This gradually increased, and it soon became evident that the pain was due to osteosarcoma of the femur. This ultimately extended to the pelvis and terminated fatally.

Mrs. F., thirty-five years of age. Left sciatica of one year's duration. I had her examined by a gynecologist, who reported everything normal, including the bladder and rectum. The pain was relieved by local treatment of the limb. In four months she was completely well. Two months later, metrorrhagia. Another examination revealed uterine fibroids, which continued to increase in size, the pain returning and resisting all treatment. Ultimately, on account of the repeated hemorrhage, she submitted to operation. The pains disappeared and have never returned. Seven years have elapsed since the operation.

Mr. L., twenty-five years of age, had vertebral caries during boyhood, and was under the care of the late Dr. Ketch for twelve years, and has always worn a brace. The carious process healed, leaving him with a pronounced kyphotic deformity. His general health remained satisfactory. He consulted me in the fall of 1898. For a few months previously there had been dull, heavy aching in both thighs, anteriorly and posteriorly. This soon disappeared. Several weeks later, gradual but rapid development of left sciatic neuritis extending to the foot. It was discovered, much to his surprise, that the trouble was due to pressure from the heavy steel spinal brace that he had been wearing many years. The removal of the brace and the adjustment of a new support was followed by rapid amelioration of the pain. After several months' treatment, he made a permanent recovery.

Mrs. S., thirty years of age. In the fourth month of pregnancy complained of sciatic pain, which was especially worse at night while in bed. The pain was very much less when standing or bending forward. She discovered that, lying partly on her abdomen and sidewise, she was able to sleep, but should she change this position the pain returned immediately. Post partum, the pains disappeared at once. In a subsequent pregnancy there was a repetition of the same conditions. This case represents a pure type of symptomatic neuralgia from intrapelvic pressure. No doubt, the obstetricians will tell us that such cases are quite common.

Mrs. W., twenty-eight years of age, gradually developed left sciatic neuritis. She was decidedly rheumatic, and had always suffered from constipation. She had been confined to her bed for five months. There was more or less myositis of the lumbar muscles, and she was unable to change her position in bed without extreme pain. Although no symptoms relating to the rectum other than the persistent constipation had been complained of, yet a large mass of internal hemorrhoids was discovered, and removed by clamp and cautery. This was followed by rapid improvement, and simplified the management

of the constipation. Systematic treatment resulted in complete recovery at the end of two months.

The risk of accepting the patient's own diagnosis, or basing one's conclusions on the patient's description of the pain, must be quite evident, yet this is done only too frequently, and further examination is commonly neglected. Of course, the location of the pain is usually established by the patient's own statement, although even this must be carefully analyzed. But the etiological diagnosis in an individual case is the predominant feature. In view of the multifarious conditions that may occasion sciatic pain, the discovery of the cause is often beset with difficulty, and in its accurate determination at times requires the cooperation of the neurologist, gynecologist, or surgeon.

In the management of patients with sciatica our first duty is to ascertain the cause, and, if possible, remove it. While this is often extremely difficult, and at times impossible, constitutional conditions should always receive appropriate attention. Haphazard or empirical therapeutics, without the indispensable preliminary examination, is deserving of all the condemnation it has received. It is hardly necessary to state that in those cases in which the cause is still operative and removable, the most brilliant and gratifying results are obtained. On the other hand, in the presence of malignant or irremediable organic disease, palliative measures seem to be our only hope.

Effective remedies are at our disposal, but their successful utilization depends upon their skilful selection and adaptation to the case in hand. In the acute cases, the relief of pain as soon as possible is a *sine qua non*. The patient must be kept at rest in bed, with or without fixation of the extremity by a long splint, according to indications. A hot, wet pack is then applied to the limb.

The ice-bag has not always been as servicable, although it is certainly of value in some cases. The lower bowel is then cleansed by enema, which is followed by hot saline irrigation (with a Kemp's tube) at a temperature of about 110°, or as hot as the patient can bear it, for thirty or forty minutes. I have resorted to this method of irrigation several times daily in a number of cases, and it has invariably been followed by great relief. When the pain is so severe that the patient will not tolerate any handling, it may be necessary at first to administer morphine or codeine, or a morphine or opium suppository. Calomel or castor oil should also be given, a very important feature in all of these cases being to keep the lower bowel free from accumulation as well as to eliminate toxic intestinal products. As the restlessness and pain are usually worse at night, much benefit and relief will be derived from the use of a morphine or opium suppository each night until the acute symptoms have subsided. Consequently, I have repeatedly known patients to arise the following morning and rest comfortably for several hours upon a lounge. There need be no hesitancy about this plan of administering opium in these cases, for, if one neglects to do this, and lets the patient go through a night of distress, he naturally becomes discouraged and despondent. Some diversity of opinion exists among writers as to the use of massage in acute cases. In my experience, it has proved in many instances a very valuable adjunct, but its value depends upon the skill and dexterity of the operator and the degree of sensitiveness of the patient.

As a rule, it is more applicable after the acute symptoms have subsided. If massage is done too vigorously the pain is increased; hence, the greatest delicacy of manipulation is essential. During the last two winters I have attended a number of physicians suffering from acute sciatic neuritis, and they have all testified as to the relief obtained by suitable massage. As soon as practicable, more active hydrotherapeutic measures should be instituted. Superficial linear cauterization with the Pacquelin along the course of the nerve trunk and over the sacral region is often remarkably efficacious in relieving the pain.

The continuous galvanic current has also proved serviceable in my hands at the end of the first week. Large electrodes should be used (4 by 6½ inches), the weight of the patient's body while in recumbency holding them in contact with the skin. One electrode is placed over the lumbosacral region and the other over the posterior surface of the thigh, and the latter changed to the popliteal space during the course of the application by a sliding motion without removing it from the skin. The polarity is immaterial. The seance should last from ten to fifteen minutes daily, or oftener, and the current strength as much as the patient can tolerate with comfort. Great care should be observed that the metallic surface of the electrodes is adequately protected, otherwise painful eschars will result which take a long time to heal, and materially interfere with the continuance of electrical treatment. Galvanism is of more value, however, in the mild, subacute, or chronic cases.

Mild cases may be treated by the application of hot water cloths, followed by massage and rectal irrigation. Such simple means will often suffice in effecting a cure. In some instances, the pain may be relieved by salipyrin, aspirin, or phenacetin. Most of the acute cases, under proper management and control, recover promptly, but with the probability of recurrence. Hence, systematic preventive measures should be followed for several months or longer.

In the subacute or chronic forms, the treatment is somewhat different, and, as a rule, very little can be expected from the use of drugs excepting as adjuvants. A modified form of "rest cure" is quite essential in many cases. The occupation and habits of the patient often require radical change, particularly in people whose vocation necessitates violent and active muscular exercise of the extremities. In those whose employment requires an almost continuous sitting position, we must not forget to instruct them to change their attitude from time to time, and to sit on a soft seat or air cushion in order to protect the nerve from pressure.

Daily massage with passive movements and regulated systematic exercises, together with occasional passive extension of the limb for the purpose of producing moderate stretching of the nerve and loosening any adhesions, are among the most reliable and efficient means at our command.

Judicious hydrotherapy in some form should never be neglected. In conjunction with the foregoing plan, more cures have been accomplished than by any other methods, always taking into consideration the general management. The local wet pack or the Scotch douche, or both, have proved most serviceable, although other hydriatric procedures have been recommended. The wet pack applied at night is a very excellent means for relieving the pain as well as influencing favorably the neuritic process. For this purpose, we may make use of one leg of a heavy pair of drawers, which is dipped in water at 65° F., and placed in position like a stocking. A roller bandage is then applied, so that the leg may be kept in a continuous perspiration all night. This is removed in the morning, and followed by a warm water ablution and massage, etc. The same procedure may be repeated during the day if necessary. After about ten or twelve packs much improvement often results.

In some chronic cases, static electricity either in the form of sparks or the static induced current, or the Faradic wire brush, have proved more or less efficacious as supplementary to other treatment. Blistering over the course of the nerve by the application of cantharidal collodion is also useful, and is much more elegant than the troublesome old-fashioned fly-blister. It will suffice to mention the use of acupuncture, methyl chloride, or carbonic acid spray, and the injection of cocaine or sterilized water into the nerve trunk, all of which have had their advocates, and at times afford temporary relief from pain.

Notwithstanding its historical interest, it would be a waste of time to enumerate the multiplicity of drugs that have been utilized for "better or worse" in this disease.

A certain percentage of patients with chronic sciatic neuritis have proved unamenable to treatment, it has seemed to me, because they have not submitted to any persistent or systematic plan, but, becoming discouraged, have resorted to desultory methods until the affliction has become intolerable. After going the rounds, and having "tried" this and that doctor, or this and that "treatment," they are anxious to have something new and radical done for their relief. Then the surgeon is asked to cut down and stretch the nerve, or to do a "bloodless stretching" by forcible extension. Unfortunately, neither of these operations are absolutely safe, for both have been followed by myelitis, and both have usually proved inefficacious, although some temporary improvement has ensued.

In long-standing and persistent cases, I should be in favor of exploratory operation for the purpose of exposing the nerve trunk, and incising its sheath and freeing it from any surrounding adhesions. This should be followed later by the methods heretofore described.

Aside from those cases in which the sciatica is only a symptom of severe bone disease, affections of the spinal cord, or pelvic tumors, etc., the prognosis is not always to be looked upon as unfavorable. The expectation as to recovery is better in young than in old persons, and in those in fair general health, than those with renal disease or diabetes. The more pronounced neuritic processes are not so rapidly amenable to treatment as the milder types, and one attack predisposes to a recurrence.

The plan of treatment must necessarily vary with each case. Measures that are curative in one case may be absolutely useless in others, although clinically, the conditions are apparently the same. While it must be admitted that some cases are exceedingly rebellious to ordinary methods, the attending physician will sooner or later come to the realization of the fact that, when the circumstances and surroundings of the patient do not permit of prolonged and systematic management at home, very little can be accomplished toward a cure outside of a well-conducted course in a hospital or sanatorium.

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**Diphtheria of Wounds.**—R. Balderi gives us the history of three operative cases seen in the orthopedic wards of Rome, in which the wounds became infected with diphtheria. When the wounds were opened, on account of rise of temperature and tumefaction, it was found that the surfaces were covered with a grayish-white membrane. Cultures from this membrane showed Klebs-Loeffler bacilli, and antidiphtheritic serum caused it to disappear, and the children recovered. He gives us the following conclusions; (1) Sterilization of all materials used in dressing wounds is most important. (2) Hospital gangrene is produced by the Loeffler bacillus combined with the pyogenes communis. (3) In every case of hospital gangrene Behring's serum should be used at once and repeated until cure results.—*Gazzetta Medica di Roma.*

## A SCIENTIFIC CLASSIFICATION OF THE METHODS OF MODIFYING COW'S MILK FOR INFANT FEEDING.

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From time to time various methods of modifying or adapting cow's milk for the use of infants have been brought forward and advocated by different authorities. Many of these methods differ widely in the principles involved, and to any one engaged in teaching the subject of infant feeding the problem which arises at the outset is: Which method shall be taught? Which principle is the correct one?

Only a few years ago surgery was in the hands of a few; to-day competent surgeons are found in almost every small town, because the principles of asepsis on which successful surgery depends are well and uniformly taught. Good infant feeders would be as well distributed as good surgeons if the principles of infant feeding were settled beyond dispute. It is time that a clear understanding of the principles involved in the various methods of feeding became general, and that these methods be used, or not used, on their merits, and with a distinct knowledge of their effects.

The student of to-day is laboratory trained, and the teacher must be able to *demonstrate* to his pupil the teachings concerning infant feeding. He will then be able to weigh the evidence presented, and later correctly interpret his clinical observations. Incidentally, the demonstrator may, and probably will, disprove some of the present accepted teachings.

The object of this paper is not to advance any particular method of feeding, but to classify the principles involved in all of the methods proposed, and also to show the effect of the use of these methods. The scientific principle applied in the method of any authority can then be readily ascertained. What will be stated below as facts are either self-evident truths or are capable of demonstration. Before attempting a classification, it will be helpful briefly to outline the peculiar processes of infantile digestion and development.

*The Infant.*—If one of the modern text-books on biology or zoology is studied, it will be found that after any species or class of animals is described, a special section is devoted to the peculiar changes of form and function that take place in the young during their development. It is certain that the works on infants of the future will consider them from the biological standpoint and in a similar manner.

Young suckling animals at birth are not like chickens when hatched, little adults which simply enlarge to become adults. They develop new functions during the suckling period, and are gradually changing both their form and functions until the natural period of weaning, after which growth consists principally of enlargement. The anatomy of a young mammal is not the same as that of the adult. Especially is this so in the case of the digestive tract. Teeth are absent and the stomach is not like that of the adult, or proportional quantities of the adult food could be eaten and digested. It is evident, therefore, that the physiology of adult life does not apply to developing animals, and that milk must be a food that is peculiarly suited to an undeveloped stomach or it would not be supplied. There must be something about milk that is different from ordinary food that makes it particularly suitable for the developing young.

It is well known that during the suckling period the digestive tract develops and changes in its functions, and that when weaning takes place in nature the young are fitted to digest food natural to the species. Aside from the colostrum of the first week after birth, milk has been supplied by the mother which has practically the same composition and properties during the whole lactation period. Here, then, is apparently a curious state of affairs. The stomach of the young animal, constantly growing stronger, and still being supplied with the food that was suitable for the very weak stomach of the first few weeks of life. This is contrary to all observations of how changes of structure and function are produced in nature. Organs and muscles are increased in size and strength by greater use and not by continually lessening their work.

As mother's milk does not undergo any change in character as the young develop, it should suggest itself that possibly as the stomach develops *it* changes the milk so as to make it suitable for its altered form and function. As a matter of fact, the stomach secretions *do* change the milk before it is digested, building it up into solid compounds or curds, whose character depends upon the kind of digestive juice that is secreted. Bearing in mind that organs have a special form to fit them for special functions, this action of the stomach should be looked upon as being a necessary part in the digestive process, and one not to be lightly ignored or perverted in artificial feeding. If the stomach never received any solid food until weaning, how poorly prepared it would be for this kind of nourishment! But if it had been having milk changed into a solid which gradually became more difficult of digestion as the digestive secretions became stronger, how easily the stomach could take care of solid food as it was gradually added to the diet! Instead of the solid food coming as a shock, it would be only a little more difficult of digestion than milk, and the stomach would hardly notice the change. A large factor in feeding is gradually changing the diet and avoiding sudden changes in the character of the food. It can be readily demonstrated by adding to milk digestive secretion of increasing strengths, that as the digestive juice becomes stronger and assumes the adult type the milk is altered and requires more digestive effort.

*Digestive Secretions.*—At birth the mammary glands secrete colostrum whose proteids are principally soluble. Colostrum is gradually displaced by milk which has its proteids, or a part, at least, in the form of casein combined with calcium or lime[5] which forms curds in the stomach. After the milk flow is established the character of the milk does not change to all intents and purposes. The stomach of the young animal first secretes rennet ferment, which changes the casein and lime compound into a paracasein compound[5] (junket curd), which is unaffected by pepsin.[6] When a small quantity of acid is secreted it combines with some of the lime of this paracasein compound and forms a *free paracasein*[5] curd that is digestible by pepsin. Free paracasein curd is denser than the precipitated paracasein curd in combination with lime, which is produced by rennet alone. In the presence of still more acid the free paracasein acts as a base which combines with the acid to form chloride of paracasein,[5] which is also digestible by pepsin. Thus it is that the stomach secretions may form three distinct *solid compounds* with the casein of the milk, having different forms and digestive properties, depending on the strength of the secretions. Milk, it will be seen then, is a peculiar food that changes its physical form upon contact with the digestive secretions before digestion commences, for the purpose of supplying the stomach with a solid food of increasing density. Each milk obtained from a different species of animals will form a curd peculiar to itself. As the stomachs of young animals imperceptibly pass into the form and develop functions of the adult stomach while digesting mother's milk, it is evident that the mother's milk must be digested very much as the maternal solid food is digested. As the stomachs of animals show such marked differences of form and methods of digesting food, it is not at all surprising that the milks of animals with widely differing methods of digestion should show wide differences in properties. What else could be expected? The problem of the infant feeder in modifying milk then is like that of the dressmaker in making over an old-style dress. It is not like making up a piece of new goods. A great deal of ingenuity often must be employed to make a fit, but many of the methods of feeding pay no attention to either style or fit.

With this knowledge of the constructive effects of the digestive secretions on milk, it will be easy to grasp the following classification of methods of modifying milk:

*Classification of Methods of Modifying Cow's Milk.—Group 1. Methods that affect only the quantitative composition of cow's milk:* (*a*) Simple dilution with water; (*b*) dilution plus fat plus sugar; (*c*) removal of a portion of the casein (whey and cream mixtures).

*Group 2. Methods that prevent or alter the formation of curds in the stomach by inhibiting rennet action:* (*a*) Addition of lime water until slightly alkaline; (*b*) addition of carbonate of potassium until slightly alkaline; (*c*) addition of borax until slightly alkaline.

*Group 3. Methods that prevent or alter the formation of curds in the stomach by inhibiting rennet action, and also neutralize the acid of the stomach:* (*a*) Addition of 1 to 2 grs. bicarbonate of soda to the ounce of food; (*b*) addition of syrup of lime; (*c*) addition of magnesium hydrate.

*Group 4. Methods in which acids precipitate the casein and prevent the formation of rennet curds:* (*a*) Buttermilk feeding; (*b*) kumyss feeding; (*c*) matzoon feeding; (*d*) addition of dilute hydrochloric acid.

*Group 5. Methods that profoundly alter the character of the milk:* (a) Peptonizing milk; (*b*) addition of citrate of ammonium, 1 to 2 grs. to the ounce of milk; (*c*) addition of citrate of potassium, 1 to 2 grs. to the ounce of milk; (*d*) addition of citrate of sodium, 1 to 2 grs. to the ounce of milk; (*e*) addition of oxalate of ammonium, ½ to 1 gr. to the ounce of milk; (*f*) addition of oxalate of potassium, ½ to 1 gr. to the ounce of milk; (*g*) addition of oxalate of sodium, ½ to 1 gr. to the ounce of milk.

*Group 6. Methods that indirectly alter the milk:* (*a*) Scalding or boiling; (*b*) pasteurization; (*c*) sterilization; (*d*) condensed milk; (*e*) evaporated creams.

*Group 7. Methods that mechanically alter the curds of milk without affecting the action of the digestive secretions:* (*a*) Dilution with plain gruels; (*b*) dilution with digested or dextrinized gruels.

*Detailed Study of the Various Groups.—Group 1. Methods that affect the quantitative composition of milk:* The food of animals is subdivided into proteid, mineral matter and water, forming the blood and tissue builders, and fats and carbohydrates, forming the energy foods. These food elements are in all complete foods in one form or another, and, of course, in milk. The proportions in which they exist in milk are in direct relation to the rapidity of growth of the young animal, rapidly grow-

ing animals, naturally needing more of the blood and tissue building elements than slowly growing animals. It may safely be inferred that to insure proper growth and development, the infant needs as much tissue and energy foods as are found in human milk. They are supplied in human and cow's milk in about the following proportions:

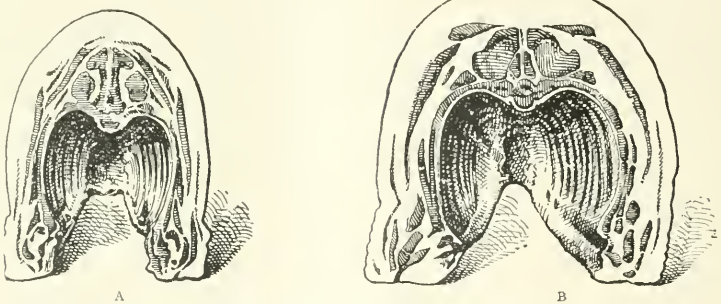
| | TISSUE BUILDERS. | | ENERGY FOODS. | |
|---|---|---|---|---|
| | Proteids. | Mineral Matter. | Fats. | Carbohydrates. |
| Cow's milk | 3.00–4.00% | .70–.80% | 3–5% | 4–5% |
| Human milk | 1.25–1.75% | .20–.25% | 3–5% | 6–7% |

The energy foods exist in cow's milk in about the same quantities as in human milk, but the tissue building foods are in larger amounts in cow's milk, as the calf grows more rapidly than the infant. It is the proteid of the cow's milk that forms the curds in the stomach, and to reduce the quantity of the curd the milk is diluted. This is often done as a clinical measure without any scientific reason.

When milk of the cow is diluted to reduce the addition of fat or cream and sugar. As any excess of energy foods is converted into body fat, it is found that an infant fed liberal quantities of sugar and moderate amounts of fat will gain rapidly in weight and apparently grow, even if the quantity of proteid is very low. Thus gain in weight may be made even if the infant is receiving a much smaller quantity of proteid than is found in human milk, as is seen in condensed milk feeding:

| | TISSUE FOODS. | | ENERGY FOODS. | |
|---|---|---|---|---|
| | Proteids. | Mineral Matter. | Fats. | Carbohydrates. |
| Condensed milk. | | | | |
| Diluted 15 times | 0.48% | 0.12% | 0.56% | 3.60% |
| " 10 " | 0.72% | 0.18% | 0.84% | 5.40% |
| " 7½ " | 0.96% | 0.24% | 1.12% | 7.20% |
| Human milk | 1.25–1.75% | .20–.25% | 3.00–5.00% | 6.00–7.00% |

Since a large part of the difficulty in feeding infants with cow's milk lies in the inability of the infants to digest the proteid or curd of the milk, and as apparent growth can be made on fats and sugars, it is taught that the quantity of proteid in the in-



A B

Section of two pigs from the same litter; A, fed on low proteids; B, fed on high proteids.

| At Beginning of Experiment. | | | Comparative Results at End of Experiment. | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Age. | Weight. | Diet. | Weight. | Wt. of Blood. | Wt. of Liver. | Wt. of Spleen. | Wt. of Heart. | Wt. of Kidneys | Length of Body. |
| A.—100 days. | 50 lbs. | Low proteid. | 130 lbs. | 3.5 lbs. | 2.8 lbs. | .2 lbs. | .5 lbs. | 4 ozs. | 37.5 in. |
| B.—100 days. | 52 lbs. | High proteid. | 211 lbs. | 7.8 lbs. | 3.6 lbs. | .2 lbs. | .6 lbs. | 12 ozs | 40. in. |

quantity of proteid, the energy foods—fats and carbohydrates—are reduced to below the quantities supplied in breast milk, and which are necessary for the infant, as is shown in the following table:

| | TISSUE BUILDERS. | | ENERGY FOODS. | |
|---|---|---|---|---|
| | Proteids. | Mineral Salts. | Fats. | Carbohydrates. |
| Human milk | 1.25–1.75% | .20–.25% | 3.00–5.00% | 4.00–5.00% |
| Cow's milk— | | | | |
| Diluted to ½ | .75–1.00% | .18–.20% | .75–1.25% | 1.00–1.25% |
| " to ⅓ | 1.00–1.33% | .23–.27% | 1.00–1.70% | 1.33–1.70% |
| " to ½ | 1.50–2.00% | .35–.40% | 1.50–2.50% | 2.00–2.50% |

The effect of this method is that proteid which is difficult of digestion, and which should be used for growth, is called upon to supply the energy that is needed by the infant and is used as fuel. The result is that the infant does not gain in weight and strength as it should, even when it is taking as much proteid as is supplied in human milk. When fat or cream and sugar are added to diluted cow's milk, they can supply energy and allow the proteid to be used in making new blood and tissue.

| | TISSUE BUILDERS. | | ENERGY FOODS. | |
|---|---|---|---|---|
| | Proteids. | Mineral Salts. | Fats. | Carbohydrates. |
| Cow's milk 1 + water 2 = | 1.00–1.33% | .23–.27% | 1.00–1.70% | 1.33–1.70% |
| Add cream and Sugar = | ..... | ..... | 2.00–2.30% | 4.67–5.30% |
| Milk + water + cream + sugar = | 1.00–1.33% | .23–.27% | 3.00–5.00% | 6.00–7.00% |
| Human milk | 1.25–1.75% | .20–.25% | 3.00–5.00% | 6.00–7.00% |

In this way growth can be made on a dilution of milk that would be a starvation diet without the fant's food should be greatly reduced, as in the following formulas, keeping up the quantity of energy food to a high point at the same time:

| | TISSUE FOODS. | | ENERGY FOODS. | |
|---|---|---|---|---|
| | Proteids. | Mineral Salts. | Fats. | Carbohydrates. |
| | 0.25% | .04% | 3.00–4.00% | 6.00–7.00% |
| | 0.50% | .08% | 3.00–4.00% | 6.00–7.00% |
| | 0.75% | .12% | 3.00–4.00% | 6.00–7.00% |
| | 1.00% | .16% | 3.00–4.00% | 6.00–7.00% |
| Human milk | 1.25–1.75% | .20–.25% | 3.00–5.00% | 6.00–7.00% |

As a large excess of energy foods above the actual requirements of the infant is generally fed with the low proteid, this is converted into body fat and the infant gains in weight; it is supposed to be growing, but in reality it is being stunted and deprived of its natural rights, for true growth cannot take place without sufficient supply of proteid and mineral matter for the bones. Fats and carbohydrates are not converted into vital tissue, and an infant receiving only one half as much tissue food as a breast-fed baby cannot become as well developed. The laying on of fat masks the lack of tissue development. The illustration and comparative weights from animals fed in this manner[1] show the effect on the body development of feeding small quantities of tissue food with large quantities of energy foods. All of the organs are stunted, the chest is contracted, and there is a small amount of blood in the body. The bones also are weak in animals fed low proteid.[2]

Such nutrition experiments have been conducted continuously for about ten years with the same re-

sults everywhere.[2] The following is the average of seven sets of litter brothers fed high and low proteids[1]:

AVERAGE OF SEVEN LITTER PAIRS OF ANIMALS.

| | Weight. | Wt. of Blood. | Wt. of Spleen. | Wt. of Liver. | Wt. of Heart. | Wt. of Kidneys | Length of Body. |
|---|---|---|---|---|---|---|---|
| Low Proteid Diet. . . . . | 172.5 lbs. | 4.5 lbs. | .18 lbs. | 2.6 lbs. | .46 lbs. | 5.71 ozs. | 38.4 in. |
| High Proteid Diet. . . . . | 208.3 lbs. | 6.02 lbs. | .25 lbs. | 3.26 lbs. | .50 lbs. | 10.30 ozs. | 39.0 in. |

W. A. Henry[2] gives the following comparative results of high and low proteid feeding, reduced to a basis of equal weight:—

| | Blood per 100 lbs. Weight. | Liver per 100 lbs Weight. | Muscular Tissue. | Strength of Bone. |
|---|---|---|---|---|
| Low proteid diet . . . . . | 36.8 ozs. | 31.9 ozs. | 1.00 | 380 |
| High proteid diet. . . . . | 51.2 ozs. | 48.4 ozs. | 1.33 | 503 |

*Whey Feeding.*—As the curds of cow's milk which has been diluted often causes indigestion, it has been proposed to remove the casein from which the curd is formed by the rennet ferment of the infant's stomach and feed the remaining soluble whey with more or less quantities of the casein. As the casein was placed in milk for the specific purpose of supplying the solid food for the growing stomach, its removal, except temporarily, cannot be looked upon as a rational method of preparing foods.

*Group 2. Methods that inhibit rennet action and formation of curds:* It has been generally believed that one of the great differences between human milk and cow's milk is that cow's milk is acid and human milk is alkaline in reaction and that some alkali should be added to cow's milk to make it like human milk. When both milks are tested with litmus paper, a great variety of results may be obtained.[3] Varying grades of litmus paper will show the same milks to have all kinds of reactions, so that a more delicate reagent—phenolphthalein—is used to determine the reaction of milks. With this test it is found that both kinds are decidedly acid.[3]

"It may be well in this connection to call attention to the inaccuracy involved in attributing the acidity of milk or cream to lactic acid alone. The usual method of determining acidity in milk or cream is to titrate a given amount of milk with a standardized solution of fixed alkali, using phenolphthalein as indicator, the alkali being added to the milk until a fairly permanent pink color appears. Lactic acid is not the only compound in milk that neutralizes alkali. It is well known that strictly fresh milk which contains no lactic acid, neutralizes an appreciable amount of alkali. The compounds in fresh milk or cream that have the power of neutralizing alkali are the following: (1) Calcium casein (milk-casein); (2) acid phosphates and citrates, and (3) carbon dioxide. Of these, the calcium casein and acid phosphate appear to be the most prominent in neutralizing alkali" (Van Slyke and Hart).[4]

Human milk requires 10 to 20 per cent. of lime water to neutralize it, and cow's milk 50 to 80 per cent.[3] The alkali combines with the casein and forms a definite compound called basic calcium casein.[5] This product, which is neutral to phenolphthalein, will not be changed into a curd by the rennet ferment of the stomach even in the presence of soluble lime salts, as will the natural casein of fresh milk.[5]

Many of the authorities state that 5 per cent. of lime water is sufficient to add to cow's milk to give it the same reaction as breast milk, but further recommend that the same percentage should be added to the infant's food, no matter how much the milk it contains is diluted. Also that for young infants whose food contains very small quantities of milk, 10 per cent. of limewater should be added to the food. In reality this makes the quantity of limewater added to the *milk* of the food as high as 200 per cent., which would more than convert the casein into basic calcium casein, and thus prevent formation of rennet curds. Southworth has recently published a table showing how completely the theory of adding limewater is abandoned in practice.[6]

SOUTHWORTH'S TABLE (Condensed).

| According to Theory Whole milk + 5% lime water is alkaline. | | | According to Practice 5% lime water is added to diluted milk or food. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Food + 5% Lime Water. | | | | Food + 10% Lime Water. | | | | | |
| Alkaline Milk. | + Water = Food. | % Lime Water in Alkal'n Food. | % Lime Water in Milk. | Lime Milk. | + Water + Water = Food. | % Lime Water in food | % Lime Water in milk | Milk. | Lime Water. | Water. Food. | % Lime Water in food. | % Lime Water in milk. |
| 1 oz. | + 19 ozs. = 20 ozs. | 0.25% | 5.00% | 1 oz. | + 1 oz. + 18 ozs. = 20 ozs. | 5% | 100 % | 1 oz. | + 2 ozs. + 17 ozs. = 20 ozs. | | 10% | 200% |
| 2 ozs. | + 18 ozs. = 20 ozs. | 0.50% | 5.00% | 2 ozs. | + 1 oz. + 17 ozs. = 20 ozs. | 5% | 50 % | 2 ozs. | + 2 ozs. + 16 ozs. = 20 ozs. | | 10% | 100% |
| 3 ozs. | + 17 ozs. = 20 ozs. | 0.75% | 5.00% | 3 ozs. | + 1 oz. + 16 ozs. = 20 ozs. | 5% | 33⅓ % | 3 ozs. | + 2 ozs. + 15 ozs. = 20 ozs. | | 10% | 75% |
| 4 ozs. | + 16 ozs. = 20 ozs. | 1.00% | 5.00% | 4 ozs. | + 1 oz. + 15 ozs. = 20 ozs. | 5% | 25 % | 4 ozs. | + 2 ozs. + 14 ozs. = 20 ozs. | | 10% | 50% |
| 5 ozs. | + 15 ozs. = 20 ozs. | 1.25% | 5.00% | 5 ozs. | + 1 oz. + 14 ozs. = 20 ozs. | 5% | 20 % | 5 ozs. | + 2 ozs. + 13 ozs. = 20 ozs. | | 10% | 40% |
| 6 ozs. | + 14 ozs. = 20 ozs. | 1.50% | 5.00% | 6 ozs. | + 1 oz. + 13 ozs. = 20 ozs. | 5% | 16⅔ % | 6 ozs | + 2 ozs. + 12 ozs. = 20 ozs. | | 10% | 33⅓% |
| 7 ozs. | + 13 ozs. = 20 ozs. | 1.75% | 5.00% | 7 ozs. | + 1 oz. + 12 ozs. = 20 ozs. | 5% | 14 % | 7 ozs. | + 2 ozs. + 11 ozs. = 20 ozs. | | 10% | 28% |
| 8 ozs. | + 12 ozs. = 20 ozs. | 2.00% | 5.00% | 8 ozs. | + 1 oz. + 11 ozs. = 20 ozs. | 5% | 12½ % | 8 ozs. | + 2 ozs. + 10 ozs. = 20 ozs. | | 10% | 25% |
| 9 ozs. | + 11 ozs. = 20 ozs. | 2.25% | 5.00% | 9 ozs. | + 1 oz. + 10 ozs. = 20 ozs. | 5% | 11 % | 9 ozs. | + 2 ozs. + 9 ozs. = 20 ozs. | | 10% | 22% |
| 10 ozs. | + 10 ozs. = 20 ozs. | 2.50% | 5.00% | 10 ozs. | + 1 oz. + 9 ozs. = 20 ozs. | 5% | 10 % | 10 ozs. | + 2 ozs. + 8 ozs. = 20 ozs. | | 10% | 20% |
| 20 ozs. | + . . . . = 20 ozs. | 5.00% | 5.00% | 19 ozs. | + 1 oz. + . . . . . = 20 ozs. | 5% | 5 % | 18 ozs. | + 2 ozs. + . . . . . = 20 ozs. | | 10% | 10% |

Any alkali which will render milk neutral or faintly alkaline to phenolphthalein will prevent the action of the rennet forming curds and explains the effect of the addition of small quantities of carbonate of potassium or borax to milk as well as lime water, and part of the effect of adding bicarbonate of soda. The effect of alkaline additions to milk, then, is that of retarding the action of the infant's gastric secretions.

*Group 3. Methods that retard rennet action and neutralize the acid of the stomach:* In the previous group only enough alkali is generally added to convert the casein of the cow's milk into basic compounds which will not form curds with the rennet ferment in the stomach. When a sufficient quantity of acid is secreted to combine with the alkali, the milk is restored to its natural state and it will then form a curd.

In group 3, however, not only enough alkali or antacid is added to form basic compounds with the casein and so prevent the action of the rennet in forming curds, but enough is added to neutralize any acid that may be secreted which would restore to the milk its curding properties. All gastric digestion is thus prevented.

It is stated that the addition of one to two grains of bicarbonate of soda to each ounce of food is sufficient to neutralize the acidity of the cow's milk. The following table, also from Southworth,[6] shows how

much bicarbonate of soda to the ounce of milk is given when this plan is followed:

TABLE

Showing quantity of bicarbonate of soda added to each ounce of milk in a 20-oz. mixture when 1 to 2 grains are added to each ounce of food.—(Southworth.)

| Milk + | Water + | Bicarb. Soda | = Food. | No. Grs. of Bicarb. Soda to each oz. of Food. | No. of Grs. Bicarb. Soda to each oz. of Milk. |
|---|---|---|---|---|---|
| 1 ozs. | + 19 ozs. | + 20–40 grs. | = 20 ozs. | 1–2 | 20–40 |
| 2 ozs. | + 18 ozs. | + 20–40 grs. | = 20 ozs. | 1–2 | 10–20 |
| 3 ozs. | + 17 ozs. | + 20–40 grs. | = 20 ozs. | 1–2 | 6⅔–13 |
| 4 ozs. | + 16 ozs. | + 20–40 grs. | = 20 ozs. | 1–2 | 5–10 |
| 5 ozs. | + 15 ozs. | + 20–40 grs. | = 20 ozs. | 1–2 | 4–8 |
| 6 ozs. | + 14 ozs. | + 20–40 grs. | = 20 ozs. | 1–2 | 3⅓–7 |
| 7 ozs. | + 13 ozs. | + 20–40 grs. | = 20 ozs. | 1–2 | 3–6 |
| 8 ozs. | + 12 ozs. | + 20–40 grs. | = 20 ozs. | 1–2 | 2½–5 |
| 9 ozs. | + 11 ozs. | + 20–40 grs. | = 20 ozs. | 1–2 | 2⅓–4½ |
| 10 ozs. | + 10 ozs. | + 20–40 grs. | = 20 ozs. | 1–2 | 2–4 |
| 20 ozs. | + | 20–40 grs. | = 20 ozs. | 1–2 | 1–2 |

It will be noticed that in mixtures in which milk is moderately diluted five to ten grains bicarbonate of soda are added to each ounce of milk in the food, while in highly diluted food twenty to forty grains to the ounce of milk are given. A twenty ounce mixture, one-fifth milk, would contain twenty to forty grains of bicarbonate of soda and four ounces of milk. Four ounces of *sour* milk are neutralized by about fifteen grains of bicarbonate of soda, so in this case there is added, ostensibly to overcome the acidity of *fresh* milk, a great deal more than would be needed to neutralize the milk if sour. As the milk is not sour the bicarbonate of soda is not used as an antacid in the milk, but remains unchanged and passes into the infant's stomach ready to neutralize its acid and thus prevent gastric digestion. The milk remains fluid and can easily pass into the intestine.

The following table shows how much gastric juice of the adult containing 0.2 per cent. hydrochloric acid is neutralized by different quantities of lime water and bicarbonate of soda:

| Ounces Food | | Ounces Gastric Juice |
|---|---|---|
| 20 | 5–10% lime water neutralizes | 0.8–1.6 |
| | 1–2 grs. bicarb. soda to oz. neutralize | 10.0–20.0 |
| 30 | 5–10% lime water neutralizes | 1.2–2.4 |
| | 1–2 grs. bicarb. soda to oz. neutralize | 15.0–30.0 |
| 40 | 5–10% lime water neutralizes | 1.6–3.2 |
| | 1–2 grs. bicarb. soda to oz. neutralizes | 20.0–40.0 |
| 50 | 5–10% lime water neutralizes | 2.0–4.0 |
| | 1–2 grs. bicarb. soda to oz. neutralizes | 25.0–50.0 |

Syrup of lime and magnesia hydrate are alkaline, and also neutralize considerable acid.

Experiments on animals have shown that the continuous addition of antacid to their food prevents their assimilating food properly and retards development.[7]

*Group 4. Methods which precipitate casein by acids:* When acids are added to cow's milk they first combine with the lime of the calcium casein and liberate free casein; if sufficient acid is present it combines with the free casein and forms an insoluble precipitate like the curd of sour milk.[8,5] The rennet ferment will not form a curd with the precipitated casein of milk, and as this is finely divided and exposes a very large surface to the digestive juices it is digested by adults with greater ease[8] than the solid curds formed from fresh milk by rennet.

In making buttermilk, kumyss or matzoon, lactic acid bacteria develops in the fresh milk, and as they grow produce acid which combines with the casein and forms lactate of casein which is seen as fine flecks in the milk.

The addition of diluted hydrochloric acid to fresh milk produces a separation of chloride of casein.[8] Other acids also produce a similar effect.

*Group 5. Methods that profoundly alter the character of the milk:* As the curdling of milk by rennet in the stomach will not take place in the absence of a soluble salt of calcium or lime, any addition that will render the calcium of the milk insoluble will prevent the formation of curds. The addition of citrate and oxalate of ammonium, potassium, or sodium, causes a combination of the lime with the citric or oxalic acid; and of the casein with the ammonium, potassium, or sodium.[10] No rennet curd will form in milk so treated. The milk remains fluid. Adding lime water to milk so changes the casein that a soluble salt of lime has no effect.[5] Lime water does not have the effect of a soluble lime salt.

Adding peptonizing powder to milk, which contains bicarbonate of soda, changes the casein into soluble forms and also neutralizes the acid of the stomach.

*Group 6. Methods that indirectly alter the milk:* When milk is heated to the boiling point for any length of time it is so altered that the rennet ferment will not form a curd even after acid is added. This can readily be demonstrated by using the unsweetened condensed milks or the so-called evaporated creams after diluting them to approximate whole milk in composition, and adding first rennet, and then acid. A control with fresh milk should be used for comparison. Pasteurized milk is also more slowly acted upon by the rennet than fresh milk,[9] but the addition of enough acid to produce a soluble salt of lime causes typical rennet curds to form. Pasteurizing indirectly retards the curdling by rennet by destroying lactic bacteria which would produce acid, and thus accelerate the action of the rennet by combining with some of the lime of the milk and thus precipitating the curd.

*Group 7. Methods that mechanically alter the curds:* When milk is diluted with a thin gruel made of a cereal the gelatinized starch of the gruel makes the curd of the milk softer and more easily digested. Its action is almost entirely mechanical. If the milk is diluted with a digested or dextrinized gruel the mechanical effect is produced by the flocculent proteid of the gruel which also adds to the nutritive value of the food. It has recently been shown that the proteid of these gruels is often better digested than the proteid of milk.[11] A comparison of the nutritive values[12] of starch gruels and digested gruels is given below:

| | Prtoteids. | Carbohydrates. |
|---|---|---|
| Barley water or gruel (1 oz. to qt.) | 105% | 2.003 (starch.) |
| Digested barley gruel (2 ozs. to qt.) | 300% | 4.186 (no starch) |

A study of the above classification makes it evident that all methods of modifying cow's milk are based upon a rearrangement of the tissue building and energy food elements it contains, and interfering by chemical and mechanical means with the normal curding of the milk in the infant's stomach.

The practitioner must bear in mind the principles and apply them as indicated, to the individual case in hand, and remember that a method that may appear to give brilliant results with a sick infant may result in disaster if indefinitely continued.

The normal healthy infant must be fed quite differently from the child with a disordered or diseased digestive tract, and it is hoped that this paper will be an aid in ordering feedings for temporary or continued use. Too much of the present day feeding follows the plan of giving an analgesic and, finding the symptoms alleviated, allowing the patient to keep on with the remedy. The infant's digestive disturbances having been overcome, the feedings should be so ordered that grave constitutional diseases due to perverted functions shall not develop.

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## KERNIG'S SIGN AND ITS PATHOGENESIS.

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AT a medical meeting in St. Petersburg, Russia, September 21, 1882, Dr. Kernig briefly reported his first observations made during the years 1880-1882. on what is now commonly known as Kernig's sign.[1] The first description of the latter with report of clinical observations was made by Kernig in 1884. The description as given by this author was so complete that nothing has been added to it by later writers.

"In the majority of cases," says Kernig, "patients suffering from any form of meningitis (tuberculous, cerebrospinal) do not manifest contractures while lying, although there may be rigidity of the neck and back. There is absent extension—or flexion—contracture in both upper and lower limbs. If the patient be ordered to extend the limb which he had accidentally flexed, he does it readily and freely. But, *if the patient is sitting on the edge of the bed, so that his legs hang down,* then the rigidity of the neck and back is more marked and *flexion contracture sets in in the knee joints,* and occasionally also in the elbow joints. *One succeeds in extending the knee of the sitting patient only to the angle of* 135° and, if the phenomenon is very marked, *only to* 90°."

This sign, in Kernig's opinion, may confirm the diagnosis of cerebrospinal meningitis, if there is any suspicion of this disease, and may call the physician's attention to the latter, if there be absent any symptoms of meningitis. As soon as the patient changes the sitting posture for a dorsal or standing one, this phenomenon disappears. Kernig could also produce his sign in a reclining patient by flexing the thigh upon the body and the leg to the thigh at right angle.[2] Kernig's observations were confirmed by Bull of Christiana,[3] Friis of Copenhagen,[4] and Blümm of Germany,[5] but soon were forgotten and his sign was not even mentioned in the textbooks.

In 1898 Prof. Netter of Paris, France, on account of an epidemic of cerebrospinal meningitis, examined all his cases for Kernig's sign, studied this phenomenon very carefully, and pointed out its diagnostic value in a brilliant article published in *La Semaine Médicale.*[6] Netter's paper attracted great attention to Kernig's sign, and was followed by a number of serious and competent papers concerning this question. It was shown that Kernig's sign, indeed, appears more or less constantly in meningitis, but it cannot be looked upon as pathognomonic, because it is sometimes met with in other diseases, like sciatica, typhoid fever, and some affections of the central nervous system, such as cerebral hemorrhage, tumors of the brain, or tabes.

Carrière,[7] for instance, found Kernig's sign positive in 44 per cent. of cases of typhoid fever in children; in twenty-two of fifty cases the sign was marked, and in seven it was slightly developed, but the sign was very marked in hyperpyretic forms of this disease, so that one cannot be guided by this sign in the differential diagnosis of meningitis from typhoid fever. This opinion is quite opposite to that of older observers, like Blümm, and Kernig himself, who pointed out the significance of the sign in the differential diagnosis between typhoid and meningitis.

On the other hand, not all cases of meningitis have Kernig's sign. Packard,[8] in three cases of meningitis—two tuberculous and one pneumococci—could not demonstrate this phenomenon. The same result was reported by F. S. Clark,[9] apparently confirming Henoch's observation that Kernig's sign is not characteristic of the tuberculous form of meningitis.

The presence of Kernig's sign in nervous lesions having little or nothing to do with meningitis had already been shown by Bull, who observed it in a case of cerebellar tumor and in one of thrombosis of the left transverse sinus. Recently, W. Thyne,[10] has described a case of hemorrhage in the left lateral lobe of the cerebellum, in which the sign was positive.

Sailer[11] also reports two neurological cases in which Kernig's sign was positive. The first case was one of hemorrhagic softening of the ascending parietal convolution that extended inward through the centrum ovale toward the internal capsule which was not involved. The second case showed cerebrospinal symptoms, such as defective speech, eye symptoms, pains in the back and in the left arm and leg, spasticity, etc., without any diagnosis having been made by the author (meningitis?) Sabrazès[12] claims that Kernig's sign may be demonstrated in tabes during the crises. When the crises is over the sign disappears.

The majority, however, of observers have pointed out the constancy of Kernig's sign in acute meningitis, its very rare occurrence in other diseases and almost complete absence in normal conditions. Herrick[13] studied nineteen cases of meningitis and found the sign in 89.4 per cent. In twenty-five healthy individuals, Kernig's sign could not be demonstrated. In one hundred cases of diseases other than meningitis, Herrick found the sign *absent* in 99 per cent. Osler,[14] in one of his articles says that Kernig's sign was always present in his cases of cerebrospinal meningitis. Netter found Kernig's sign present in twenty-one cases out of twenty-three. W. Shields[15] examined one hundred *non-meningitic* cases, and only in five was the sign positive. These cases were as follows: one case of uremia, two of typhoid fever, two of right-sided hemiplegia.

All observations regarding Kernig's sign were carefully conducted and studied by competent observers, and cannot leave any doubt that Kernig's sign is indicative of some lesion of the spinal membranes. The nature of the lesion may be determined by bacteriological and histological examinations (lumbar puncture with the examination of the fluid obtained, lymphocytosis, etc.)

If there is not and cannot be great difference of

opinion concerning the frequency of Kernig's sign in different forms of meningitis, there is great controversy regarding the pathogenesis of this phenomenon, and we may say that there are as many theories as authors, that have endeavored to explain the essence of Kernig's sign. Some of them, like Sailer, declare that the mechanism of Kernig's sign is obscure, being probably due not to a lesion of the meninges, but to an irritative lesion of the pyramidal tract that diminishes, but does not destroy its functional activity.

More probable, though not always clear, explanations of the pathology of Kernig's sign have been offered by Bull, Chauffard, Cippolina and Maragliano, Roglet, and Piéry. Bull thinks that Kernig's sign represents only exaggeration of normal phenomena. In a healthy individual with the thigh flexed at right angle, the leg being stretched, no reflex action will result, as the stretching is too insignificant to prevent full extension of the knee. However, the stretching of the leg is sufficient to produce cramp-like reflex contraction of the corresponding muscles, if there be present some cerebral lesion or increased pressure in the brain.

Chauffard[16] explains Kernig's sign in the following way: normally there exists in both the upper and the lower limbs a very slight degree of flexion (semiflexion) which, however, is readily reducible. The semiflexion is brought on by the equilibrium existing between the antagonistic muscles. In meningitis we have to deal with muscular hypertony; at the slightest change of the attitude, contraction sets in in the antagonistic muscles with physiologically predominated action. The slight physiological predominance (for the lower limbs it is in the flexors) is almost balanced when the muscular tonus is normal, and, if increased, it brings Kernig's sign. The latter is, therefore, determined by Chauffard as "uni-multiregional contraction of physiologically predominant muscular groups, which contractions occur in attitudes normally bringing this predominance into play." A similar explanation is given by Cippolina and Maragliano.[17] According to these authors Kernig's sign is merely an exaggerated physiological phenomenon, because normally, if the thigh be forcibly flexed upon the body, a slight flexion of the leg always takes place. In meningitis this flexion is much more marked. The phenomenon is due to the loss of equilibrium between the flexor and extensor muscles of the thigh. The flexors are in a state of hypertony, the extensors in a state of "active insufficiency," *i.e.* their contractive power is decreased, while that of the flexors is increased. The decrease and increase of the contractive power of muscles have very much to do with the points of muscular insertions being approached to or removed from each other, while the patient is sitting or lying.

A good explanation of Kernig's sign is given by Roglet,[18] who ascribes the hypertony of the flexors in meningitis to the irritation of spinal roots. The muscular hypertony leads to loss of elasticity and, perhaps, to diminution of the length of the muscles. The latter become too short to permit of complete extension of the leg when the femur is flexed upon the trunk. Finally, Piéry[19] sees in Kernig's sign only a defensive contraction of the flexor muscles of the thigh reacting against the painful elongation of the inflamed nerves of the cauda equina. The elongation of the nerves occurs when the thigh is forcibly flexed upon the pelvis, the leg being simultaneously extended (Kernig's position).

On the ground of anatomic physiological data, we can give the following explanation of the pathogenesis of Kernig's sign. When the thigh is flexed upon the trunk, and the leg at the same time is extended (Kernig's position), the sciatic nerve becomes stretched.

Thus in Kernig's sign we have, first of all, to do with the stretching of this nerve. In the healthy state, the stretching of the sciatic nerve seems not to produce any pathological conditions, since Kernig's sign has never been clearly demonstrated in healthy individuals, except when the thigh is flexed upon the trunk at a very sharp angle, *i.e.* when the sciatic nerve is greatly stretched. In morbid conditions, when the nerve itself is affected (neuritis-sciatica), or the nerve roots are affected—which undoubtedly takes place in acute meningitis[20]—the stretched, affected roots react correspondingly; the posterior roots, by producing pain, which in Kernig's sign is pointed out by the majority of observers, and the motor roots, by producing contraction of the corresponding muscles, in the case of the sciatic nerve, the flexor muscles.

The pain arising from the stretching of the posterior roots makes the patient instinctively keep away from further stretching of the posterior roots, as it happens, for instance, in dislocations when the muscles respond with strong contraction to any active or passive movements in the dislocated joints, so that this explanation, which may be considered as a combination of Piéry's and Roglet's explanations, may be held, at least, as the simplest one we have for the understanding of the mechanism of Kernig's sign.

The occasional occurrence of Kernig's sign in typhoid fever may be explained by the fact that the meninges are frequently affected in typhoid fever ("meningo-typhoid" of Curschmann), so that the sign is due, not to the fever, but to the concomitant meningitis.

Regarding other published cases we had mentioned above in which Kernig's sign was present in the apparent absence of meningitis, it is hard to prove that in those cases the meninges were not affected, so that, commonly, Kernig's sign may be considered as a standard sign of inflammatory meningeal lesions, and, as being due to irritation of the spinal roots, produced by the stretching of the sciatic nerve.

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# THE MECHANICS OF DORSAL POTT'S DISEASE.*

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Although the victories of orthopedic surgery over deformity have been many and brilliant, we have still to face at every turn the worst of deformities—the dwarfed, distorted, pathetic figure of dorsal Pott's disease. These cases must frequently be treated at home—by the family physician and by means of home-made contrivances. It is the object of this paper to present the fundamental mechanical principles upon which such contrivances should be constructed and used, and more especially to point out mechanical errors which should be avoided.

An examination into the anatomy of the part, the mechanics of the deformity and the actual working mechanism of the conventional apparatus will explain why this deformity has not been controlled as has that of spondylitis of the cervical or lumbar region. The cervical and lumbar portions of the spine are isolated columns connected with the adjacent parts of the skeleton only by muscles. They are flexible. They bear their burdens upon their convexities. The dorsal portion has very different conditions and relations. Each rib is firmly attached to a vertebra at two points, one behind the other and is practically a continuation of the vertebra. The ribs are vertically stiff. They fuse into the sternum and thus form a vertical arch or truss which would appear to be ample support upon the anterior or concave side of the spine under any degree of weakness. With its shape and position, had this anatomical arch sufficient rigidity, it would indeed serve as a substantial brace. Destruction and deformity in Pott's disease are the results of motion in and pressure on diseased bone. It is remarkable that, although the dorsal vertebræ are thus braced and are firmly—in the mid and upper region almost immovably—secured to each other and to the thorax, disease in this locality is characterized by more obstinate tendency to destruction and by greater and further reaching deformity than that of the cervical region where motion is greater or that of the lumbar portion, where both motion and pressure are greater.

The destruction is primarily due to the mechanically central position of the part as compared with those above and below. Besides its burden of pressure from weight and muscular action, which is borne upon the concave and weaker side, it is subject to the strain of movements of the head, of all four extremities and to the up and down motions of the ribs which are direct and incessant traumatisms. The instinctive effort to avoid them produces a guarded, grunting respiration. The spinal displacement is largely caused by force applied through the long bones connected with the spine. And, conversely, the connected bones are displaced by its deformity. When left to themselves, they furnish more leverage to deform than support to protect. As the spine softens and bends under downward pressure exerted directly upon it and upon the ribs, the ribs are tilted. In the diagrams (Figs. 1 and 2) AB represent the first pair, CD the seventh and longest pair of ribs, BD the sternum, and AC the upper dorsal spine. Let softening occur at X. The upper ribs being short and the lower being long and inclined downward, the lower end of the sternum is swung forward upon the upper, and the front of the chest, the crown of the arch is displaced forward and buckled. The spinal deformity cannot possibly take place except by this sternal protrusion. In dorsal Pott's disease, the weakest point, the point where support may be most advantageously applied, is the lower front of the chest.

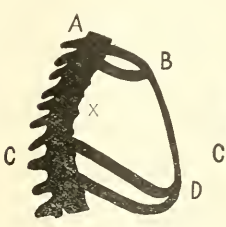


Fig. 1. The normal relations of the first and seventh pairs of ribs, the intervening dorsal vertebræ, and the sternum; diagrammatic.

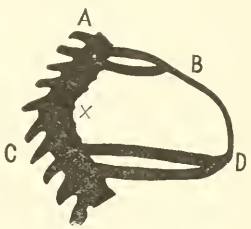


Fig. 2. The buckling of the interior arch and the upward tilting of the lower ribs in dorsal Pott's disease; diagrammatic.

As the spine bends more and more, the bending strain is exerted more and more anteriorly and at greater mechanical advantage. Posteriorly the spinous processes separate as far as the ligaments will permit, flexion being slight here, when the ligaments act as does the hinge of a nutcracker or lemon squeezer, the diseased bone representing the nut or lemon. Under leverage exerted upon the forwardly inclined upper spine and upon the ribs extending forward from it, the softened bone is rapidly deformed and destroyed. The thorax if not supported now protrudes in front and behind and is contracted vertically and laterally. The patient's height is further diminished by increase in cervical and lumbar curvatures necessary for the maintenance of equilibrium. The protrusion of the lower front of the chest is facilitated by the sinking of the chest toward the pelvis and the consequent relaxation of the abdominal muscles and fasciæ.

Motion and downward pressure being the destructive and deforming forces, the indications are to reduce them to a minimum. This is accomplished most completely by fixation in recumbency upon a well fitted surface. Because of its central position, the dorsal spine cannot otherwise be adequately put at rest. Motion is thus reduced almost to that of the quiet breathing of general rest. The cessation of the grunting affords the best possible proof of the propriety of the measure. Pressure is reduced to that of passive muscular tension and may be further diminished by traction. The force of gravity, which, in the upright position deforms and destroys, may now be utilized to protect the spine from de-

* Read at an annual meeting of the Montana State Medical Association, Butte, Montana, May 18, 1905.

struction and deformity. The Bradford frame, to which Whitman and Selva (Trans. Am. Orthopedic Assn., XIV) have made valuable modifications has been of immense service in dorsal Pott's disease. The best and quickest results are obtained by treating the spine with the same gentleness as if it were fractured or otherwise acutely affected. Motion and pressure, though painless, are not harmless. A great deal of damage is done in bone tuberculosis simply because the part has not the sensitiveness which accompanies more acute conditions. As tersely expressed by Ridlon and Jones (Lectures on Orthopedic Surgery, 1899): "In the upper dorsal region from the first to the sixth vertebra, the deformity may be expected to increase under any form of treatment which does not include prolonged and uninterrupted recumbency as its essential feature." This is equally true as to the efficacy of recumbency and the inadequacy of the old methods of treatment in the upright position.

The upright position should be deferred until the acute stage has passed and the change should be a gradual and careful experiment. Portative apparatus is always employed. It is universally admitted that the forms in general use and described in the standard text-books upon orthopedics do not, even in the most skilled hands, control the deformity. They are applied with the intention of fixing the spine, applying leverage, and relieving it from vertical pressure as one would splint a broken long bone. To do so requires a grasp upon the spine above and below the diseased part and somewhere near to it. In dorsal disease there is no upper hold nearer than the head, and below none nearer than the pelvis. The diseased area is separated from each by a chain of joints. It is a common fallacy to think that by securing a brace to the back and including the whole trunk within the grasp of the instrument the portion of the spine covered is thus fixed. Another fallacy is that of the efficiency of spinal leverage in dorsal disease. Under downward pressure from weight and muscular action, instrumental traction backward upon the head and pelvis against forward pressure upon the dorsal spine must first increase the flexible cervical and lumbar curves. And not until their limits have been reached can any inhibition be exerted upon a dorsal kyphos. Pressure cannot be applied to the front of the neck to prevent the cervical lordosis. Pressure on the upper front of the chest is of service according as the diseased part is low in the dorsal region and as it is pressed forward. The abdomen is an air cushion and is too soft to transmit pressure for the prevention of the lumbar lordosis or to afford counter pressure to hold the diseased dorsal spine forward. Abdominal pressure, besides being mechanically useless is, by interfering with the respiration of a tuberculous patient, distinctly injurious. It also tends to produce uterine and other visceral displacements and hernia. And when the abdomen is distended by food or gas, the pressure of the instrument is taken off the part where it might be useful.

Another fallacy is as regards vertical relief. In cervical and upper dorsal disease downward strain may, by means of a pelvic band, spinal uprights and headpiece, or by means of plaster jacket and head-piece, be advantageously transferred around the seat of disease. Here the burden is light, the bridge short, it is on the concavity and so subtends the curve, and the whole trunk serves as a pedestal. But in mid or lower dorsal disease the stress of weight and muscular action is great, and the bridge must reach from the head around the curve to the pelvis. If spinal uprights are used they must, to have sufficient rigidity, be heavy. Whatever the material, the burden must be borne entirely upon the projections of the pelvis. It is doubtful whether the soft parts there actually tolerate more pressure than the weight of the apparatus. The undeveloped pelvis of a child certainly cannot. When the spine is much bent, the appliance may and frequently does take a downward bearing above the diseased part and contribute to the weight carried by it. In dorsal disease, a rigid support extending from the lowest point of the pelvis upward into a head-piece has simply the great merit of limiting motion.

But, while apparatuses designed to fix or draw upon the dorsal spine have necessarily failed for want of grasp, mechanical possibilities are not exhausted. The anatomical arch should be supported and retained in the best possible relation to the dorsal spine. For this purpose, pressure backward must be applied to the front of the chest, especially to the lower end of the sternum and the cartilages extending downward and outward from it, against forward pressure upon the diseased vertebræ. The support is that of a tie rod passing horizontally through the chest. It should be the fundamental principle of treatment in dorsal Pott's disease in the upright position. For a small amount of pressure thus exerted has great sustaining power, especially when the protrusion has not advanced. And it is mechanically impossible for the spine to buckle very much if the integrity of the arch be preserved. The lower ribs must be permitted to spring out laterally. Pressure upon the sides of the chest and upward pressure under the lower ribs promotes anterior and posterior protrusion, and must be avoided.

That none of the conventional apparatus is designed upon a recognition of the mechanical importance or even the existence of the anatomical arch is evident from the fact that they either do not support it at all, or do so accidentally, making at the same time pressure elsewhere, which neutralizes the support and promotes the deformity. The solid plaster jacket has the merit of anteroposterior rigidity, but presses upon the sides of the chest and under the free borders of the ribs. It is uncleanly and has other well-known disadvantages, one being that as the parts pressed upon are out of reach, one does not venture to apply as much pressure as might be used if they were accessible for the examination and care of the skin. For fear of having to remove the jacket because of a sore back, the kyphos is padded or a window is cut so that pressure is diminished there while that at the sides remains. Soon the trunk sinks into the jacket, wedged in from side to side, the lateral pressure increasing as it descends. When the jacket is cut down the front and laced, its pressure is almost purely lateral. The Taylor bivalve jacket has much in its favor, but it covers parts where pressure is not required. As a material for spinal support, plaster is heavier and more clumsy than steel bars, and cannot be modified. Jackets of other materials than plaster have each some of its disadvantages. The posterior metal supports secured by soft apron lacing or straps around the chest and abdomen contain no provision against the buckling of the arch. Many are so much narrower than the trunk that their action is almost purely compressive. Their force is largely expended upon the abdomen and the yielding sides of the chest, and by constricting the waist they push the ribs upward.

About eighteen years ago, observing a case of mid-dorsal disease from which the jacket was removed and replaced by one of these instruments, I was greatly impressed by the rapid increase of the deformity, and with the entire absence from the appliance of any obstacle to its advance. It then seemed

to me that what was needed for such cases was an apparatus which, while affording the same rigid anteroposterior support as the jacket would press only where pressure was necessary, and not where it was useless or injurious, which might be readily removed for the inspection of the deformity and for the toilet, which might be adjusted and modified, and by which pressure might be more freely applied than when its effects cannot be watched. I felt then that the pigeon breast was not merely incidental, but that it played an essential part in the production of the spinal deformity and must be reckoned with in its prevention.

The result was an anterior rigid support first applied in 1892, presented at the Orthopedic Section of the New York Academy of Medicine in 1895, and described in the *New York Medical Journal* of that year. The apparatus has been modified in several details, and adapted to the treatment of cervical and lumbar Pott's disease, but for the treatment of dorsal disease, the fundamental principle of arch support has been preserved. I use it in combination with the Taylor back brace, with long cross pieces and U-shaped hip band, though it may be used with any sort of posterior brace, and tie rod pressure may be supplemented by as much fixation, leverage, and vertical support as are possible. Both front and back braces are so simple that any machinist or blacksmith can make them from patterns furnished by the surgeon. They should be fitted to the patient, and refitted whenever necessary. (Figs. 3 and 4.)

Commencing at the lower end, the front brace presents a flat steel band, which crosses the abdomen as low as possible without being displaced by the thighs when the patient sits, and extends closely

Fig. 3. The author's front brace.

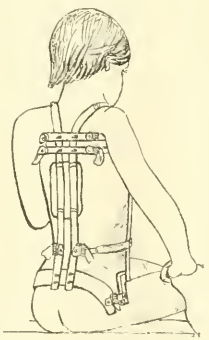

Fig. 4. Modified Taylor back brace.

around the sides of the pelvis and downward for two or three inches to a level with the horns of the posterior hip band, with which it is connected by straps. The pelvis is clamped between the bands, which nearly meet at the sides. The anterior superior spines are protected by pads of kersey and leather, and the middle portion of the front band is arched forward so that, when the patient is supine, there is a space behind it of an inch and a half or more. This will be filled by the abdomen when the patient stands. (Fig. 5.) At the location of the anterior superior spines flat uprights are riveted at right angles, or, if the abdomen is very protuberant, the uprights are directed slightly outward. They reach nearly to the top of the chest, and at the level of the axillæ are crossed by a flat band extending around the sides of the chest and nearly meeting the cross piece of the posterior brace. Holes half an inch apart in the uprights will facilitate the placing of this chest band. Or the uprights, pelvic, and chest bands may be made in two pieces overlapping

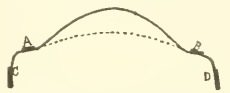


Fig. 5. Plan of pelvic band of front brace; A, B, uprights; C, D short flat pieces extending downward and carrying straps to connect with the posterior pelvic band; the dotted line indicates the line of the abdomen when the patient is supine.

and fastened by screws, so as to be readily shortened or lengthened. In measuring a supine patient, the thigh should be flexed to a right angle and the shoulder drawn well down, or the chest band will

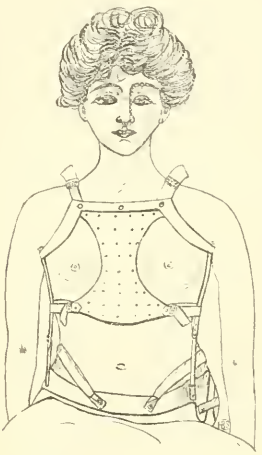

Fig. 6. The author's front brace for a woman; the iliac straps are shown as arranged for vertical support.

be too high when the patient stands. No. 16 spring steel is a good material, the pelvic band one inch wide, the others one-half inch. These dimensions are for children. The perforated stiff leather shield shown in the cuts is attached by the rivets, which secure the chest band to the uprights, and is supported at the top and bottom by adjustable straps between them. Near the lower ends of the uprights are padded web straps passing over the iliac crests to buckles upon the uprights of the back brace. When vertical support is desired, these straps are attached to the front and back pelvic bands. The ends of the chest bands may be padded as crutches, or padded shoulder straps from the top of the back brace may pass through the axillæ to a second cross-piece behind. When the chest is flat and the dorsal spine nearly upright, the backward pressure of the upper part of the shield exerts spinal leverage. When the deformity has advanced so that the upper part of the sternum inclines forward, backward pressure there is not possible, and the apparatus need not be extended above the axillæ. The pressure of the lower part of the shield, supporting the arch, is available in any stage of deformity, and will be found to give much relief in advanced cases.

For women, the uprights pass directly up the sides to the axillæ, and are connected at the top by a piece of sheet steel, shaped as shown in Fig. 6. They establish a vertical transverse plane toward which the protruding parts of both front and back may be drawn. This arrangement and the downward extension of the lower front band are the suggestions of Dr. Clayland of Brooklyn.

This combination of front and back braces constitutes a skeleton support, to which parts may be added to meet the requirements of a peculiar case or the preferences of the surgeon. In cervical or high dorsal disease, where a head-piece is used, the trunk is grasped by all available contact without abdominal pressure or interference with the lateral movements of the ribs. The anterior uprights furnish poins of counter pressure to any part of the dorsal or lumbar spine. In dorso-lumbar, or lumbar disease, the descent of the chest is opposed by straps under each side from front to back upright.

By placing cases of dorsal disease early in recumbency, and following it by arch support, dorsal disease may prove as controllable as cervical or lumbar—perhaps more so.

Owsley Block.

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## THE EAR COMPLICATIONS OF CEREBROSPINAL MENINGITIS.*

By CHRISTOPHER J. COLLES, M.D.,

NEW YORK.

Earlier writers on the subject of cerebrospinal meningitis, and whose observations were made mostly during epidemics in different countries, have not said much that is definite or, indeed, trustworthy concerning any ear complications coming to their notice. We find this subject usually dismissed with the remark that the patient became very deaf, or slightly deaf, or that when convalescence set in there was absolute deafness present, etc.

Thus Ames, in an account of an epidemic of cerebrospinal meningitis which prevailed in Montgomery, Ala., in the winter and spring of 1848, says that "spontaneous deafness" was noted in a few patients, "in one of whom there were three exacerbations of it on the second day, each lasting about three hours, with intermissions lasting about the same time." This somewhat vague statement is cited to show the superficial and altogether useless consideration such aural symptoms appear to have aroused. Levy, in his elaborate brochure on the same subject in 1849, makes also no mention of aural complications, and Clymer (in 1872) dismisses the matter with the unsatisfactory remark that "the disorders of the organ of hearing, though happening, are by no means constant; some degree of deafness and buzzing in the ears are the most common." Recent observers have been more explicit, and such authorities as J. Lewis Smith, Knapp, Bell, Stillé, Upham, and Moos have called especial attention to the loss of hearing occurring among cases of this disease.

It may be of interest here to note the following observations from a statistical standpoint: Knapp examined thirty-one cases, and in all of them the deafness was complete, and, with two exceptions, bilateral. Among the twenty-nine cases of total deafness but one recovered any hearing power whatever. Moos states that of sixty-four cases which showed disturbance of hearing as a sequel to cerebrospinal meningitis, twenty-nine were totally deaf on both sides, two totally deaf on one and hard of hearing on the other side, and one case had only impaired hearing in both ears. Smith reported that from his observations in the epidemic of 1872, about one in every ten patients became deaf. Deafness was noted by Upham in 1874, as occurring in twenty-one out of three hundred and fifteen cases of cerebrospinal meningitis. Sexton recorded twenty-six cases of aural disease arising from an attack of cerebrospinal fever. Of this number, seventeen were deaf mutes, while five were either totally deaf or nearly so. Hobby observes that cerebrospinal meningitis is apparently equally important as a cause of total deafness with scarlet fever, and really much more so, because many illnesses called "fever," "congenital," "unknown," are really cases of cerebrospinal meningitis. Both European and American statistics show that one-fifth to one-sixth of all cases of acquired deafness are due to cerebrospinal fever alone, whilst at various times and places the proportion caused by this disease has been much greater.

That many deaf-mutes owe the origin of their condition to an attack of cerebrospinal meningitis in their infancy is a well-recognized fact. Graham Bell, in his "Memoir upon the Formation of a Deaf Variety of the Human Race," shows by the statistical reports of two deaf and dumb asylums that there was a very remarkable increase in the number of deaf-mutes in these institutions following epidemics of cerebrospinal meningitis; and Ziemssen states that in the deaf-mute institutions at Bamberg and Nüremberg, out of ninety-one pupils eighty owed their infirmity to this disease. Indeed, Dr. Roth, in 1874, found that all the pupils in the deaf and dumb institution at Bamberg, forty-two in number, were deaf from this cause. These few observations, taken from the statistics on the subject, will demonstrate how important a rôle cerebrospinal fever plays in the production of deafness.

When we come to a consideration of the aural affection itself and the seat of the lesion, we shall find that opinions vary. It would appear, according to the views of some authorities, that in certain cases an inflammatory lesion at the acoustic center in the brain, or occurring along the course of the nerves of hearing to the auditory foramina through pressure of plastic exudation, might be responsible for the loss of hearing. As evidence, however, that the origin of this affection is not central, Gruening obtained by electrization the normal reaction of the auditory nerves within the cranium. If the lesion which causes the deafness lies along the course of the auditory nerve within the cranium, the function of the other cranial nerve should be destroyed also. If the inflammation did not involve the labyrinth, but simply damaged the main branches of the auditory nerves, it would be difficult to understand how the trunks of the facials could escape, so intimately related as they are to the former nerves. It is much more probable (and indeed is now generally accepted) that an inflammatory condition of the labyrinth is the causive factor, especially in those cases of profound and lasting deafness. This opinion is borne out by actual post-mortem findings. Heller, Lucae, and Klebs have reported undoubted evidences of labyrinthine inflammation in autopsies. Fibrinous adhesions existed between the bones of the internal ear and the walls of the vestibule. Klebs states that the mucous lining of the vestibule was detached, the lining membrane of the semicircular canals was distinctly thickened and loosed, and in the anterior canal there were semifluid purulent masses. We have been shown by Weber-Liel (in 1879) that a free communication exists between the endolymphatic and perilymphatic spaces of the labyrinth and the extralabyrinthine intracranial spaces. It is very probable that infection spreads by this route from the meninges to the labyrinth. The inflammatory process extends along the lymph channels of the vestibule and cochlear aqueducts, involving the structures within the bony labyrinth.

*Read before the Gouverneur Alumni Society, February 1, 1905.

The composition of the perilymph and endolymph undergoes a change, due to the presence of the specific germ, the blood vessels become dilated, and true tissue-hypertrophy takes place from the migration of white blood cells into the surrounding tissues. Owing to these changes in the blood supply, extravasation of blood takes place easily and is often found. The tissues become dense, bone-thickening takes place, and often the semicircular canals or cochlea are partially, if not completely, obliterated. In other cases the tissues become necrotic, and we find the labyrinthine structure filled with purulent matter. In some rare instances it has been found that the tympanic cavity has become involved by the purulent process of the internal ear breaking through the oval or round windows. In this manner a purulent otitis media may be established. As far as we know, this form of labyrinthine disease does not differ from that occurring during the course of other epidemic affections, such as scarlet or typhoid fevers, measles, etc.

Another aural affection frequently observed in cases of cerebrospinal fever is acute inflammation of the middle ear. Indeed, a mild otitis media is of common occurrence, but usually subsides without any impairment of the hearing power. In some cases a more severe attack of otitis media becomes a suppuration of the middle ear. Moos reported a case of cerebrospinal meningitis in which decided, if not total, deafness was found two days before death. At the autopsy it was seen that the tympanic mucous membrane on both sides was decidedly hyperemic and swollen. The auditory nerve in the porus acusticus internus was quite free from evidences of inflammation on both sides, and both labyrinths were normal in every respect. Klebs also has reported a similar case, where the deafness began shortly after the commencement of the illness, becoming complete in a few days. At the postmortem examination the auditory nerves (examined microscopically) were found perfectly normal, and the terminal apparatus of the cochlea also. Extensive inflammatory changes, however, were found in the middle ear, the cavity being filled with bands of connective tissue traversing it in all directions, greatly impeding the free movement of the ossicles to which they were firmly adherent.

But this affection, while severe in some instances, cannot satisfactorily account for the profound and complete deafness in by far the greater number of cases, nor for the important fact that deafness is almost invariably bilateral. It may not be total when first observed, only partial; but it will usually be found to increase gradually, becoming complete after some days or weeks.

Most of the unfortunates whose hearing is affected become perfectly deaf, and never regain this function. Otalgia, otorrhea, and other local symptoms are, for the most part, entirely absent, excepting, perhaps, vertigo and tinnitus, to which reference will be made further on. The loss of hearing does not occur at the same period of the disease in all cases. Some patients emerge from the stupor of the disease with good hearing, but lose it during convalescence; but the majority are observed to be deaf as soon as full consciousness returns.

It is difficult to understand how any attack of acute otitis media could cause such profound and complete deafness, and practically all otologists today are united in the opinion that the labyrinth is the seat of the trouble. As has been just stated, aside from the deafness we sometimes observe vertigo and intense tinnitus. The noises, coming on suddenly, may be agonizing in their intensity. A real hyperacusis may precede these attacks, sometimes so marked as to be painful, making the patient start at the slightest noise. This is easily explainable from the condition of hyperemia in the labyrinth. The subjective noises gradually become less severe, owing to destruction of the terminal filaments of the eighth nerve, and the vertigo disappears.

Physical examination is absolutely negative, the parts presenting a normal appearance. If any power of hearing remains, it is usually for low notes. Bone conduction is diminished, and soon altogether lost.

The outlook for recovery of the hearing power is a grave one. In some milder cases a certain amount of hearing may remain. In early life, even after the child has learned to speak a few words, the loss of auditory perception renders the patient mute as well as deaf, such words as the child has learned being soon forgotten. Treatment is unsatisfactory, though it is claimed by some that favorable results have been obtained through reduction of the labyrinthine pressure by the use of pilocarpine. The general prognosis is a gloomy one, and any improvement in the hearing, however slight, should be considered most encouraging.

In concluding these few remarks it might be of interest to state that the writer was given the opportunity last July of examining eleven cases of cerebrospinal meningitis at the Gouverneur Hospital, as to the condition of their ears. Five of these patients were boys and seven girls. They were all little children in various stages of the disease. In but two of them were there any evidences of ear disease present, subjective or objective. In the one, a girl, both drum-membranes were congested, and the child complained much of earache. The other case, a boy, showed a congested right drumhead; but the child gave no sign of any subjective symptoms. This last-mentioned child had, in addition, a profuse nasopharyngeal discharge, his pharynx being congested and filled with thick viscid mucus.

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## ECTOPIC GESTATION COMPLICATED BY MENTAL DISTURBANCE.

By FRED. G. HODGSON, M.D.,

ATLANTA, GA.

Mrs. N., age twenty-three, married, stenographer, came to me May 1, 1905. Her mother, who is dead, had been of very nervous temperament. Her father is alive and well. The patient was married once before, but divorced. She has had attacks of pain in the right ovarian region and a leucorrhea. She has always been very nervous, and has hysterical attacks. Menstruation has been regular and normal. The last menstrual period began about two weeks ago, and she has continued to flow ever since. She had skipped no period. She has considerable pain in the right ovarian region. Urination is painful and frequent. The patient is constipated; she can give no reason for her present condition. Has never been pregnant.

A simple mixture of viburnum, hydrastis, etc., was given. The patient reported in two days that the pain was better, but the flow continued. She was told to remain in bed and continue treatment. I saw her the next day, and, after pointed questioning, she confessed to a secret marriage; also that she and her husband had both been suffering from morning nausea. Her breasts were enlarged and slightly tender. I suspected a miscarriage, and advised curettage. They preferred to wait. The next week she had a severe attack of pain in the right side of the pelvis and in the rectum, which required morphin to relieve. There was no elevation of the tem-

perature, and pulse remained about 80. Pelvic examination was difficult and unsatisfactory, and no mass could be felt. Examination of the vaginal secretion revealed many gonococci. The bloody discharge was less. She had numerous attacks of pain, and some were relieved by sterile water hypodermics. The next week signs of pelvic peritonitis began to develop, so she was taken to the Presbyterian Hospital. After reaching the hospital, the pain became worse, and her bowels could not be moved for thirty-six hours. We finally succeeded with high enemas. Now, for the first time, she began to have hallucinations—seeing persons in the room, and delusions particularly in regard to her husband. She talked confusedly and incoherently. I decided to operate at once, and did so on June 1.

The patient was anesthetized (chloroform and ether) and placed in the lithotomy position. Pelvic examination revealed a large mass in the cul-de-sac; an aspirating needle was inserted and blood withdrawn. The diagnosis of ectopic pregnancy was definitely made. Patient was curetted, then changed to Trendelenburg position. The abdomen was opened in the median line just above the pubes. A large blood clot was found in the pelvis and removed. The right tube was very much enlarged, and showed a rupture about its middle. The tube and ovary were dug out of a mass of adhesions and removed. The wound was closed in layers with catgut. The rectum was dilated for the relief of hemorrhoids.

Patient rallied well, but her mental condition was a little worse. She was restless, talkative, removed the dressings and accused others of doing it. She had a slight rise in temperature for a few days, never above 101°, but this subsided by the sixth day, and remained normal. On the third day she got up out of bed before she could be stopped. Was very noisy and violent. The wound healed by primary union.

About the tenth day she got out of bed and tried to jump out of the window. Remaining in the hospital seemed to aggravate her mental condition, so on the fourteenth day she was taken home in an ambulance. After two days, her mind began to clear up, and by the twenty-first day she was perfectly rational. She remembered some of her hallucinations and delusions. Since then she has continued to improve in every way, and has had no mental disturbance. She was discharged cured June 22, 1905.

## EYE INJURIES DUE TO BLOWS FROM THE CORKS OF GINGER ALE BOTTLES.

BY CHARLES GRAEF, M. D.,

NEW YORK.

My experience with two cases of injury of the eye due to a blow from the cork of a ginger ale bottle, leads me to draw attention to the very real danger connected with this sort of vessel—a danger that should not, and need not, be permitted to continue. The cases were similar in that both occurred in women, each of whom was struck in the left eye by the cork which she had released from such a bottle by pressing back the wire spring holding the stopper in place.

The force of the blow in the first case was sufficient to paralyze the iris and to give the patient a "black eye" of picturesque extent and the usual duration. While there were no other intraocular effects noticeable, her vision did not return to normal for some days.

The second patient suffered more severely. The blow caused a profuse hemorrhage into the anterior chamber, and it was an anxious few days before the patient was able to see, and I was able to make out that the damage was limited to this part of the eye. She made a good recovery, but I was recently told of another such instance resulting in permanent retinal changes and consequent blindness in the injured eye.

Some years ago, while I was in the out-door service at Moorfields Hospital, London, I had a case of this kind in a barmaid who had received the injury while opening such a bottle in the course of her work. This patient presented a beautiful example of commotio retinæ as a consequence. The lower and inner quadrant of the retina was clouded in several well defined, silvery streaks, which gradually cleared up, and had entirely disappeared two weeks after the accident.

The cases I have seen have fortunately ended satisfactorily, but in view of the fact that this is not always the case, and that these dangerous bottles are very commonly opened by women and children at home, in the presence of others, crowding close eager for the drink, or to see the "fizz," it seems reasonable to insist that this source of danger be done away with. The better class of manufacturers have recognized this fault, and no longer use the old-fashioned wired corks in these bottles.

I do not mean to suggest the need of legislative action on the matter, though many less necessary and worthy are made to serve as an excuse for a new statute, but I urge the profession to say a word in season to call the attention of those about them to the matter. Such a word of warning, accompanied by a suggestion of the accidents that have occurred and their sometimes unfortunate results, coming from a physician will not fail to impress itself on the hearer and, being passed along as these things usually are, will bring about the end desired—the discontinuance of the use of dangerous stoppers in bottles that must necessarily very often reach the hands of persons not qualified to handle them safely.

1076 BOSTON ROAD.

### Some Extra-Routine Views of Tuberculosis Pulmonalis.

R. M. Phelps says that by "early" diagnosis in cases of tuberculosis he means as soon as the diagnosis is made, or in some cases as soon as it is strongly suspected, often before the bacilli are found. For this "early" class he assumes a curability of from 50 per cent. to 75 per cent. in a good climate and with at least moderately good medical advice and friendly care. He believes that curability rapidly diminishes from that early time, and that an unduly hopeful view presented to the patient tends to prevent him from securing the greatest benefit. He believes that every person having tuberculosis should be told as soon as possible. Patients usually refuse to take radical steps early. He declares that prevalent fear of personal transmission does not always work for good. Patients are apt to conceal their trouble as long as possible. It is well known that these patients do not wish to mingle with others having the same disease. As to the question of personal transmission, the writer believes that while it cannot be proved that there is no danger of personal transmission in accompanying a patient, still it is very slight. Finally, he discusses the value of climate. He says that his ideal of treatment is "a best sanatorium in a best climate." He believes that the best climate for these patients is found in the desert area from El Paso to the mountain divide in California, and north to Colorado. He declares that the patient must be educated to the use of any air, damp or cool, for breathing, so long as the body surface is kept well protected. There is no danger in breathing night air. He points out the superior advantage of sleeping under the sky to that of sleeping on the porch.—*The St. Paul Medical Journal.*

MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

THOMAS L. STEDMAN, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, September 9, 1905.

## ANOTHER ESSAY AT CREATION.

WHAT is life and whence comes it, has always been the one great question overshadowing in its immensity all the countless enigmas of the universe. Is it a property which matter assumes spontaneously when it has arrived at a certain state or constitution, or is it a principle clinging to a portion only of existent matter and transmitted solely to matter derived from this? Is it a fixed quantity, indestructible and uncreatable, or is it a new creation with each new cell or vitalized molecule, vanishing again into nothingness with the disruption of the bit of organized matter it once informed? Matter—inert matter—so far as regards its constitution, is understood in a measure; we know some of its laws and many of its properties, though, in the light of the discoveries of the past decade, he would be rash indeed who would affirm, with the author of "The Bankruptcy of Science," that the great facts of the universe are now known and all that remains for the chemist or the physicist is to fill in the lacunæ and work out the minor details. The refutation of this conceit came almost as it was uttered in the revolutionary discovery of the radioactive property of matter. Here at once was opened up to the mind of man an immense field, unknown and unexplored, wherein doubtless lies hidden the solution of many riddles, perhaps even that of the beginning of life itself. The few incursions that have been made into this field, barely crossing its boundaries, have already resulted in upsetting, or rather enlarging, our conceptions of matter. The atom is no longer the unit of the material universe; it has been shattered into a thousand pieces, and we now know it as a mere shell enclosing hundreds and thousands of infinitely minute corpuscles.

Dazed by the wonders revealed in so brief a time by a study of radioactivity, men are already asking themselves whether the key to the riddle of life is not within our grasp. The experiments of Prof. Burke of Cambridge, who found something which he conceived might be living matter in sterilized bouillon acted upon by radium, have been seized upon by certain enthusiasts as tending toward a solution of this mystery. In a popular article explaining these experiments, contributed by Prof. Burke to the *New York Tribune* of August 13, he says that the question as to whether the microscopic forms which he has obtained are or are not living things "depends altogether upon what our conception of life is, and upon how broad or how narrow is the definition we are willing to accept of the phenomena of vital processes." The bodies which he saw presented a "distinct indication of growth and segregation. They reach a certain size and then divide." This, he claims, indicates clearly that they are not crystals, and he thinks they are possibly a primitive form of life. But they dissolve in water, and this, though Burke does not admit the conclusion, would indicate that they are not a primitive or any other form of life. In an effort to reconcile these conflicting properties of bacteria and crystals, the author ventures the assumption that the bodies "are in the critical state of matter between the mineral and the vegetable kingdoms, possessing not all the qualities of either, but many of the properties of both: that unsteady or unstable state from which, for anything I know, or any of us can know, one process—though probably not the only one—by which the evolution of living matter from not living matter as we know these, may have taken or be taking place; that critical state, in a word, in which matter, through some hitherto unknown source of energy, may have sprung into life, or fallen into absolute inertness." In other words, the "radiobe," as he calls it, may be "that state of matter that separates, or perhaps unites, the organic and the inorganic worlds."

This is an ingenious supposition, and however contrary it may be to our present conceptions of the gulf that exists between living and non-living matter, is not to be dismissed with a sneer. We cannot accept it yet, nor can we deny its possibility; we can only affirm its improbability. We know there are forms of life apparently midway between the animal and the vegetable kingdoms, and it is barely conceivable that there may be forms of matter having a potential vitality, yet not living, but it does violence to our notions to admit of such a possibility. One might as well accept at once the belief that all crystals are a form of life, for such acceptance "depends" in the words of Burke, "altogether upon what our conception of life is, and upon how broad or how narrow is the definition we are willing to accept of the phenomena of vital processes." The definition of life which he accepts is: "The continuous adjustment of internal to external relations, of an individual to its environment"—a very unsatisfactory definition, which would apply equally to an earth worm and a planet. We would say rather that life is the principle whereby matter is endowed with the inherent power of growth and reproduction and of initiating chemical action within itself. Now, mere aggregation is not growth nor is simple cleavage reproduction, and, so far as the published account goes, that seems to be all that has happened to Burke's bouillon bodies.

Prof. Burke says that "it is doubtful . . . if spontaneous generation can ever be proved to the satisfaction of any one who has made up his mind not to believe in it," but the same may be said of any phenomenon. It is no answer to those who reject as improbable and unproven the assumption that in this instance the beginning of life or even the initial process of a transformation from non-living to living matter has been witnessed. Spontaneous generation is in Burke's meaning, "the development of living organisms from inorganic matter," and we see no evidence that any such development has occurred in his sterilized bouillon. If this enthusiastic experimenter can show that his bouillon bodies

have the properties of living matter—something more than mere addition, division, and solution—he will not find the present day physicist unready to accept the fact, for in these times no scientist worthy of the name has a mind made up not to believe in anything, however inherently incredible, which is susceptible of proof. What is not susceptible of proof lies in the domain of faith, not of science.

## THE STERILIZATION OF DRINKING WATER FOR TROOPS IN THE FIELD.

The fact is unhappily notorious that in war disease claims more victims than does shot, shell, or cold steel. Again, it is equally a matter of general knowledge that typhoid fever, chiefly caused by impure drinking water, is the most common complaint to which the soldier in the field is subject. The medical history of all modern campaigns is full of the fatalities occasioned by typhoid fever, and provides melancholy reading, more especially because so much of this fruitful cause of sickness is preventable.

It is allowed on all hands that with rigid care of the water supply, with the earnest cooperation of the man in the ranks himself, the occurrence and prevalence of typhoid fever among armies in the field might be so decreased as to become almost a negligible quantity. The medical department of the Japanese army, during the war just ended, has given to the civilized world an instructive object lesson with regard to the organization and management of sanitary affairs during a campaign. According to all accounts from the front in the Far East, disease in the Japanese army has been conspicuous principally by its absence. After all due allowance has been made for the extremely strict censorship, which is so prominent a feature of Japanese army organization, the conclusion cannot but be reached that the occurrence of disease among the troops has been small, for if any devastating epidemics had occurred, it would have been impossible entirely to conceal such facts. It must be granted, then, that the Japanese have partially, if not altogether successfully, solved a problem which has so long baffled the army sanitarians of modern Europe and of America. By what means have they effected this great work, and revolutionized to a great extent the course of war? Simply by the extreme care which their army medical department has paid to the soldier's water supply. So minute, indeed, has been their attention to the necessity of procuring water free from disease-bearing germs, that English or American soldiers would have regarded many of the regulations tending to this end as troublesome and unnecessary. It is in the subjection of the Japanese private to orders, and the strict discipline which prevails throughout the army, that the procedure adopted to safeguard the water supply has been rendered possible of accomplishment. The results, however, of Japanese methods to prevent disease in the field have been so markedly successful, that other armies have been stirred to copy, as far as is possible, their preventive measures.

For example, the British Army Service Corps has been conducting experiments for some time past, with the view of discovering a really reliable means of sterilizing water for troops in the field. A demonstration of the various methods to attain this object was recently given at the British Army Service Corps Barracks, which is referred to at some length in *The Lancet* of August 26. The methods of purification illustrated were divided into three sections: (1) those in which the water is sterilized by heat; (2) those in which purification is effected by filtration, and (3) those in which the addition of chemical agents is relied upon to sterilize the water.

Six apparatuses illustrated the sterilization of water by heat, the principle of five of them being the working by heat exchange. Among these was the Forbes sterilizer, an American product. The other sterilizer exhibited was the Leigh-Canney which is simply a boiler delivering 28 to 36 gallons of water sterilized by heat per hour. One field service filter was shown, that of Slack and Brownlow, an apparatus weighing 124 pounds and capable of delivering 100 to 120 gallons per hour when filtering clear water, which rate is considerably diminished when muddy water is being treated. A service water cart was also shown, fitted with Slack and Brownlow filters, the average yield of which is 100 gallons per hour. The Schumberg process, reference to which has been made in the Medical Record on more than one occasion, was tested. This process relies for sterilizing water upon chemical reagents. It was found that the sterilization of one liter of water can be accomplished in from seven to thirty minutes by the addition of 0.06 of free bromine. The bromine is then neutralized by adding a mixture of sodium sulphite and sodium carbonate. It is stated that after a period of about two minutes the odor of the bromine disappears, but the water has a somewhat stale taste. Iodine used in the same way, it is said, leaves the water odorless and does not alter its appearance, nor is any ill effect produced upon the digestive tract or the general health. The employment of several other chemicals for sterilizing water was tested, among these being permanganate of potassium, which is largely used in India for this purpose, and which, added to water in quantities of from two to four centigrams per liter, is said to destroy all pathogenic bacteria.

The results of the demonstration in London are reported to have given great satisfaction. However, a filter or any other method of purifying water for troops in the field, in order to be of practical use, must be simple as well as effective. The American or British soldier is by no means so obedient to discipline as is the Japanese, and he will not use anything of a kind that gives him any trouble. Much of the sickness among the troops in the Spanish-American and Boer wars was due to carelessness and a refusal to take the trouble to observe simple sanitary rules.

## The Advance of Cholera.

The sudden appearance of cholera in Eastern Prussia and the presence of sixty or more cases of the disease among Russian emigrants in Hamburg awaiting transportation to America, gives cause, not for popular alarm but for increased watchfulness on the part of our sanitary guardians. Epidemiologists have for some time been watching this gradual advance of cholera from the East on one of its periodical incursions into western Europe. The movement began in the latter part of 1899. Eastward the disease advanced from India rapidly, invading China and Japan. From Hong Kong it passed to the Philippines, working havoc in Manila and the Provinces

despite the best efforts of the medical officers of the Army and Marine Hospital Service. Its progress westward through Arabia and Persia into Russia has been more gradual. Cholera appeared in Mecca in 1902, and thence spread throughout the Mussulman world, being heard of in Egypt, Asia Minor, and Persia, finally establishing itself firmly in Teheran. From this point it followed the caravan routes into Anatolia, Transcaucasia, and Transcaspia, thence reaching the banks of the Volga. Here it rested for nearly eighteen months, being restrained by some mysterious influence, the nature of which students of epidemics have never yet discovered, and only now has it resumed its march westward. Why should it have remained so long in Russia and then suddenly crossed the frontier? Raftsmen were coming down the Vistula past Thorn and Kulm, and emigrants were leaving Poland and Western Russia for Hamburg and Bremen, sailing thence for New York, but the disease remained behind. The Russian health officials did as little to throttle the epidemic then as they are doing now, and the communication between the Volga, where the cholera hibernated, and the Vistula down which it is now journeying into Prussia, was just as free in the summer of 1904 as in that of 1905, but the infection refused to spread. Suddenly it takes a start and Europe awakes to the peril of a cholera invasion. Epidemiologists tell us that the conditions which retard or accelerate the progress of this disease are climatic conditions, but this is only a term to cloak ignorance. Pettenkofer's subsoil water theory is just as satisfactory and no more intelligible. That there is some influence which affects the virulence of the comma bacillus, or which determines a greater or lesser power of resistance in the human subject, must be admitted, but whether this influence is atmospheric or telluric or neither, it still remains a mystery.

## News of the Week.

**The Situation in New Orleans** is steadily improving, the number of reported cases averaging about ten a day less than a week ago. Up to Wednesday of this week the total number of cases reported, since the beginning of the epidemic six weeks ago, was 2,111, and the deaths numbered 294. The conditions are now becoming worse in some of the neighboring cities, which have relied upon shotguns instead of oil and culicicides as a defense against the fever, than they are in New Orleans.

**Vaccinating a Shipload at Quarantine.**—A steamship arrived at New Bedford a few days ago from Lisbon, having on board a great number of Portuguese fishermen, among whom was one case of smallpox. The authorities at New Bedford have no facilities for the treatment of so many persons, and, accordingly, sent the vessel here. The ship was held at Quarantine and all of the 558 cabin and steerage passengers were vaccinated.

**Germany Threatened with an Invasion of Cholera.**—Absolute authority has been given to the sanitary authorities in the districts of Kulm, Thorn, Graudenz, Marienwerder, Stuhm, and Schwetz for the purpose of preventing the introduction and spread of cholera. Two Russian raftsmen died of the disease at Kulm, and as they were engaged in the Vistula River traffic, the source of the infection is assumed to be somewhere up the river in Russian territory. All bathing houses along the river have been closed, and the water supplies from the river for adjacent towns have been sharply shut off. The inhabitants are obliged to import water or to use that taken from the wells. Cases have been discovered among upward of sixty emigrants at Hamburg, and in consequence the Hamburg-American Steamship Company sent out the *Moltke* with cabin passengers only, the emigrants who were to have sailed in that vessel being detained for observation. Up to September 5 there had been 77 cases and 24 deaths reported in Germany.

**A Legal Decision Regarding the Curability of Cancer.**—The question of the curability of cancer is likely to be brought before the California courts in a suit brought by a woman physician in Los Angeles against the State Board of Medical Examiners. The law empowers the State Board to disbar any physician who may publish "grossly improbable statements" regarding his healing powers, and on the strength of this the board revoked the license of a woman practitioner who advertised a sure cure for cancer. The woman retorts that her claims can be substantiated and offers to cure any person suffering from malignant disease whom the Board of Examiners may send her. She declares she will bring suit against the board for reinstatement and that she will prove to the court that her claim to cure cancer is founded on facts and hence is not "grossly improbable."

**A Definition and Delimitation of Old Age.**—The *British Medical Journal* announces that the London Vegetarian Association has arranged a meeting on October 13 at which the question what period of life should be termed old age will be discussed by a number of gentlemen between the ages of eighty and ninety, who are still engaged in literary, medical, agricultural, and other work. The chair will be taken by Mr. C. P. Newcombe, who is an octogenarian, and other speakers will be Professor Mayor, Mr. Joseph Wallace and others.

**Dr. George Ernest Morrison,** the Peking correspondent of *The Times* of London, who has been in Portsmouth reporting the doings of the Peace Conference, is a graduate in medicine of Edinburgh University in 1887. He is an Australian by birth and has all his life been a traveler, preferring the life of a correspondent to that of a practitioner of medicine.

**Fire at St. Mary's Hospital.**—The ambulance house of St. Mary's Hospital, Jamaica, L. I., was destroyed by fire one day last week. Two horses perished, two ambulances were burned, and the total loss is placed at $6,000. No one was injured. The hospital building was not damaged.

**The Fifth International Congress of Obstetrics and Gynecology,** which was to have been held in Russia this autumn, has been postponed for a year, by order of the Government.

**Two Million Dollars for a Cancer Cure.**—According to the *Pall Mall Gazette* the Brazilian Chamber of Commerce has devoted the enormous sum of £400,000 as a prize to be given to the scientist who shall discover a really enduring method for the cure of cancer. An international committee is to be formed, consisting of two members of the Medical Academy in Rio Janeiro and of four eminent pathologists chosen from London, Paris, and Rome. These six gentlemen will act as the jury in the case of awarding the prize. It is probable that the London journal meant milreis instead of pounds. Four hundred thousand milreis of Brazil would be about $220,000—a tidy little sum even that for a poor doctor to get.

**Fined for Selling Cocaine.**—A druggist in St. Louis was fined $10 on August 24 for selling cocaine to a negress. This is the first conviction under the anti-cocaine law recently passed by the legislature.

**Medical Society of the Missouri Valley.**—This society held its annual meeting in Council Bluffs, Ia., on Thursday and Friday, August 24 and 25, with an attendance of one hundred. Dr. S. Grover Burnett in his presidential address, entitled "Oslerism Bearded, or a Study of Age in Relation to Work," called attention to the fact that Dr. George M. Beard was entitled to priority in suggesting the uselessness of men above forty years of age. Dr. Burnett claims that those who have done their best thinking before forty, do their best mental externalizing afterwards. Beard has shown us that 70 per cent. of life's work is done by the forty-fifth year, and 80 per cent. is finished by the fiftieth year. Also, that only 25 per cent. more actual work is accomplished from thirty to forty years of age than is done between forty and fifty years of age; thus man's retirement at forty would mean a loss to the world of a sum equal to three-fourths of his work done from thirty to forty years of age, to say nothing of the auxiliary unfinished business accumulated before forty and requiring concentrated experience which comes after forty, to shape it into a thing of value. The last half of man's life is unquestionably the best and most favorable part of it, especially if he devotes the first half to thought. Fadism is the product of immature sentiment which age and experience and careful investigation will always cure. Papers were read by Drs. Leroy Crummer, A. C. Stokes, W. O. Bridges, A. P. Condon, and J. P. Lord of Omaha; Fenton B. Turck and W. F. Waugh of Chicago; Daniel Morton of St. Joseph; J. W. Kime of Fort Dodge, Ia.; Herman E. Pearce and C. E. Hardin of Kansas City; T. M. Bogart of Excelsior Springs, Mo. On Thursday evening the society were entertained by the local profession at Lake Manawa. An amendment to the constitution was read changing the date of the annual meeting to the first Thursday in September. The secretary's report showed a healthy condition of the society, 41 new members having been added during the year. The Buchanan County Medical Society extended an invitation to hold the next semi-annual meeting in St. Joseph in March, 1906, which was accepted. The election of officers for the ensuing year resulted as follows: *President*, Dr. John E. Summers, Jr. of Omaha; *Vice-Presidents*, Drs. C. H. DeWitt of Glenwood, Ia., and C. B. Hardin of Kansas City, Mo.; *Treasurer*, Dr. Donald Macrae of Council Bluffs, reelected; *Secretary*, Dr. Chas. Wood Fassett of St. Joseph, Mo., reelected.

**The Cumberland Valley Medical Association,** having a membership of the physicians of Pennsylvania and Maryland living in the Valley of the Cumberland, met in annual session at Carlisle, Pa., on August 29, under the presidency of Dr. V. M. Reichard of Maryland. There was an attendance of about eighty. The election of officers resulted as follows: *President*, Major James Evelyn Pilcher, Carlisle; *Vice-Presidents*, Drs. H. P. F. Unger, Mercersburg; A. C. Maisch, Hagerstown, and George C. Borst, Newville; *Secretary*, Dr. J. J. Coffman, Scotland; *Assistant Secretaries*, Drs. P. R. Koons, Mechanicsburg; H. C. Devilbiss, Chambersburg; T. C. R. Miller, Mason-Dixon; *Treasurer*, Dr. J. J. Koser, Shippensburg.

**A Breath from the Golden Gate.**—The San Francisco *Chronicle* of August 10 contains the following appreciative comment: "The doctors in New York are concerning themselves about the health of the school children, and are making startling assertions calculated to prepare the public mind for a grafting proposition. The outcome of the thing will probably be the appointment of a raft of political doctors whose chief duty it will be to draw salaries which they will not earn." It was in San Francisco that the mayor, Schmitz we believe his name was, turned out the Board of Health some three years ago because it persisted in its duty of reporting the cases of plague as they occurred in the city. No wonder, therefore, the *Chronicle* man thinks all Health Boards are the creatures of politicians.

**Adulterated California Wines.**—Examinations by the city chemist of San Francisco have on several occasions revealed adulteration of the wines of the State. Since many physicians depend upon the California wines as the purest that can be obtained, the necessity of submitting them to chemical examination should be understood. In a recent report, it is stated that analysis of 51 bottled and 164 bulk wines revealed the presence of coal-tar dyes in 22 samples, salicylic acid in 14, and benzoic acid in 10. Two samples were said to be so high in volatile acids as to be unsalable as wines. Arsenic was found in 23 samples in quantities ranging from a mere trace to a "quite appreciable quantity," but its presence is admitted to have been entirely accidental. An investigation will be made into the manner in which the arsenic got into the wine, but the San Francisco Health Board, it is said, has no authority to condemn or destroy adulterated goods.

**A Fraudulent Formula Company.**—A San Francisco concern doing a curious business has been refused the use of the mails by the issue of a "fraud order." The firm is said to have advertised to physicians many prescriptions of rare merit at various prices, but sent to the innocents who remitted money only such formulas as they could have obtained from their textbooks.

**The Canadian Medical Association** held its annual meeting in Halifax on August 22, 23, 24, and 25, under the presidency of Dr. John Stewart of that city. The following officers were elected: *President*, Dr. Alexander McPhedran, Toronto; *General Secretary*, Dr. Geo. Elliott, Toronto; *Treasurer*, Dr. H. B. Small, Ottawa; *Vice-Presidents*, Prince Edward Island, Dr. H. D. Johnson, Charlottetown; Nova Scotia, Dr. G. Carleton Jones, Halifax; New Brunswick, Dr. Emery, St. Johns, Quebec; Dr. H. S. Birkett, Montreal; Ontario, Dr. J. D. Courtney, Ottawa; Manitoba, Dr. H. P. Prowse, Winnipeg; North-West Territories, Dr. H. C. McKid, Calgary; British Columbia, Dr. R. E. McKechnie, Vancouver. *Local Secretaries*, Prince Edward Island, Dr. Simpson, Charlottetown; Nova Scotia, Dr. J. R. Corston, Halifax; New Brunswick, Dr. J. A. Scammell, St. John; Quebec, Dr. Ridley McKenzie, Montreal; Ontario, Dr. Harold Parsons, Toronto; Manitoba, Dr. J. R. Davidson, Winnipeg; Northwest Territories, Dr. J. Hislop, Edmonton; British Columbia, Dr. W. H. Sutherland, Revelstoke; *Executive Council*, Dr. W. P. Caven, Toronto; Dr. A. A. McDonald, Toronto, and Dr. F. L. M. Grasett, Toronto. At 10 A. M. there was a discussion in obstetrics. The management of the puerperal state was introduced by Dr. Thomas Walker, St. John, N. B., and continued by Dr. H. L. Reddy, Montreal, Dr. A. A. McDonald, Toronto, Dr. Eccles, London, Ont., Dr. M. A. Curry, Halifax, and Dr. D. McIntosh, Pugwash, N. S. The next annual meeting will be in Toronto in conjunction with the meeting at the same time of the British Medical Association.

**Pacific Coast Association of Railway Surgeons.**—The third annual meeting of this association was held in San Francisco during the second week in August, under the presidency of Dr. Morrison. The election of officers resulted in the choice of: *Presi-*

*dent*, Dr. Thomas W. Huntington of Oakland; *Vice-Presidents*, T. C. McCleave of Berkeley, and W. O. Spencer of Huntington, Ore.; *Secretary*, Dr. John P. Dunn of Oakland; *Treasurer*, Dr. Frank L. Adams of Oakland.

**The American Roentgen Ray Society.**—The sixth annual meeting of this society will be held at the Johns Hopkins Hospital, Baltimore, September 28, 29, and 30, under the presidency of Dr. Charles Lester Leonard of Philadelphia. The Stafford Hotel has been selected as headquarters. The program includes papers by foreign as well as American workers in this special department of medicine. Further information can be obtained from the secretary, Dr. Russell H. Boggs, Empire Building, Pittsburg, Pa.

**A Mosquito War in San Antonio.**—The health authorities of San Antonio, Texas, are waging an active campaign against mosquitos, and hope to have the city entirely free of the obnoxious insects before the San Antonio fair opens. The city is divided into thirty-three districts, each one under the direction of a health inspector, whose business it is to note the condition of every house and the surrounding grounds in his district and see that the householders comply with the law in regard to abolishing breeding places and destroying the mature mosquitos.

**The Fifteenth International Medical Congress.**—Final arrangements have been perfected for the trip of the American party to the International Medical Congress at Lisbon, April 19, 1906. The party will sail on Saturday, April 7, on the North German Lloyd steamer *König Albert*, for Gibraltar, visiting Algeciras, Seville, Cordova, etc., spend a week in Lisbon during the Congress, and return to New York, arriving on Wednesday, May 9. This trip may be made comfortably in a first-class steamer both ways, all expenses paid, including board and lodging while in Lisbon, for $300. A number of side trips are being added and tickets will be good returning through Europe if desired, at a slightly increased cost. The list of those who have joined the party up to the present contains fifteen names. It is requested that those who contemplate making the trip communicate with Dr. Charles Wood Fassett of St. Joseph, Mo., as soon as possible, in order to secure desirable berths on the steamer and good hotel accommodations.

**Levi's Iodine Treatment of Tuberculosis.**—Mr. Dunning, U. S. Consul at Milan, has sent a communication to the Secretary of Labor and Commerce concerning the use of iodine in pulmonary tuberculosis as advocated by Prof. Levi of that city. He says he has received numerous letters of inquiry from America, based on newspaper reports, and he thinks it proper to make a statement of what has been accomplished in order that the hopes of consumptives may not be raised too high. The fact seems to be, Mr. Dunning writes, that Prof. Levi has been experimenting for a more or less extended period with iodine, following and extending certain lines of study which for many years have engaged the attention of Italian men of medicine. For a long time it has been a common belief among many Italian scientists that iodine could be used successfully to attack tuberculosis in men and animals. The difficulty has been to get the drug in such form as to render it suitable for injection. Prof. Levi's experiments have dealt solely with this process, and his "secret" lies in the character of the treatment which he applies to the drug. He believes he has discovered the right formula now, but whether or not he has done so remains to be seen. Meantime, he is working toward the ultimate trials of his discovery, and promises to give the world the result of his labors at the earliest possible time.

**Professional Secrecy in Relation to Crimes Against Minors.**—A New York State law which went into effect on September 1 abrogates in part the exemption of physicians from testifying as to what has occurred in the relation of physician and patient. The law provides that if the patient is under 16 years of age and the physician has come into the knowledge, through his relation, that a crime has been committed he will be called upon to testify and will not be exempt, as formerly.

**Yellow Fever at Quarantine.**—A Panama Railroad employee who arrived at this port on the *Havana* on Thursday of last week was found to be suffering from yellow fever and was removed to Swinburne Island. Three other passengers on the same vessel were found to have an elevated temperature and were kept at the hospital under observation.

**Federal Control of Southern Quarantines.**—The matter of holding a general convention of Southern States to consider whether or not all quarantines shall be put in the hands of the Federal Government will probably be held in a short time. A law has already passed placing quarantine restrictions in the hands of the Government, but the Public Health and Marine Hospital Service has refused to take hold of the matter except at the request of the Southern States affected.

**An Investigation of Graveyard Insurance.**—Evidence of extensive fraud in the writing of insurance on risks known to be bad is said to have been brought to the attention of the Amstrong Committee of the New York Legislature which is now conducting an examination into the methods and practices of the life insurance companies of this city.

**The Use of Wood Alcohol** in any preparation is forbidden by a new State law which went into effect September 1. It declares that any preparation containing methyl or wood alcohol shall be classed as adulterated. The penalty for the wilful violation of the health laws of city or State, such as the manufacture or sale of an adulterated article, is imprisonment not exceeding a year or a fine of $2,000, or both.

**Dr. Edmund A. Babler** of St. Louis was the author of an interesting article on the significance of sudden severe abdominal pain, appearing in the *New York Medical Journal*, but credited in our abstract on August 12 to another writer.

**Medical Department of Fordham University.**—The new medical department of this institution will open on September 28 with the following faculty: Anatomy, George A. Leitner; Physiology and Hygiene, E. Franklin Smith; Materia Medica and Therapeutics, Thomas J. Dunn and James N. Butler; Chemistry and Physics, taught at St. John's College; Obstetrics and Gynecology, John Aspell and George M. Edebohls; Neurology and Historical Medicine, James J. Walsh. As only first year work is to be undertaken during the present session, the list of professors is not yet complete. Dr. James N. Butler is Dean of the Faculty.

**Obituary Notes.**—Dr. Sarah B. Flemming, the first woman physician to be graduated from the Syracuse, N. Y., University, died August 19 at her home in Coronado, where she has resided for the past twenty years. She was born in

Bradford, Pa., seventy years ago, and was graduated from the Syracuse University College of Medicine in 1873. She practised medicine in Rochester, Baltimore, and Washington, D. C., and was a member of the New York State Medical Society and of the medical society at Washington.

Dr. Samuel H. Fee of Kingston, Ontario, died August 31. He was a graduate of the Royal College of Physicians and Surgeons, Kingston, in 1862. He served in the medical corps of the Union Army. during the Civil War.

Dr. Henry F. Garey of Baltimore died August 31. He was a graduate of the Washington University School of Medicine, Baltimore, in the class of 1876.

Dr. Charles W. Fordyce, an interne at the German Hospital, Los Angeles, Cal., was drowned while bathing in the Kern river on August 20. He was twenty-seven years of age and was graduated from the Los Angeles Medical School about three months ago.

Dr. Robert W. Hynds of Atlanta, Ga., died of typhoid fever on August 18 at the age of twenty-six years. He was assistant bacteriologist and chemist of the Atlanta Board of Health. He also held the position of assistant secretary of the State Board of Health, and was a member of the staff of the Wesley Memorial Hospital.

Dr. Jared E. Cone of Youngstown, Ohio, died August 24 of rheumatic endocarditis at the age of forty-nine years. He was born in Iowa and was graduated from the Medical Department of the Iowa State University in 1882. He practised for four years in South Dakota and then removed to Youngstown. He was an ex-president of the Mahoning Medical Society and was visiting physician to the Mahoning Valley Hospital.

Dr. George I. Mackenzie of Pictou, N. S., died on August 20 at the age of sixty-eight years. He was a graduate of the Jefferson Medical College, Philadelphia, in the class of 1864.

Dr. Siegfried Martus of this city died on August 31, following an operation for appendicitis, at the age of forty-three years. He was born in Russia and was graduated from the New York University Medical School in 1889.

Dr. M. H. Hardy of Provo, Utah, died suddenly on August 23 of disease of the heart. He was born in Groveland, Mass., in 1844, and was taken by his parents to Salt Lake City in 1852. For many years he was connected with the Mormon schools, but later took up the study of medicine and was graduated from the New York University Medical School in 1885. From 1896 to within a few months he was superintendent of the State Insane Asylum.

Dr. Adolph Schlossstein of St. Louis died of apoplexy August 27, at the age of 64 years. He was born in Bavaria and was graduated in medicine at Wirzburg in 1865. He came to this country in 1867 and began practice in St. Louis. A widow and a son, also a physician, survive him.

Dr. Edmund Wales Holmes died suddenly at Philadelphia on August 28, at the age of 54 years. He was born in Cape Town, Africa, where his father was American Consul. He was graduated in arts from Yale University in 1872 and in medicine from the University of Pennsylvania in 1880. He became a resident physician in the Philadelphia Hospital and subsequently lecturer on anatomy in the University of Pennsylvania. He was one of the surgeons to the Methodist Episcopal Hospital.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

PHYSICAL DETERIORATION AND HEREDITY DISCUSSIONS—HOSPITAL SUNDAY FUND—SANITARY INSPECTORS' CONFERENCE.

London, August 18, 1905.

The inquiry into the alleged physical deterioration has provided much copy for the newspapers, and the interest of the public is being accordingly stimulated by much irresponsible criticism. Perhaps the closing of Parliament has opened the door to many communications of social importance. Dr. Archdall Reid has been bold enough to contribute to the *Post* an article on the subject, explaining his views on the effect of heredity, the result being that other medical men have followed suit. Dr. Reid begins by drawing the distinction between "acquired" and "inborn" characters, the former being never inherited, notwithstanding the popular belief, the lattering including variations tending to be reproduced in the offspring. Passing on to rival theories, he remarks that many medical men believe that parental disease, intemperance, want, hardship, insanitary conditions of life generally cause offspring to be degenerate. Others attribute improvement to natural selection and the elimination of the unfit, and degeneration to lack of selection. The logical corollary, not always clearly apprehended, is that the conditions to which parents are exposed do not cause variations. If offspring were made degenerate at birth, natural selection could not effect improvement, while if beneficial conditions improved offspring, degeneracy would not occur under them. Thus the medical and biological theories are incompatible. Proceeding to state his own views, which are pretty well known to our readers, Dr. Reid remarks that lately some thousands of medical men signed a manifesto to the effect that alcohol is a cause of degeneracy. But he says every race is resistant to alcohol in proportion to its past indulgence, just as is the case with diseases and other adverse influences. Slums are no creation of our day. The races longest exposed to them are in no way degenerate. They are rather preeminently capable of living in slums through having become preeminently resistant to their influences. That city families become extinct in four generations he calls a grotesque legend founded on the fact that migration and intermarriage leave no purely urban families for four generations.

The evidence of some medical witnesses at the Committee on Degeneration is smartly criticised by Dr. Reid. The statements of some at Leicester are also examined, and anent the proposal to collect statistics as to the effect of ill-health on descendants he exclaims: "As though these monuments of misdirected industry were not already sufficiently numerous." The medical profession is best equipped for the study of the problems involved, but, says Dr. Reid, "not till it tries to do something more than merely translate popular prejudices into technical terms will it be in a position to labor in this field with effect." To improve individuals he holds we must attend to acquirements, but the race can be improved only by attending to inborn characters—for example, by placing every obstacle in the way of the reproduction of their own types by the intemperate and feeble-minded.

The day after Dr. Reid's article appeared, the *Post* published letters on the subject from Dr. Saleeby and Dr. Harry Campbell, both of whom regard Dr. Reid's book as the most valuable contribution of recent times to the study of heredity, though neither of them endorses all his opinions. If, as Dr. Reid contends, acquirements beneficial to the individual cannot be transmitted, they cannot improve the race. His inference is that they rather tend towards deterioration by increasing the survival of the unfit. On this Dr. Saleeby says that as posterity are infinitely more numerous than the living, their welfare is paramount; and if proper shelter, food, and training cause deterioration, such provision would be improper and should not be supplied lest a worse thing befall the race. But it would be a sorry state of things which forbade improving the individual lest the race suffer. Dr. Saleeby denies that a beneficial environment of the individual entails racial injury, and says cosmic and moral evolution are compatible; so while caring for the halt, maimed, blind, or insane we may forbid them to perpetuate their infirmities.

Dr. Harry Campbell goes a long way in the same direction. Slum-bred people become adapted to their environment, and the assumption that man might become adapted to slum life is not so far fetched as many suppose. In fact, Jews and members of other races are specially adapted to urban life, because they have been town-bred for many generations. He therefore agrees with Dr. Reid that ad-

verse conditions may damage the individual and yet lead to racial adaptation instead of deterioration.

You must not suppose that such views as I have quoted are allowed to pass unquestioned. A great newspaper having opened its columns to the discussion, there would naturally be no lack of correspondents, and the controversy is still proceeding. That "blessed word," evolution, bulks largely in the debate, as does the equally effective word with so many—education. It is held by some that frailty is transmitted for many generations, and that healthy people are not produced under adverse conditions. That adverse influences improve a race is objected to as a mere hypothesis which any gardener or breeder of domestic animals would reject, as also would many—perhaps most—medical men.

Practical botanists and zoologists, it is said, hold Darwin's theory as of doubtful validity, and, after fifty years' experience in the views of evolutionists, find them at variance with the facts of nature. It has lately been shown that Alpine plants removed to the lowlands lose their Alpine characters; for perhaps thousands of years they have inherited these Alpine peculiarities, but these straightway disappear in new conditions. So, perhaps, slum degeneracy might as readily disappear. The death-rate of slum children is high, and that is attributed by some to their heritage. But others say it is the result of conditions we tolerate in our own generation, and appeal to a comparison between these poor children and those of the well-to-do classes.

At a meeting of the Council of the Hospital Sunday Fund a committee's report came up recommending an increase of salary to the secretary and an alteration in the constitution so as to enable the Queen Victoria Jubilee Nurses' Institute to receive a grant. The former recommendation was agreed to with that alacrity which distinguishes public bodies in voting away other people's money. The other proposal was not adopted. The matter had been brought before the committee by a deputation from the institute, who urged that the nurses did first-aid work and rendered help which often diminished applications to hospitals. One member of the council approved the proposal, and would even extend it to other nursing organizations. But it was obvious that this would be to open the door to all sorts of claims, and money subscribed for hospitals ought certainly not to be voted to other purposes. Convalescent homes and cottage hospitals are now included in the list of beneficiaries, and any extension of that list is undesirable; even a curtailment might be more advisable.

The fund will not be closed until October, but the amount already received is £75,000, and it was resolved to distribute £71,466 among 162 hospitals and 60 dispensaries, the awards to be paid as soon as possible.

Yesterday Sir J. Crichton-Browne presided at the second annual meeting of the Sanitary Inspectors' Association. He remarked that though all men, as Carlyle said, were born hypochondriacs, and in all ages swindlers like Cagliastro drove a thriving trade in well-advertised potions and specifics, never until now had health in the aggregate been the object of such public concern. Topics that not long ago were thought suitable only for a medical society are now talked over at dinner tables or in the streets, and he thought that right, as the help of all classes is needed to promote sanitation. He criticised Dr. Maudsley's recent statements on the doubtful value of sanatorium treatment, and attributed a reduction of 25 per cent. in the phthisis mortality to subsoil drainage and other sanitary improvements—which seems a rather inconsequent notion. Though no precautions used to be taken against spreading the disease, he objected to recent views on heredity, which, he said, "lay at the core of things, while environment played on the surface." I hope the inspectors understood this, which is not as transparent as his advocacy of garden cities and land colonies.

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**Mouth Affections in Typhoid Fever.**—G. B. Hassin and A. Spare report a case of mouth affection in typhoid fever of an unusual degree of severity. The cavity of the mouth reacts more or less specifically to infectious diseases. In typhoid the mucous membrane is dry, the tongue and lips fissured. Sometimes there is some dirty coating and the formation of ulcers. These are generally of small size and superficial. The case described was in a boy eleven years old. The stomatitis was intense, and a mould of the entire buccal cavity was shed, leaving the oral mucous membrane as one large ulcer. The patient was quite unable to talk on account of the pain caused by movements of the mouth. He recovered. Aside from Peyer's patches, the buccal mucous membrane is more liable to attack than any other part of the digestive canal. In this case the Eberth bacillus is believed to have settled primarily and chiefly in the buccal cavity.—*Clinical Review.*

## OUR PARIS LETTER.

(From Our Special Correspondent.)

MARCH OF CHOLERA IN 1904—ALBUMINURIA IN ITS RELATIONS WITH DIABETES—TREATMENT OF CANCER OF THE STOMACH BY PYLORECTOMY—ENDOSCOPY OF THE URETER AND BLADDER—TREATMENT OF CANCER BY DOYEN'S SERUM CONDEMNED BY THE SOCIETY OF SURGERY—ILEOCECAL TUBERCULOSIS—GENERAL ANESTHESIA BY SCOPOLAMINE—SLEEPING SICKNESS IN A WHITE MAN.

PARIS, July 31, 1905.

At its sitting of July 4, the Academy of Medicine listened to a communication from Professor Chantemesse on the progress of cholera in 1904, and its menace of a European invasion. According to the author, the enemy is not far from us, and we must fear that the extension of cholera will reach us. The epidemic of cholera in 1904 began in the Indies, toward the end of 1899 and beginning of 1900; after leaving this focus of origin, the invasion progressively infiltrated the East, in the direction of China and the extreme Orient; the West, in the direction of Arabia and Europe. It is its progress on the route to this continent that is of interest to us. After appearing at Mecca, in Egypt, in Palestine, and at Bagdad, it reached Persia, and installed itself in Teheran, to infect next Transcaucasia, Transcaspia, Anatolia, and the banks of the Volga, where it hibernated until the beginning of 1904. Europe is directly menaced by several routes, and has been overrun at various epochs by epidemics: by way of the Volga (Moscow, St. Petersburg), by way of the Black Sea (Odessa, mouth of the Danube, Constantinople).

The Academy of Medicine received an interesting communication from M. Lancereaux on Albuminuria in its relation to Diabetes, its Pathological Conditions and Different Forms. The author regarded the pathogenic conditions of albuminuria in diabetes as of three kinds: (1) An intercurrent disease (especially tuberculosis). The urine is characterized by the presence of a large proportion of albumin in flocculent form, and hyaline casts. Here there is an epithelial nephritis, absolutely independent of the diabetes, and allied to the general malady. (2) Arteriosclerosis with consecutive atrophy of the kidneys. Here the urine is dense, limpid, colorless, and abundant. These are the signs of an arterial nephritis, which can be diagnosed by the anatomical examination, and which is allied to arthritism. (3) Absence of any intercurrent malady and of arteriosclerosis; the urine is slightly less than normal, and of a little lower specific gravity, high colored, and albumin is usually abundant. It is the third form that merits the name of albuminous diabetes, by reason of its habitual coexistence with diabetic glycosuria, and which, according to the experience of Cl. Bernard, is to be referred to a disorder of bulbar enervation. At the same meeting MM. Poncet and Delore reported twelve observations on cancer of the stomach treated by pylorectomy, with gastrectomy of more or less extent. Among these twelve patients, the authors had eight cured cases, and this proportion of successes demonstrates the relative lack of danger in this operation: resection of the stomach is, then, to be preferred, and should dominate the therapeutics of gastric cancer. Every probable cancer of the stomach calls for a laparotomy at as early a date as possible, and the earlier this is undertaken the better is the chance that it will not be merely an exploratory operation. If there are then no contraindications, the laparotomy will be followed by a more or less extensive resection of the cancerous stomach.

Among the presentations to the Academy of Medicine of published works, it will not be out of place to mention that of Dr. Georges Luys on Endoscopy of the Ureter and Bladder, presented by Professor Le Dentu. The author, pursuing his interesting original researches on the exploration of the urinary passages, has published the first work on the direct examination, by the eye, of the ureteral and vesical mucous membranes, that has appeared in France. The operative technique of ureteroscopy is illustrated in its different periods by a series of typical pictures, so that the physician, after having consulted this work, will be perfectly prepared to make use of the ureteroscope and cystoscope for direct examination. We know the advantages of this instrument, which permits of the direct examination, without prisms, of the entire ureter, and the greater part of the bladder, especially its fundus. It also permits of catheterism of the ureters, the treatment of vesical ulcerations, extirpation of small tumors, the extraction of foreign bodies, etc. Ureteroscopic treatment properly so called, as well as that resulting from the examination by the ureteroscope, are described in all their details. This book opens up a way to the majority of general practitioners for the delicate intravesical manipulations, which previously have been possible to only a few.

In December, 1904, the Society of Surgery appointed a commission to study the results obtained in the treatment of the different forms of cancer by the application of the serum treatment of Doyen. This commission, in the belief that its results would enable it to formulate conclusions of value, has presented, through Pierre Delbet, a report, which is summed up here. The commission has examined twenty-six patients, affected by cancer or recurrence of cancer in various organs. In the first group Delbet arranges the cases treated by serum without operation. This group includes two series: (1) primary cancer; (2) recurrences. The results are, series (1), three cases; stationary, one case; evident aggravation, one case; death, one case. Series (2), seven cases: two cases, no improvement, continued grave condition; aggravation, five cases. In the second group the reporter includes primary and recurrent cancers treated at once by serum and operative intervention. This group includes two series: (1) initial cancers, twelve cases: no improvement, three cases; aggravation, nine cases. In series (2): stationary, one case; aggravated, three cases, one increasing very rapidly. To sum up, we find that in the five months of their observations, the commissioners saw no case of improvement. They believe that Doyen has been the victim of illusions, which easily deceive the inventors of methods of treatment, so that they confound their hopes with the reality. Personally Delbet has used the Doyen serum in three cases; the result has always been an immediate aggravation of the growth of the neoplasm. At the next meeting, Kirmesson reported a new case of cancer of the kidney treated without success with the serum of Doyen. Fifteen injections were made, between January 23 and March 20; the tumor continued to progress and the general condition to become worse.

The Society of Surgery also engaged in a long and important discussion with reference to a communication by Routier, on ileocecal tuberculosis. The author reported five cases in which he had operated. Tuffier discussed several points with reference to the operative technique, the diagnosis and treatment of ileocecal tuberculosis. Relative to the technique, he considers that the best method of enteroanastomosis is laterolateral anastomosis, after freshening the two ends of the intestine with the forceps of Doyen. From the point of view of diagnosis, he insists on the difficulties of distinguishing it, even when the parts are in the hands, from an ordinary inflammatory lesion. As to treatment, he believes that the resection should always be carried very high, for it is not rare to find the tuberculous lesions extend some distance along the ascending colon.

At another meeting, in reference to general anesthesia by means of scopolamine-morphine, Monod reported that he has used this method of anesthesia in five cases, and the grave accidents that he observed in his last operation had induced him to cease his experiments, and to return to general anesthesia with the mixture of air and chloroform (apparatus of Ricard), to which he should always have remained faithful. His patient, on whom he had done a cholecystenterostomy, had absorbed besides the dose of scopolamine-morphine, about 50 centimeters of chloroform. Twenty minutes after the end of the operation her respiration stopped and the heart ceased to beat. She remained in danger for several days. He does not know whether to attribute the trouble to the scopolamine, the morphine, or to the chloroform. No such accident ever happened to him while using the mixture of air and chloroform, and he thinks it very probable that it was due to the mixture of scopolamine and morphine.

At the Hospitals Medical Society, Sicard and Moutier made a communication with reference to a case of sleeping sickness in a white man. The patient presented to the society had contracted the disease two years ago in Gambia. At the beginning he had headache, lassitude, and general asthenia. Partial contractures, with epileptiform crises and long torpor were the predominant symptoms of the second period. Finally, the third stage began about three months ago, with a profound sleep of eighteen to twenty hours each day. Irregular attacks of fever and the beginning of sacral gangrene foreshadow the final act. Lumbar puncture showed a very abundant lymphocytosis in the cerebrospinal fluid, and all the signs of an intense meningitic process. The clinical signs were sufficient to eliminate the diagnoses of general paralysis, cerebral tumor, syphilitic meningitis, and tuberculosis, and to determine the diagnosis to be sleeping sickness. The trypanosoma was not found either in the blood or in the cerebrospinal fluid, but it is well known that, in the white race, the examination for the parasite has not always resulted in its detection. Inoculations in animals are of too recent date to be positive in their results.

The Academy of Medicine has suffered the loss of one of its most eminent members in the section of Therapeutics, R. du Castel, at the same time secretary general of the Society of Dermatology and physician to the hospitals. A former pupil of Ranvier, Lasègue, and Potain, du Castel was at first an anatomopathologist and a clinician, until, as a result of frequent attacks of appendicitis, he was obliged to seek in the Hôpital Ricord, and later the Hôpital Saint-Louis, a field of labor less fatiguing than that of general medicine. He published several works on dilatation and hypertrophy of the ventricles of the heart, on cachectic heart, pulmonary sclerosis, etc.

## IS THERE AN ANTITOXIN FOR YELLOW FEVER?

To the Editor of the Medical Record:

Sir:—As things stand to-day, of course, the great treatment in yellow fever is the prophylactic, which aims to prevent inoculation with infectious material by the *stegomyia fasciata*, but even with this great forward step which science and self-sacrifice have made, we must not be satisfied, but strive to find some means by which some benefit can come to patients with otherwise fatal cases of this disease. With the rest (absolute) treatment of Guiteras or the bichloride treatment of Sternberg, out of 1,080 cases of yellow fever reported for New Orleans in the recent epidemic up to August 16, there were 171 deaths, giving a mortality of 15.83 per cent. This is not a high mortality, but if it can be lowered it is our duty to do it.

One attack of a disease may leave the patient indifferent, more susceptible, or immune to a second attack. Some diseases remain latent and induce intercurrent disorders after apparent recovery, but in yellow fever immunity more or less permanent is the rule after one attack. Insusceptibility to disease may be congenital or acquired; the acquired form is natural (by previous attack) or artificial, and the artificial is active or passive. Whether immunity in yellow fever is ever taken up by the conscious memory of protoplasm and carried from father to son, is doubtful. On the other hand, we have the naturally acquired form of immunity from a previous attack of yellow fever, but whether active or passive artificial immunity can be effected, science thus far is unable to say. It is, however, along this line that I would stimulate further investigation.

Natural immunity after an attack of yellow fever does not seem to be the result of a phagocytosis produced either by positive or negative chemotaxis, but is caused in all probability by antibodies (alexins, lysogenic substances, agglutinating substances, or purely antitoxic). The sudden termination of this disease must be the result of the development of immunity, which barrier of defense is a victory on the part of nature. Relapses occuring at times just when immunity would be presumed the strongest, are to be explained possibly by the theory of hypersensibility.

To deal with immunity we must, of course, deal with the specific cause of a disease, and in yellow fever the germ is so small that it has never been discovered. There is every reason to believe, however, that the germ is present in the blood serum of a patient sick with this disease, and though we cannot see it we can believe it to be there, and deal with the medium, the same as if we knew it to be there. Active immunity cannot be produced by filtered toxins alone, as the germ passes through the smallest filter we have, but attenuated and sterilized cultures could be tried. In order to give passive artificial immunity a good trial, it would be of the highest value to be able to use some of the lower animals and thus spare man. Whether animals have yellow fever, I am unprepared to say, but if it has not been found out, it should be speedily determined, not only for this reason, but to prevent spread. The serum of immunized animals should be given a trial, for in studying yellow fever one cannot be other than impressed with the fact that as soon as nature gains the upper hand, there is a great change, and this change does not alone seem to protect the tissues but suddenly disposes of the infectious agent also. We cannot swear that the germ has been disposed of, because it cannot be seen at any time, but the fact that the mosquito must bite before a certain stage of the disease, or blood to be injected must be taken before a certain time in the disease, to reproduce the disease in another is strongly presumptive that there are no germs present or they are rendered inert. For obvious reasons it would be unwise to try to immunize humanity by continued inoculations with small amounts of virulent material, attenuated cultures, or filtered toxins; so this must be done by immunized serum taken from man or a susceptible animal.

At present there is plenty of material on hand in New Orleans to enable a test to be made by injecting serum from those just over the disease into those who are still ill. If volunteers can be had, enough immunized serum can be gotten for a test. This is, of course, only speculative, but the course and action of yellow fever and other things we know about it, fully warrant that such a trial be made.

John W. Winston, M.D

Norfolk, Va.

## BRADYCARDIA AND TACHYCARDIA.

To the Editor of The Medical Record:

Sir:—In the issue for August 26 of your esteemed journal you quote, without comment, from the *Edinburgh Medical Journal* a remark of Dr. G. A. Gibson: "The terms bradycardia and tachycardia are very bad." And you quote also a salad of Dr. Gibson about early Greek writers and Latin meanings. Beware of false prophets; they are bound to create more and more confusion in our onomatology (which is to some extent a regular jargon already). Both terms are, as you know as well as I do, employed by Greek physicians of the present time, and they are very good terms for slow and quick heart. In support of this assertion I could quote Homer and a number of early Greek writers in general. In some German lexicon I find the word spaniocardia mentioned as preferable to bradycardia; this is as "very bad" as Dr. Gibson's araiocardia.

I hope I will obtain a hearing some time, somewhere, to speak to a dignified audience on the necessity of a reform of our nomenclature. Such reform is a necessity exactly as much as the reforms were of Linné in botanical and of Lavoisier in chemical languages.

A. Rose, M.D.

New York.

# Progress of Medical Science.

*Boston Medical and Surgical Journal, Aug.* 31, 1905.

**Ulcer and Cancer of the Stomach: Their Relationship.**—C. Graham presents the following conclusions based on clinical experience. (1) The great majority of gastric ulcers are located at the pyloric end. The immediate pylorus comes first, the lesser curvature second. A small per cent. is found elsewhere, few at the cardia. (2) The great per cent. of cancers of the stomach is found at the pylorus and lesser curvature (pyloric end), thatis, the same locations find the greatest number of each. (3) Quite a per cent. (50-60) of patients suffering from carcinoma gives three or more years of a precancerous history. (4) A growing per cent. of cancer cases are found with short histories and ulcer demonstrated as the earlier lesion. (5) A certain per cent., if small, of short ulcer histories leading to acute pyloric obstruction where the ulcer must have been present for quite a period, and latent. (6) Ulcers may be present for an indefinite period and no symptoms follow until obstruction, perforation, and hemorrhage appear, if the acidity is low or absent and the ulcer locates itself along the lesser curvature or near the pylorus. (7) Cancers may develop under the same gastric conditions and only manifest themselves when obstruction or systemic poisoning makes itself felt. The present need in medical practice is the establishment of earlier and better diagnosis of these two conditions.

**Stokes-Adams Syndrome.**—T. J. Foley reports two cases and gives a short résumé of the literature of the subject. Case one was that of a man of fifty-seven years with myocardial degeneration resulting from sclerosed coronary arteries, and Case two, that of a boy of nineteen years, cardiac trouble which may have been the sequel of a throat infection three months before his first attack of the Stokes-Adams symptoms. Case one died while Case two recovered, and at the last examination made appeared to have a normal heart. Concerning the treatment of the condition in general the author says that rest is the most important thing. Diet, tonics, and regulation of exercise are sometimes important. Some of the older patients may live for years but they must guard themselves against bodily or mental worry. This is especially true of the coronary cases. In the developed paroxysms, the cardiac stimulants, like ammonia and the nitrates, are useful. Atropin may be given subcutaneously. The recumbent posture favors the return of blood to the brain. One patient often prevented an attack by getting on his hands and knees and allowing the head to hang down. Cases are known where rest and good feeding caused disappearance of the attacks but without any change of the pulse.

*New York Medical Journal, September* 2, 1905.

**Resuscitation, by Manipulation of the Heart, of a Patient Apparently Dead from Shock.**—The patient of W. S. Conkling was an Italian male aged 47 years who had been stabbed in the chest. After removal some six miles to a hospital he was stimulated by hypodemoclysis strychnine and nitroglycerine and in half an hour was placed under ether, though anesthesia was not at any time complete. There was a long wound running down from the left clavicle over to a point below the right nipple, the muscles being entirely cut through, some of the ribs being severed at their cartilaginous junction, while at each breath a large portion of the left lung would appear outside the chest unless restrained by pads. During the operation the pulse grew imperceptible and the man was apparently dead. A finger passed through a small opening made by the injury into the pericardial sac felt a perfectly still heart. This was seized between the surgeon's thumb and forefinger and manipulated for about a minute when a slight thrill was felt. In presumably five seconds more there was another pulsation from which time the organ gained in strength. Suffice it to say that the patient recovered. While it was impossible to say, in the exciting emergency, just how long the heart was quiescent before manipulation was begun, the author believes the period to have been at least two minutes.

**Some Heart Points for Medical Examiners.**—R. Ellis considers the question from the standpoint of life insurance, insisting that one should consider the conditions respectively of the heart muscle, heart cavities, and blood vessels. A bad heart "pump" with good valves and arteries offers a better prognosis than a good pump with bad valves and arteries. The matter of a murmur or not is of relative minor importance. To study the heart muscle one must keep in mind the signs that nature gives of myocardial changes, due to hypertrophy, dilatation, fibroid, senile, or fatty degeneration. These signs are tachycardia, bradycardia, arrhythmia, cardiac asthma, angina, dyspnea, indigestion, and vertigo. The relative significance of the various murmurs is considered in detail and the common mistakes made in their intepretation are thus summarized: 1. Excited, nervous heart, beating against thin chest walls; diagnosticated as hypertrophy. 2. Loud systolic murmur, widely diffused over left chest and behind, and disappearing with the anemic condition; diagnosticated as mitral regurgitation. 3. A loud mitral systolic murmur clearly heard six months after typhoid fever, miscalled organic mitral regurgitation. In three months such a heart may regain its muscular strength, the dilated mitral orifice may contract to its normal size, and the leak prove to be only relative. 4. Flint's aortic regurgitation heard at the apex miscalled mitral stenosis, though the peripheral signs show the true lesion. 5. Forgetting to hunt for the aortic murmurs at the third and fourth left and second right interspace because the sounds at the apex are clear. 6. Diagnosticating a cardio respiratory murmur heard about the apex, in the axilla, and behind, as mitral regurgitation. 7. A condition in which the apex beat is two inches to left nipple line, a heaving heart, a clear first sound, an intensified second, with tense arteries, miscalled a normal heart. 8. An aortic systolic murmur diagnosticated as true aortic stenosis, when there is a strong aortic second sound, no cardiac thrill, and no low plateau pulse. It is well to remember that there are ten possible causes for an aortic systolic murmur, one of which is aortic stenosis. 9. The greatest mistake of all and often the real cause of most mistakes: Listening to a heart through the clothing—from a thick shirt to shirt, waistcoat, and coat.

*Medical News, September* 2, 1905.

**Medical Treatment of Nephritis.**—According to A. R. Elliott, cases of chronic renal disease naturally fall into two main groups, those with and those without dropsy. When dropsy is absent, we should protect the kidneys from irritation—especially from that referable to intercurrent acute toxemias—and we should maintain cardiovascular compensation. To effect the first, we must carefully regulate diet and personal hygiene. Not too much fluid should be taken. The bowels must be kept open. To effect the second we must regulate arterial tension and vasodilator remedies are generally needed. The nitrates of sodium and potassium, erythrol tetranitrate, aconite, the iodide, etc., are indicated. Early evidence of genuine cardiac incompensation calls for positive action. This need not necessarily consist of digitalis or other cardiac tonics, for rest in the recumbent position, restriction of fluids, and general tonic measures will often restore the working capacity of the heart. Should the derangement of the cardiac action threaten to produce or actually result in dilatation, digitalis is indicated. When dropsy is present, however, it signifies either that the patient has developed diffuse inflammatory renal changes or a dilated heart. For the former, rest in bed, a light milk-farinaceous diet, diaphoresis, and purgation are necessary. Dechloruration is necessary, that is, "little water and no salt." A septic puncture of the legs and scrotum with tapping of the chest and abdomen may relieve the patient. For the dilated heart, rest in bed, digitalis, theobromine, etc., find a rational employment. In the presence of uremic manifestations we should purge freely and cut off all proteid food. Acute cases demand venesection. Enteroclysis is one of our most valuable agencies. Lumbar puncture has recently been recommended. Diaphoresis must be carried out vigorously and persistently. The author declares that under no other circumstances is nature's faculty for adjustment so wonderfully illustrated as in chronic kidney disease. Despite the most serious defects, nature's compromise not only preserves a balance of fair health, but does so for astonishing

periods. A realization of this fact should be a warning to us that nature needs our assistance only, seldom our interference.

**The Care of the Perineum, With a Description of a New Method of Delivery of the Shoulder.**—H. R. Kerr thus describes his method, his patient being at this stage of delivery in the left lateral position at the edge of the bed. As soon as rotation is effected, the left hand is placed on the right side of the child's head and pressed back firmly. There is no danger of doing harm here as the point where the left shoulder presents against the perineum is too high up to lacerate. What does this do? First, it stretches the perineum once more *from its circumference*, laterally and posteriorly, toward the center and anterior. Muscular contraction is thereby almost entirely overcome. The perineum is now temporarily paralyzed and is elastic like rubber and can hardly be made to tear. Second, for every inch or fraction of an inch that the left shoulder can be carried back into the perineum, *we gain that much in* lowering the right shoulder into the pubic arch. Now, when a pain occurs, the left shoulder cannot descend because it is held well back and high up in the perineum. Not so with the right shoulder, which does descend. As it does so, it describes part of a circle around the left shoulder, held at a fixed point high up in the perineum, so that the course of the right shoulder is downward and slightly backward, bringing the prominence of the shoulder well back into the vulvaginal outlet, and the right arm, below the shoulder, into the pubic arch. One pain is usually enough to bring down the right shoulder and cause it to bulge well out of the vulva. This accomplished, the fingers of the left hand, with which backward pressure is being made, are placed low down on the back of the neck or upper end of the spine, which is raised up. This increases the space between the back of the child and the maternal soft parts on the left side below and also opens the right axilla. Through this opening in the axilla the forefinger of the right hand is passed and hooked around the arm, close to the shoulder, bringing it down behind the child's back out of the vulva and sweeping it over the pubic arch. Then, before relaxing my grip with the left hand, the right hand is placed on the left side of the child's head, which by a downward, forward and slightly upward movement is delivered, the left hand in the meantime supporting the perineum.

*American Medicine, September 2, 1905.*

**Study of the Gastric Contents in Urticaria.**—Leonard K. Hirshberg in a study of the gastric contents in eight cases of urticaria seems to have proved the frequent coincidence of hyperacidity with this condition. Five of his eight cases of urticaria, one of which was the gigantic form following tetanus antitoxin injected as a prophylactic, show a high total acidity with high amount of free hydrochloric acid. Dr. Hirshberg has been unable to find any previous analyses of the stomach in urticaria cases, published in the literature. He suggests a further study of these cases by some one who has access to a larger number of urticaria individuals.

**Arteriosclerosis Affecting the Nervous System.**—B. C. Loveland says arteriosclerosis affecting the nervous system would be naturally divided into three or possibly four classes: cerebral, spinal, peripheral, and possibly sympathetic. Cerebral arteriosclerosis may be again divided into a major and a minor type. The major type passes rapidly to apoplexy and paralysis or death, and has few symptoms early in its course. The minor type comprises a complex of symptoms which are the direct expression of the vascular change, exclusive of such accidents as hemorrhage and its consequences. The symptoms include fatigue or exhaustion of the brain; the inability to take up new work, while familiar work can still be done; headache, usually frontal and persistent, increased by stooping and abdominal pressure; slight vertigo, and loss of memory—in fact, the symptom complex so frequently associated with neurasthenia. To this class also belongs that list of degenerative mental diseases. Arteriosclerosis of the spinal cord has the same major and minor types, the former marked by small hemorrhages, paralysis, and rapid degeneration, and myelitis; the latter by the slower degenerations of the cord such as the locomotor ataxia following syphilis. The effect of arteriosclerosis on the peripheral nerves is well illustrated by intermittent claudication. Reynaud's disease, acroparesthesia, and quite a variety of sensory disturbances in the extremities such as persistent coldness, formication, itching or burning sensations, and possibly the neuritis so frequent in gouty diabetes. The effects on the sympathetic nerves are not so easily recognized, but when the arterial trouble can be determined elsewhere such symptoms as cardiac irregularity, some vague nervous sensations associated with digestion, persistent flushing of the skin sometimes associated with albuminuria, may be attributed to this cause. The treatment is the same so far as medicine and diet are concerned as in general arteriosclerosis; the two points which make for the best success are early diagnosis and persistent, continued care.

**Etiology and Diagnosis of Early Tubal Pregnancy.**—William E. Ground during the last ten years has operated in twenty-eight cases of tubal pregnancy. Of these, twenty-one were operated after rupture and seven before rupture had occurred. All prerupture cases were abdominal sections. Of the complicated cases sixteen were suprapubic and five by the vagina. All the patients recovered. All had demonstrable lesions sufficient to account for the arrest of the fecundated ovum in the tube. The results of gonorrheal infection and minor postpuerperal lesions were most frequently noted as etiological factors. Early diagnosis and prompt operation in all cases is necessary to reduce mortality and prevent morbidity. In the vast majority of cases a diagnosis can be made before rupture, when the mortality will be no higher than interval operations in appendicitis. In Dr. Ground's cases 85 per cent. had been seen by one or more physicians before rupture occurred.

**Some Gynecological Superstitions.**—Lucy Waite says that gynecology has been encumbered with numerous dogmatic theories which have been stated and restated so many times that they have been finally accepted by the profession without question, and have become veritable superstitions. She takes up the questions especially of backache and constipation as symptoms supposed to be caused by retrodisplacements of the uterus, and shows by statistics that both of these conditions are present in a large percentage of antipositions, and absent in a fair percentage of retropositions.

In 1,000 cases taken from her clinic at the Mary Thompson Hospital, 44 per cent. of the patients with antiposition and of the cases of retroposition 34 per cent. of the patients with retrodeviation stated definitely that they did not suffer with backache. In 500 cases 52 per cent. of the patients with antiposition gave a history of constipation, and of the cases of retroposition 34 per cent. of the patients reported normal bowel movements. The question of childbearing as a remedy in dysmenorrhea is also discussed. Of 300 patients the question, "Have you more or less pain since the birth of your children?" 45 per cent. reported more pain, 30 per cent. less, and 25 per cent. no difference. Dr. Waite believes that the practical application of the statistics relating to the clinical significance of retroposition of the uterus bears directly on the enormous amount of unnecessary operating which is being done under the false impression that the symptoms of which the patient complains are due to the position of the uterus and the complications which are in reality responsible for the symptoms are overlooked.

*Journal of the American Medical Association, September 2, 1905.*

**Fibroid Growths of the Abdominal Wall.**—C. A. Powers after a brief mention of three typical cases observed by him, gives an account of these so-called dermoid growths and their characteristics, and discusses their etiology, diagnosis, and treatment. He reviews and points out the objections of various theories of their formation, and suggests that, for the cases following pregnancy, the three factors, diverted or superfluous embryonal elements, active proliferation or normal fibrous tissues, and stretching or distension of the parts involved may come into play. In cases from trauma, there is not the stretching, but there is an edematous succulence that may cause a like result, and cases following laparotomy scars and local pressure could also be thus explained. Diagnosis is not always easy, and may require exploratory incision in specially difficult cases. Treatment is purely surgical, and even with the smallest tumors, if situated back of the rectus, may call for peritoneal resection; this contingency, therefore, must be kept in mind. The mortality of the operation, aseptically performed, is slight, but relapses occur in a considerable number of cases. The smaller the growth operated on the less the liability to relapse.

**The Removal of the Pathological Spleen.**—After reporting a case of a successful removal of the spleen, B. B. Davis discusses the functions of the organ, the mortality and indications for splenectomy and disorders that call for it, and summarizes his principal function conclusions in substance, as follows: 1. The more probable function of the spleen is the manufacture of red blood corpuscles, with the strong probability of an internal secretion of value in regulating the relative proportions of the various elements of the blood. 2. Splenectomy is contraindicated in leukemia, amyloid spleen, splenic hypertrophy secondary to hepatic cirrhosis, secondary malignant disease, and in the essential anemias. 3. It is usually preferable so splenoplexy in wandering spleen, which is almost always due to previous hypertrophy. 4. In splenic abscess, if successful drainage is possible, it is better than splenectomy, especially if the splenic tissue is not destroyed. 5. In case of cysts, benign tumors, tuberculosis, and sarcoma, splenectomy is the operation of choice, unless in the three former conditions resection of the lower

extremity of the organ will remove all the disease. 6. In rupture, the organ should usually be removed. The operation should be prompt and expeditious and with every expedient to relieve and to prevent shock. 7. In the severe type of malarial spleen, with failure of any medical relief, splenectomy will often result in cure. 8. In splenic anemia internal medication fails and the only recourse is to splenectomy, as early as possible, while the patient can endure the operation and before incurable complications have arisen.

**The Late Poisonous Effects of Anesthetics.**—A. D. Bevan and H. B. Favill report the case of a girl aged twelve and a half, from whom a gangrenous ovarian tumor with twisted pedicle was removed. The operation was done under chloroform and took a long time and an unusually large amount of the anesthetic. The patient did well until forty-four hours after the operation, when there appeared an acute toxic delirium with rapid pulse, tonic muscular contractions, moderately high temperature, and later, increased temperature, Cheyne-Stokes breathing, irregular heart action and death 110 hours after the operation. The autopsy, by Dr. Hektoen, seven hours after death, showed advanced fatty change in the liver, at the periphery of the lobules, and congestion, etc., of kidneys, spleen, and lungs. The authors give an extended review of the literature of similar cases, and concluded that anesthetics, especially chloroform (ether to a very limited degree), can produce a destructive effect on the liver and kidney cells, and on the muscle cells of the heart and other muscles, causing fatty degeneration and necrosis, very like that occurring in phosphorus poisoning. The most constant and important injury is that to the liver, and is in direct proportion to the amount of anesthetic used and the length of the anesthesia. Some individuals appear to be specially susceptible to these effects, and certain conditions, such as age—the younger the patient the greater the danger—those lowering the general vitality, various intoxications, exhaustion, lesions involving fatty degenerations, and chronic affections of the liver and kidneys are also probable predisposing causes. As a result of the liver lesions, toxins are produced either from the liver cells themselves or as a result of their failure in their normal eliminative functions, and these may produce a definite symptom-complex, consisting of vomiting, restlessness, delirium, convulsions, coma, Cheyne-Stokes respiration, cyanosis, icterus in varying degree, and usually terminating in death. It is probable that the milder degrees of this poisoning are observed as transient after-effects of chloroform. The condition is a hepatic toxemia, and in the opinion of the authors, as definite a pathologic entity as a pancreatitis with fat necrosis. Acetone, diacetic acid, and beta-oxybutyric acid are by-products, but not essential poisons, in this toxemia. The liver lesion is the one responsible for the symptoms and the fatal result. In the fatal cases, death is almost invariably due to chloroform; ether is seldom the cause of a death of this kind. Hence, chloroform should never be used with conditions such as have been mentioned as favoring this toxemia, nor for very prolonged operations. The importance of limiting the duration of the anesthesia, when chloroform is employed, is especially emphasized by the authors.

**Ossification of the Lower Jaw in Man.**—After reviewing the various statements and opinions as to the bony development of the lower jaw, Prof. E. Fawcett gives the results of his own studies, covering a period of several years and based on a large amount of new material from various sources. His conclusions are substantially as follows: 1. The jaw in its ossification is not so complex as some claim, though still complex, involving (a) Meckel's cartilage at its anterior extremity, (b) the membrane on its outer side, (c) at least one accessory cartilage found in the condyle, neck, and base of the coronoid process. These statements apply to each half of the jaw. 2. In order of sequence, ossification begins, first, in the membrane between the mental nerve and the middle line and extends backward and under the nerve. Next it commences in Meckel's cartilage about the tenth week of fetal life in the region of the mental foramen and gradually extends inward. That part of the jaw, then, between the mental foramen and the symphysis is compound in origin, being partly cartilaginous, partly membranous, not entirely cartilaginous, as Sutton says. Finally, ossification takes place in the accessory mass of cartilage in the condyle, neck and root of the coronoid process at the third month. 3. There are no separate centers in membrane for either the coronoid process or the angle or for the so-called splenial, all these parts being outgrowths, as it were, from the main mass. 4. The inner alveolar border is developed in two parts by ingrowth from the main mass and at two different periods. The part behind the mental foramen appears first and elongates from before backward; that in front of the foramen appears later and grows from behind forward. 5. The canal for the nerves is completed by the growth of spicules from one alveolar border to the other, over the top of the nerves, the mental nerve being first covered, then the incisive, and the inferior dental much later. 6. The teeth sockets ossify rather late, the canine first. 7. Meckel's cartilage becomes incorporated in the jaw anteriorly by the development of upper and lower shelves, which gradually close over it; behind the mental foramen these shelves do not meet, and Meckel's cartilage, therefore, is not included in the jaw, but gradually atrophies to form the internal ligament of the jaw. In an ordinary dissection at the fourth month this ligament can be seen to be independent of Meckel's cartilage.

*The Lancet, August 26, 1905.*

**The Use of Turpentine in Renal Hydatids.**—E. Mackey records the case of a man of sixty years, with hydatids in the urine and occasional colicky attacks, this history having lasted over a period of fifteen years. A tumor could be felt deep in the left kidney region. Under the employment twice daily of fifteen minims of oil of turpentine, with liquor potassæ, mucilage and liquorice, all his symptoms abated, until finally the hydatids disappeared and there was only a small lump in the region of the kidney. While the author cautions against definite conclusions from a single case, he believes that the remedy deserves a more extended trial in the condition referred to.

**Blackwater Fever Treated with Quinine.**—R. Mowbray reports a case occurring in the northern part of Ireland, this fact showing, according to the author, that any practitioner may possibly be called to such a case. The patient was infected, however, a year or more previously in Africa. Quinine was given in an initial dose of 18 grains followed by 10 grains t.i.d. for five days, and then twice daily for two days more. All doses were given hypodermically. The patient improved rapidly, but on the discontinuance of the remedy suffered an alarming relapse. A renewal of the quinine again brought about abatement of symptoms, and the patient recovered. The author is particularly moved to report the case because there seems to be some doubt in the minds of the profession as to the efficacy of quinine in this form of fever.

**Syphilis of the Third Generation.**—The pertinent facts in the group of patients seen by C. F. Marshall are these: The grandmother has the scars of multiple gummata about both knees. The mother at the age of 16 years had a gumma of the popliteal space and extensive destruction of the palate leading to constriction of the nasopharynx. She married at the age of 19 years and had three children, but no miscarriages. The first child, the case in question (third generation, has distinct saddle-nose deformity and frontal bosses but no other dystrophic stigma of hereditary syphilis. The second child died at the age of three years from "bronchitis"; the third child is said to be healthy. The father was not examined. The possible flaws in the evidence in this case are: (1) acquired syphilis in the mother; (2) reinfection of the hereditarily syphilitic mother; (3) acquired syphilis in the father, and (4) the intervention of another syphilitic genitor. To these objections it may be said (1) In the absence of obvious signs of hereditary syphilis in the mother it is impossible absolutely to exclude acquired syphilis but extensive or advanced tertiary syphilis at the age of 16 years is strongly in favor of the hereditary disease. (2) Reinfection of a hereditarily syphilitic subject with acquired syphilis is known to occur and the immunity conferred by the hereditary disease ceases at about the age of puberty. The evidence in the present case is in favor of pure transmission since the lesions in the child are exceedingly mild and also the mother has shown no evidence of acquired syphilis at any time. (3) Syphilis of the father cannot be excluded as he was not examined; but paternal heredity being apparently a well-established fact, in spite of the recent objections to the theory raised by Matzenhauer, it would be possible for a syphilitic father to beget a syphilitic child with a hereditarily syphilitic mother. (4) The same would apply to another syphilitic genitor in the case of the husband being free from syphilis. The possible intervention of another genitor is always a stumbling block in the elucidation of the problems of heredity, for although a child is obviously the offspring of his mother, paternal parentage is usually incapable of scientific proof.

**The Condition of the Blood Vessels During Shock.**—J. D. Malcolm says that we must rid ourselves of the notion that a fall of blood pressure is an absolute indication of vascular dilatation. On the contrary, other things being equal a contraction of an individual vessel always reduces the pressure within that vessel and the effect on other parts of the vascular system is not invariably the same. He submits the following scheme as to the happenings in the blood vessels during shock. An injury to a nerve causes a contraction of the arterioles throughout the body. If the irritation is sufficiently severe and persistent the contraction tends to increase and to extend to larger vessels as long as the irritation is in action or as long as the operation continues. The radials may become so small that they cease to be felt. From this time onward there is no pulse palpable at the wrist unless the condition of the patient improves. At first the pressure in the carotids is also raised, but after a time

the blood is forced into the central warmer parts of the body, the vessels in which probably relax on account of the physiological necessity for a conservation of heat, and a distribution of blood similar to that found during the digestive process is brought about with a lowered pressure in the carotids and an increased pressure in the portal system. The veins of the internal parts are possibly enlarged rather more than the arteries, but there is no loss of tone in any portion of the vascular system, the evidence being that the arterioles are contracted throughout the body. If the vessels in the splanchnic or in any other large area, or if the veins lose their tone death must follow, as if from hemorrhage. The bulk of the blood is found in the internal veins after death from shock; but this is a post-mortem change, or the blood flows into the veins as the patient is dying.

*British Medical Journal, August 26, 1905.*

**Rats in Relation to Plague.**—Bruce Skinner, from the consideration of the time of year at which bubonic plague is prevalent in different countries and the observed habits of rats, deduces the conclusion that the rat is not the cause of the spread of plague, but is only, like man, a sufferer from the disease. There is some common cause of plague, which is not in constant action in India, although it has been of frequent occurrence in some parts of India. He thinks we should do better to try and discover this common cause, rather than to expend useless energies on trying to exterminate rats, which are of considerable use as scavengers. The prevalence of plague in former times in England, and at present in India, seems to be coincident with the season of year when the rat lives out in the fields, while during the time when he inhabits houses the plague is less frequent. The rat certainly cannot be the cause of the disease, since we know that epidemic diseases are never caused by animal life. There are other effective means besides the destruction of the rat to prevent his living in houses. The rat has a very sensitive foot, covered by a very delicate integument, which is burned by unslacked lime. If we sprinkle the holes and runways of the rat with unslacked lime he will desert our houses. He is also a very thirsty animal, and if we cut off his sources of water he will desert the region. We should use these methods of keeping the rat out of our homes, rather than wholesale destruction of the race, which will not destroy the real cause of the disease.

**False Hay Fever.**—N. Bishop Harman directs our attention to a cause of an affection that simulates true hay fever, which has not been generally recognized among the profession. This is eye strain. He finds that in cases of astigmatism, in combination with strong light, attacks of sneezing and choryza are produced that very much resemble hay fever. It is noted that such attacks will come on in a patient who has one astigmatic eye, beginning in that eye and that side of the nose. Several such cases have been entirely relieved of their hay fever symptoms by the wearing of proper astigmatic correction.

**Lime Water in the Treatment of Warts.**—J. Burdon Cooper accidentally learned that lime water taken internally is almost a specific for warts. When taking lime water for some digestive disturbance, he found that a wart that had been troublesome, disappeared from his finger. He tried this remedy in other cases of warts, and found that the warts disappeared. He recommends the taking of a wine glass of lime water after the midday meal, with a little milk. The wart disappears after from four days to three weeks.

**The Possibilities of Tubal Pregnancy.**—R. Earle Newton reports a case of double tubal pregnancy because of the rarity of this condition. The patient had suffered from puerperal infection six years previously, and had never borne any children since, but had been subject to severe inflammatory attacks and to protuse and frequent menstruation for some years. After missing one period she suffered from pain in the left iliac region, and less on the right side. The lower abdomen was very tender, and a tender, fluctuating mass could be felt, inseparable from the uterus. Operation showed a ruptured tubal pregnancy on the right side containing a fetus a month old. On the left was a mass of old blood clots and a ruptured tube, distended with a blood clot the size of a hen's egg. No trace of fetus could be found, but the tube wall showed decidual cells when examination by microscope was made.

*Berliner klinische Wochenschrift, August 14, 1905.*

**The Induction of Abortion in Cases of Hyperemesis and Tuberculosis.**—Ruge discusses the indications for the interruption of pregnancy in various pathological conditions. No question can attach to the necessity for this procedure in the presence of uterine hemorrhage. In cardiac disease, including affections of the myocardium and cardiac neuroses, only a progressive increase of symptoms justifies the sacrifice of the child. In renal disease, on the other hand, no hesitation is permissible, since not alone may the nephritis become chronic, but the more immediate danger of eclampsia must also be considered. The recurrence of gastric hemorrhage, especially if ulcer has been present at some previous period, as well as the onset of chorea, are both indications for the prompt induction of abortion. In cases of tuberculosis in the mother Ruge recognizes two groups in which pregnancy must be terminated, viz., in incipient tuberculosis, when a complete cure may be looked for, and in advanced tuberculosis, when the pregnancy inflicts too great suffering upon the mother. It must be remembered that a tuberculous mother may give birth to a child that will grow up healthy. Emesis offers an indication for the induction of abortion only when the mother's general condition becomes alarming. Each case must be treated individually, no general rules can be formulated. A high degree of emaciation is not inconsistent with a good general condition. Ruge lays stress upon the evacuation of the bowels and the administration of nutrient enemata with which the patient's strength may be maintained for a considerable time. When this form of treatment must be abandoned abortion becomes inevitable. The author does not incline to the theory that hyperemesis is a manifestation of hysteria.

**Two Cases of Congenital Paresis of the Inferior Rectus Muscle; One Cured by Operation.**—Gutman records a case of paresis of the inferior rectus muscle of the left eye in an otherwise normal boy of thirteen years. The eye was drawn upward and inward. External and internal examination were negative. Diplopia was not present. The head was inclined toward the left shoulder, the face rotated slightly to the right. At operation the muscle was found attached 2 mm. further below the corneal margin than normal. The operation that consisted in advancing the tendon resulted in a complete cure. Identical symptoms were present in a second case not yet operated upon.

**The Chemical Diagnosis of Stomach Contents.**—Bartenstein finds that different portions of the stomach contents removed after a test breakfast vary considerably both in their specific gravity and in their total acidity. Either the first or the second portion may be the more acid. The mean acidity of the stomach contents affords, therefore, no indication of the actual status of the gastric mucosa, since one portion may be secreting a normal gastric juice, whereas another portion simultaneously secretes an excess of acid. Such a variation, the author believes, accounts for the clinical experience that symptoms of hyperacidity may be present, and yet the clinical examination of the gastric contents yield normal results. To secure different portions of the test meal unmixed Bartenstein substitutes for the customary stomach tube a simple suction apparatus in which he introduces a bottle.

*Münchener medizinische Wochenschrift, August 15, 1905.*

**The Successful Inoculation of Rabbits with Foot and Mouth Disease.**—Siegel inoculated a series of rabbits subcutaneously with epithelial scales and the underlying papillæ obtained from the vesicles of cattle infected with this emulsion of the blood and kidneys of two of the rabbits, some of which died after one or more inoculations. An emulsion of the blood and kidneys of two of the rabbits, each of which had been injected twice, was injected intraperitoneally into a young pig, while the livers were given to the animal to eat. Five days later typical lesions of foot and mouth disease appeared. Vesicles removed from this pig were injected into the peritoneum of a second pig, the liver again serving as food. The same lesions manifested themselves here also, but an attempt to transmit the disease to a third animal was only partially successful. Flagellate cytorrhyctes were found in the blood of both rabbits and pigs, sporulating forms occurring in the latter. As the best stain for the entire group of cytorrhyctes Siegel recommends Grenacher's hematoxylin followed by azure II. (1-1000), differentiated in acid alcohol (1 per cent.) and absolute alcohol respectively. Giemsa's stain yields the best results for the flagellæ. The author warns against confounding the cytorrhyctes with the products of plasmorhexis and plasmoschisis and with hemoconien. The latter can be distinguished from the organisms by their smaller size and by the absence of a nucleus.

**An Obscure Case of Disease of the Lymphnodes.**—Möbius reports a hitherto undescribed symptom-complex in a woman aged 57 years. Previous to this illness the patient had only had malaria and migraine. One sister died of Basedow's disease. The patient presented the symptoms of malaise, emaciation, and cardiac palpitation. Physical examination revealed nothing abnormal but a moderate enlargement of the cervical lymphnodes. These symptoms remained unchanged for some time under indifferent treatment, but with the administration of potassium iodide they became markedly intensified, especially the malaise. The cervical nodes increased considerably in size. Later the axillary and inguinal nodes also became enlarged, and psychic disturbances manifested themselves. With the withdrawal of the iodide these symptoms gradually abated

during the ensuing year, the tachycardia and mental weakness remaining, however, until the death of the patient from cerebral hemorrhage twelve years later. During this period a slight enlargement of the lymphnodes of the neck also persisted. Autopsy revealed arterial atheroma and a cerebral hemorrhage alone. Histologically the enlarged lymphnodes were normal. Etiologically Möbius believes this symptom-complex to be due to a toxin elaborated in the body, analogous to, but not identical with, that of Basedow's disease. He emphasizes the similarity of symptoms in both conditions, although the so-called cardinal symptoms of the latter with the exception of tachycardia were absent. In this case, as in exophthalmic goiter, iodides exert a baneful action. Swelling of the cervical lymphnodes is known to occur in Basedow's disease. The writer suggests that the toxin may have arisen from the thyroid, yet exerted an action upon remote organs alone, or from the lymphnodes themselves. At present the latter are not known to possess an internal secretion.

**Stomatitis Ulcerosa and Angina Vincenti.**—Morian reports four cases of ulcerative stomatitis in all of which the bacilli and spirillæ of Vincent were present in scrapings from the ulcers. The ulcers involved the mucous membrane of the cheek alone in three cases, and were single. In the fourth case multiple ulcers were present on the mucosa of the cheek, the tonsil, gums, and the edge of the tongue. The ulcerative process varied in severity from a superficial croupous inflammation to an ulceration so extensive that noma was at first suspected. Abrasions due to carious teeth seemed to have opened a portal of entry for the bacteria in the buccal mucosa. Local symptoms are fetor ex ore, slight swelling and infiltration of the skin of the cheek over the ulcer, and enlargement of the cervical lymphnodes. Constitutional symptoms are absent. Therapy, consisting of disinfection of the mouth, exerts no apparent influence upon the course of the disease. Three of the cases cited occurred in the same institution, the fourth came from an asylum in which other cases were under treatment. Morian concludes that the disease is contagious, and urges isolation of the patients.

*Deutsche medizinische Wochenschrift, August* 17, 1905.

**Are Toxins Ferments?**—Liebermann, as results of experiments conducted with ricin and abrin, answers this question in the negative. A ferment is characterized by its ability to influence a chemical reaction without itself taking part in, or being primarily changed by the reaction. To these conditions the above substances do not answer. In certain constant proportions abrin or ricin added to a suspension of erythrocytes in saline solution will agglutinate the blood cells, but are themselves united to the cells, losing further power to agglutinate. If more of such a suspension of red blood cells be added to this agglutinate mass, no further agglutination will take place unless there is an excess of the abrin or ricin. A ferment occurring either with the erythrocytes or with the ricin or abrin, yet not identical with either may therefore also be excluded. Added to red blood cells in just sufficient quantity to agglutinate the number present, abrin wholly and ricin partially loses its general toxic action. Liebermann supposes an agglutinin and a general toxin to be present side by side in the ricin, acting independently of each other. These substances differ from ferments also in their resistance to prussic acid and to high degrees (65° C.) of heat. The loss of power of toxins after their union with body cells is further shown by the injection of diphtheria toxin into pregnant animals. If less than the lethal dose be injected the fetuses will not show the effects of the toxin which unites with the cells of the mother's tissues, and is thereafter incapable of further toxic action. The writer explained the marked effect of toxins in minute quantities by supposing either that they unite by selective action with cells that are of great physiological importance or that they destroy certain substances essential to the life of the organism. Such substances may be ferments, or ferment-like products of internal secretions.

**The Transplantation of Carcinoma from the Human Female into Dogs.**—Lewin implanted in the abdominal wall of a dog tissue obtained from an ovarian carcinoma characterized by its extensive metastases. Three and a half weeks later the dog was killed. Autopsy revealed a small tumor projecting into the peritoneal cavity from the abdominal scar, numerous grayish-white miliary nodules on the mesentery, omentum, and diaphragm, and enlargement of the retroperitoneal and retrosternal lymphnodes. Histologically the tumor and nodules consisted of accumulations of small round cells, a few leucocytes and large vesicular (endothelial) nuclei. The latter assumed an alveolar arrangement, lying in groups in a fibrous stroma in the tumor of the abdominal wall. The lymphnodes showed acute inflammation. The tumors contained blood vessels, but no necroses were found. Two other dogs were inoculated intraperitoneally, one with fragments of the peritoneum, the other with a retrosternal node obtained from the first animal. In the former, killed after ten weeks, pathological lesions identical with, but more extensive than those described were present. Histologically also the tumors reproduced themselves, but the vesicular nuclei were more numerous, and their alveolar distribution more pronounced. The third animal was subjected to exploratory laparotomy alone. The gross lesions were identical with those found in the other experiments. In no instance was there a reactionary inflammation about the tumors. From the absence of such reaction, from the regularity with which the tumors could be inoculated at will, always maintaining an identical structure, the writer concludes that these neoplasms are either infectious or granulomata or so-called blastomata, and are not due to chemical or physical irritation. Lewin is inclined to group them under the blastomata, since both bacteriological examination and the intraperitoneal inoculation of tumor particles into other animals gave uniform negative results.

**Metatarsus Varus.**—Helbing describes an acquired and a congenital form of this deformity. Acquired metatarsus varus may be due to a compensatory deformity in genu valgum, to fracture of the first metatarsal bone, or to acute or chronic inflammation in the first tarso-metatarsal joint. Whatever the cause, the deformity is constant, and involves the metatarsus alone, the tarsus remaining in the normal position or even being slightly abducted. Simultaneously the great toe becomes fixed in a position of adduction (varus) and plantar flexion. The congenital form is rare. The tarsus is abducted, the metatarsus and great toe assume the varus position, and are flexed toward the plantar surface of the foot. The distal ends of the metatarsus are very prominent. Treatment consists in forcible manual correction with division of the flexor tendons of the great toe if necessary. Where subluxation of the first metatarsal bone follows this procedure, a wedge-shaped resection of the tarso-metatarsal joint may be indicated. In the compensatory form in genu valgum treatment directed to the primary condition may be sufficient to effect a cure.

*French and Italian Journals.*

**Cataract Resulting from a Stroke of Lightning.**—D. Verhaegue has collected from literature twenty-two cases of cataract resulting from the action of lightning. These lesions are not caused by the light, *i.e.* either heat or chemical rays, but by the passage of the electric current. If they were the result of the light they would be found as the result of the action of ordinary electric illumination. Troubles caused by lightning may involve the cornea, lens, or ocular fundus, or produce motor paralyses. The lesions of the crystalline lens are most frequent. The opacity of the lens may begin within a few days after the stroke of lightning, or in a few weeks, or it may be delayed in its appearance for some months. Such cataracts are a long time in maturing so as to permit of successful operations. The author's case had no bad effects until six months after the stroke. The lesions were bilateral. They were three years in maturing, and at one time there was a long period in which the process was entirely stationary. The operative results were excellent. These effects may be the result of the chemical alteration of the histological elements of circulatory changes in the anterior segment of the eye, or of the mechanical action of the current. The author believes it impossible to state by which of these agencies the effect is produced; perhaps the different kinds of electric action are combined.—*Gazette des Hôpitaux*, August 8, 1905.

**Foreign Bodies In the Appendix.**—Schlumberger describes foreign bodies as comparatively infrequently found in inflamed appendices. More often fecal concretions are found in the appendix, the center of which may or may not be some small foreign body around which salts have been deposited, or the appendix is found entirely empty. The author reports the finding of a pin in the appendix of a patient operated on by him. According to the latest researches, among 3,337 cases of appendicitis, sixty-eight foreign bodies were found, that is in 2 per cent. of the cases they were present. The cecal orifice of the appendix may act as a sort of valve to prevent the entrance of foreign bodies, or its peristaltic movements may push them out when they have entered. The foreign substances found are all sorts of seeds, nuts, and bones of fish, as well as bristles of tooth brushes, and pins. Of these the most important are those that are pointed, so that a wound of the appendix may be produced by a blow on the abdomen, or irritation may open a way for the action of microorganisms. In general foreign bodies do not produce symptoms of appendicitis. They may remain latent for a long time, yet they constitute a danger, since they may cause erosions which give entrance to microorganisms. The bacillus coli is constantly present in the appendix, and the diplococcus of pneumonia as well as streptococcus and staphylococcus are the cause of mixed infections in the organ.—*Gazette Médicale de Strasbourg*, July 1, 1905.

# Book Reviews.

THE SANITATION OF A COUNTRY HOUSE. By Dr. HARVEY B. BASHORE, Inspector for the State Board of Health of Pennsylvania, Author of "Outlines of Rural Hygiene." With sixteen illustrations. New York: John Wiley & Sons; London: Chapman & Hall, Limited, 1905.

THIS little book is full of practical suggestions for those living or expecting to live in the country or the small town unprovided with a public water-supply, sewers, and other more or less hygienic conveniences. The work has perhaps an even greater interest for city dwellers, for, as has been so often demonstrated, the typhoid fever of cities comes in large part from the country, and the sanitation of rural districts is therefore of the utmost concern to the urban population. In addition to rules for the guidance of those who have a settled habitation in the country, the author has a chapter devoted to "The Summer Camp." The other chapters are: "The Location," "The House," "The Water-Supply," "The Disposal of Waste," and "The Surroundings." An excellent book, full of sanitary wisdom clearly expressed.

THE TREATMENT OF FRACTURES; with Notes on a Few Common Dislocations. By CHARLES L. SCUDDER, M.D., Surgeon to the Massachusetts General Hospital. Fifth Edition, Revised and Enlarged. Philadelphia and London: W. B. Saunders & Company, 1905.

DR. SCUDDER'S popular treatise on fractures was first published in 1900, and each year since that time has seen a new edition, each one in some respects an improvement over the preceding. In this edition the text has been modified when necessary, but the change which will be most appreciated by students of the work is the addition of many *x*-ray and other pictures. A work on fractures lends itself very readily to illustration by half-tones from *x*-ray and other photographs, and the author and publishers have made the most of the good opportunities which this fact offered to make a handsome and useful volume. The young surgeon and the general practitioner will find this book a most valuable addition to their libraries.

A TEXTBOOK OF PHYSIOLOGY, NORMAL AND PATHOLOGICAL, for Students and Practitioners of Medicine. By WINFIELD S. HALL, Ph.D. (Leipzig), M.D. (Leipzig), Professor of Physiology, Northwestern University Medical School, Chicago; Member of the American Physiological Society; Chairman of the Section of Pathology and Physiology, American Medical Association, 1904-5; Fellow of the American Academy of Medicine; Member of the American Association for the Advancement of Science. Second Edition, Revised and Enlarged. Philadelphia and New York: Lea Brothers & Co., 1905.

THE feature which especially distinguishes this second edition of Hall's well-known Physiology is the addition of the discussion, in several chapters, of pathological physiology. "To master normal physiology alone without applying its laws to the symptomatology of disease is," the author maintains, "to miss a large part of the service which physiology should render." In attempting to cover this important field, Dr. Hall has introduced subchapters on the pathological physiology of the circulation and blood, respiration, digestion, metabolism, and excretion, and has also incorporated a brief discussion of the subject in the chapters on the special senses and the central nervous system. In other respects this edition differs but little from the first, except where it has been necessary to make changes to keep in accord with the progress of science. Dr. Hall's work has been a favorite with students of physiology from its publication six years ago, and this good opinion will be only heightened by the appearance of this new edition.

NOTHNAGEL'S PRACTICE. DISEASES OF THE KIDNEYS AND OF THE SPLEEN. HEMORRHAGIC DISEASES. By Dr. H. SENATOR, Professor of Internal Medicine, University of Berlin, and Dr. M. LITTEN, Professor of Internal Medicine, University of Berlin. Edited, with Additions by JAMES B. HERRICK, M.D., Professor of Medicine, Rush Medical College, University of Chicago. Authorized Translation from the German, Under the Editorial Supervision of ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Philadelphia and London: W. B. Saunders and Company, 1905.

IN many respects this is one of the most satisfactory volumes of the Nothnagel series that has as yet appeared. The original text of Senator's monograph on renal diseases has been regarded as an unusually satisfactory exposition of this subject, and Litten's contributions on splenic and hemorrhagic diseases are equally authoritative. In addition, the American editor seems to have exercised more than usual care in preparing the texts for appearance in English form, and his very extensive additions greatly increase the value of the work. In many cases he has contributed whole sections, such as those on the mosquito in relation to malaria, cryoscopy, and the newer tests of renal efficiency, splenic anemia, congenital icterus with splenomegaly, etc. Other important amplifications of the text contain discussions of the *x*-ray treatment of leukemia, the surgical treatment of nephritis, which is condemned, and of urinalysis. Senator's well-known stand in regard to the existence of physiological albuminuria renders his chapter on that subject especially interesting, but every part of the volume should prove of value to the practitioner. The importance of diseases of the spleen is being recognized with constantly increasing distinctness, and this subject, as well as the one of the hemorrhagic diseases deserves more study than it usually receives.

DIE PALPABLEN GEBILDE DES NORMALEN MENSCHLICHEN KÖRPERS UND DEREN METHODISCHE PALPATION. Nach eigenen Untersuchungen an der Leiche und am Lebenden. Von Dr. TOBY COHN, Nervenarzi in Berlin. I. Teil: Obere Extremität. Mit 2 Abbildungen im Text. Berlin: S. Karger, 1905.

THIS is the first volume of what promises to be a work of more than average interest. While the subject of palpation is to a certain degree taken into account in the ordinary processes of physical examination, especially in regard to bone or joint injuries and in gynecology, this branch of the art has not received altogether the amount of attention it deserves. Irregular practitioners have taken up this neglected subject and have demonstrated its possibilities, sometimes to the discomfiture of wiser men, and it is befitting that it should be established on a thoroughly scientific basis. This task has been undertaken by Cohn, and the first volume of his work, which discusses in most exhaustive fashion everything to be learned by the sense of touch concerning the upper extremity and shoulder girdle, is of a nature to stimulate interest in the succeeding ones.

HUMAN PHYSIOLOGY. Prepared with Special Reference to Students of Medicine. By JOSEPH H. RAYMOND, A.M., M.D., Professor of Physiology and Hygiene, Long Island College Hospital, New York City. Third edition, thoroughly revised. Philadelphia and London: W. B. Saunders & Company, 1905.

THE second edition of Raymond's Physiology, which appeared four years ago, was practically a new book. The revision to which it was then subjected was so thorough, that this new edition only exceeds it by seventeen pages. The text has been carefully gone over, some necessary changes and corrections have been made, and some important topics have been introduced or more fully elaborated. As examples of new matter may be instanced the paragraphs on Vegetarianism; The Identity of Human and Bovine Tuberculosis; The Movements of the Stomach and Intestines; Cardiac Innervation; The Nutritive Value of Alcohol, and Its Influence on the Excretion of Uric Acid; Hemolysis and Bacteriolysis; Distance; and Ovarian and Abdominal Pregnancy. In the section dealing with Nutrition, free use has been made of the researches and contributions of Chittenden. The volume is a good specimen of a first-class text-book, useful alike to student and practitioner; it is well written, judiciously illustrated, and the reader is neither lost in a maze of theories nor bewildered by a multiplicity of laboratory apparatus and details.

LES KYSTES HYDATIQUES DU FOIE. Par le Dr. F. DEVE, Professeur suppléant à l'Ecole de Médecine de Rouen, Médecin des Hôpitaux. Preface du Professeur R. BLANCHARD. Paris: F. R. de Rudeval, 1905.

THIS small work treats of echinococcus disease. The author first discusses the natural history of the parasite, and then takes up in detail the pathological anatomy, etiology, symptoms, complications, diagnosis, and treatment of the disease. The book closes with a chapter on prophylaxis, and a bibliography.

A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS. By LEWIS A. STIMSON, B.A., M.D., LL.D., Professor of Surgery in Cornell University Medical College, New York; Surgeon to the New York and Hudson Street Hospitals, etc. Fourth edition, revised and enlarged. With 331 engravings and 46 full-page plates. Philadelphia and New York: Lea Brothers & Co., 1905.

DR. STIMSON has maintained the modern character of his well-known book by giving due prominence to the *x*-ray as a diagnostic aid in doubtful cases of bone or joint injury. Some of the additions to the text deal with fractures and dislocations of the carpal bones, fractures of the lower end of the humerus in the young, and the operative treatment of old dislocations. The number of illustrations has been increased by twenty *x*-ray photographs and some other figures. The prompt appearance of this edition proves that the well-deserved popularity of the work has not abated.

# Society Reports.

## AMERICAN ORTHOPEDIC ASSOCIATION.

*Nineteenth Annual Meeting, Held in Boston, June 6, 7, and 8, 1905.*

THE PRESIDENT, DR. E. G. BRACKETT OF BOSTON IN THE CHAIR.

FIRST DAY—TUESDAY, JUNE 6.

**President's Address.**—Dr. E. G. BRACKETT of Boston delivered the presidential address, referring to the decided enlargement of the field of orthopedic surgery in recent years. This was a real enlargement and not brought about by encroachment upon other fields of work. Especially was this true of the application of orthopedic surgery to adults. Advances had been made in the pathological and etiological factors associated with rheumatic conditions. The importance of mechanical treatment, of the after-treatment of operative cases, and the value of out-of-door treatment were dwelt upon.

**Surgical Treatment of Tuberculous Bone Lesions.**—Dr. CHARLES F. PAINTER of Boston read this paper, pointing out that in spite of the great amount of literature on the subject, it was difficult to formulate therefrom data which could be used in an individual case. He thought aspiration should be resorted to much more frequently in children as well as in adults, and that the temporary fright and pain given to children were more than compensated for by the satisfactory results obtained. Generally it would be impossible to remove foci of disease and extirpation of the disease was impossible. In children the operative treatment consisted principally in the management of abscesses. He favored the closed method, although he considered it less imperative than in adults. Children tolerated apparatus infinitely better than adults. Manipulations directed toward the correction of deformities following tuberculous joint disease during the acute stage must be performed with great rarity. He advised the following methods if the condition seemed proper for operation. Erasions, whole or in part; excision; amputation; manipulation. Conservative methods should be adopted within certain limits and nature allowed an opportunity to effect a spontaneous cure, under the best possible hygienic and dietetic conditions. The following conclusions were drawn: Joints which have suffered from tuberculous infection in childhood, relapsing in adult life, yield the best result if ankylosis can be secured in a good position. If motion is present together with deformity, deformity should be corrected, provided there are as many as twenty-five degrees of motion. If there is less motion than this, deformity should be corrected and ankylosis secured. If deformity is present with ankylosis, ankylosis should be left alone, and deformity overcome. If there is less motion than above, with deformity, ankylosis should be secured.

**The Early Operative Treatment of Tuberculous Osteitis of the Knee.**—Dr. BERNARD BARTOW of Buffalo reported two cases of tuberculous disease of the inner condyle, with end results, corroborating the value of a method of treatment by extracapsular focal incision, etc., and its advantages as a radical procedure, prior to infection of the knee joints. Each case showed good end results, one at the end of six months, the other at the end of one year. He advocated his method because of the comparatively short time of treatment, the relatively large preservation of motion, the simplicity of the post-operative cure, and the removal of the menace of reawakened activity which lay in an encapsulated focus. He thought his method preferable to conservative methods because it was practically devoid of risk, and without liability to infection of the knee joint.

**The X-Ray as an Auxiliary Treatment in Bone Tuberculosis.**—Dr. F. E. PECKHAM of Providence presented this paper reporting five cases treated by exposure to the *x*-ray. All of them were suppurative cases, and in all every means of treatment had been faithfully tried before using the *x*-ray. In four of the cases improvement was very noticeable from the first, and continued uninterruptedly. In the other one of the series there was some slight improvement at first, but nothing permanent, and treatment was discontinued. He thought two of the cases had certainly been saved from amputation, one a leg and another an arm. All of the cases were regarded as "desperate" and only one was a failure. In the light of his experience he thought the *x*-ray may be of the very greatest assistance many times, even when the tuberculous process proves extremely obstinate to all other methods.

**Limitations of Erasion in Coxalgia.**—Dr. R. TUNSTALL TAYLOR of Baltimore, in line with two previous papers on the same subject, outlined a combined method of treating hip disease. He emphasized the value of the *x*-ray as a means facile princeps in making a diagnosis and outlining the treatment in conjunction with characteristic symptoms, and second, the necessity of using in the after-treatment mechanical measures as thoroughly as if erasion or attempted extirpation had not been attempted. He divided cases of coxalgia into three groups. (1) Beginning cases with small focus within the bone and not encroaching upon the joint. These to be treated by conservative methods of rest, fixation, and traction in the hope that nature will arrest the disease. *X*-ray examinations should be made frequently to be assured that there exists no extension. (2) If extension is found, erasion must be performed if acute symptoms persist. (3) If the case has extensive sinuses, secondarily infected, with bad condition of patient and extensive joint destruction as shown by the skiagraph, nothing is to be gained by erasion or excision. The best plan is to lay the sinuses wide open and overcome secondary infection, leaving the original trouble to conservative methods. The middle class of cases only are suitable to erasion. Erasion is of unquestionable value in properly selected cases, but unwarranted where steady improvement seen from conservative methods. In his experience erasion had yielded the best results in function and length if operated upon within 12 to 18 months of the onset. With disappearance of other symptoms, a secondary cold abscess in the soft parts is no indication for extensive erasion of bone.

Dr. JOHN RIDLON of Chicago reported a case occurring in a practising physician, aged 30, who had had hip disease at 10 years of age. Was treated for 5 years, and for 15 years had been without treatment or symptoms. The *x*-ray picture showed a distinct focus one inch in diameter at the upper portion of the acetabulum in the center of which was a piece of carious bone nearly an inch in diameter. This condition had given no trouble for 15 years. There was no deformity, and all motions were good. He thought this case indicated conservative lines of treatment.

Dr. B. E. MCKENZIE of Toronto said that he had obtained uniformly good results in the treatment of tuberculous conditions of tarsus and ankle by the use of mechanical treatment. He considered the prognosis good in such cases contrary to what has been said in former years. Such cases were treated by use of Thomas splint, a brace to hold foot at right angles to the leg, and the use of iodoform which he believed aided in recovery. The same principles were applied to other joints in the early stages. In advanced cases even, he had never done an excision under 14 years of age. In adults, excision had been done comparatively frequently, when the disease was of long standing, and causing much destruction. The results after excision had been good in the knee cases. The treatment of hip cases had resulted less satisfactorily. In the future he said he would be more disposed to amputate. In the treatment of cases of joint tuberculosis deformity should be exceptional where the surgeon had control of the patient.

Dr. L. A. Wiegel of Rochester, N. Y., said that he had not seen any immediate or permanent remote good results follow early operative treatment of tuberculous foci, and was not an advocate of such a procedure except in exceptional cases. Many cases that on clinical inspection seem admirably adapted to operative treatment, upon incision

are found to be so extensive as to make entire removal of foci impossible. It is not possible in any case to say that all foci had been removed. He wished, too, to speak a word of caution in the use of the *x*-ray. Nothing in the way of favorable influence in these conditions had ever been demonstrated, and he thought it unjustifiable to subject those already debilitated to a dangerous agent uncertain in result and profound in action. He thought it better to adopt conservative methods of treatment, and said the claim made for operative treatment shortening the time was not of great consequence, even admitting the truth of such a claim.

Dr. Henry Ling Taylor of New York called attention to the uncertainty of the interpretation of *x*-ray pictures and the error into which one might fall by relying upon such evidence for determining the question of operation. He had seen one case where the *x*-ray showed conditions favorable to excision. This was attempted and the bone found the seat of a very large number of foci. The result of the operation was bad. He thought the *x*-ray of value only when confirmed by clinical findings. He thought early removal of foci might effect a cure in some cases, but that the number that could be so treated was very small.

Dr. G. G. Davis of Philadelphia said that his experience inclined him toward the side of conservative methods. The difficulty of locating the focus was great, frequently there was mutilation in order to discover the focus, and operation had not obviated the necessity for prolonged after-treatment. In the treatment of mild cases, where erasion might seem to be indicated, and even in those cases more advanced with suppuration, conservative methods would effect a cure. Even those cures ascribed to operative interference were often due to the conservative measures adopted in the after-treatment. He had treated cases with severe acute symptoms by trephining the bone in three to five places with a ⅛-inch trephine. This afforded drainage, relieved the acute symptoms, but did not cure. The procedure had been repeated in some cases. In prolonged cases with sinus formation, he believed in opening the sinus down to the bone, curetting, and dressing with iodoform. He thought Bartow's operation ideal if a diagnosis could be made.

Dr. Galloway of Toronto mentioned two cases similar to those reported by Dr. Bartow, where equally good results had been obtained by constructive methods. He thought operation would be less and less resorted to in such conditions.

Dr. J. E. Goldthwait of Boston said that the preceding series of papers as well as recent writings indicated that there is no didactic treatment for tuberculous bone and joint disease, and that we are coming more and more to study the pathology, and plan the treatment upon the pathology. Tuberculosis in the bones or joints represented an infection, and, like other infectious diseases, might be mild or severe, and of slight or extensive involvement. Our function was first of all to save life with as little mutilation as possible in a given case. Mild cases need not be subjected to prolonged operation. In some cases radical operations were necessary. The operation would depend upon the extent of the disease and amputation might be necessary in some cases. Definite principles of treatment underlay any given case.

Dr. E. H. Bradford of Boston agreed with Dr. Goldthwait and said that American surgeons, who have made the great advances in the study and treatment of these conditions, had for some years been in the period of inquiry and investigation. He thought we had now reached the stage of critical judgment. He called attention to the splendid results obtained by C. F. Taylor, who had based his treatment not on pathology, but upon experience, an experience which demonstrated that in hip cases, for instance, pulling the head away from the acetabulum, prevented the bruising following motion with attendant bad results. He did not believe in the good effects of attempted excision of diseased areas in nearly all cases, for reasons already given, and asked, in addition, how it would be possible in a hip case to excise diseased areas from the acetabulum.

Dr. H. Augustus Wilson of Philadelphia said he had experienced great difficulty in correctly interpreting *x*-ray negatives. One case had been under his observation where the indications for operation as shown by *x*-ray seemed definite. Upon operation it was found that an extra-articular injection of iodoform had given rise to a shadow simulating that produced by softened bone. He was doubtful of the utility of erasion.

Dr. A. H. Freeberg, Dr. Painter, Dr. Bartow, Dr. Peckham, and Dr. R. T. Taylor, also discussed the preceding papers.

**The Practical Importance of Correct Foot Postures.**—Dr. Henry Ling Taylor of New York City in a paper of this title said that the support of body weight is the master function of the foot, and when acting as a support it is of vital importance that the foot posture should be such as to furnish stability and good control of movements, and avoid overstrain. The direction of the foot should usually coincide with the direction in which the body tends to fall, which is forward as a rule, and under ordinary conditions. In standing, weight should be frequently shifted from one side to the other, to avoid undue strain. Typical walking should be with forward directed feet, and typical standing with the weight over the straight forward foot. Conventional military and gymnastic postures of attention, with everted feet, are unsuited to prolonged standing, or as a normal in gymnastic and military exercises. The straight foot is naturally used by children, primitive people, mountaineers, guides, and strong and enduring walkers and runners. Out-toeing is typical of the weak and broken-down foot, and is stiff, awkward, and fatiguing. A slight degree of divergence of the feet in symmetrical standing is usual and probably not harmful. This matter is of such practical importance, that a more serious effort should be made to influence the community in favor of the strong posture in standing and walking. He summarized the effects of foot postures in standing and walking as follows: Toeing out throws weight on the heels; increases pronation; diminishes stability and control, consequently weakens the foot; causes stiff or awkward gait, bad general posture, and fatigue. Toeing straight protects the foot, favors efficiency, gives correct general posture, and diminishes fatigue. Toeing in protects the arch, inner ankle, and inner knee.

Standing. All prolonged standing is harmful. It is least harmful when the base is frequently shifted from one foot to the other. The supporting foot should be straight (in the strong posture), that is, point in the direction in which the body tends to fall, which is usually forward. When standing with the weight equally on both feet, they should not be markedly turned outward.

Dr. E. H. Bradford of Boston said that he had some years ago made an investigation of foot positions, and his findings coincided with those of Dr. Taylor. In Holland he had found the straight foot position, while Londoners toed out. The U. S. Marines now march and stand in the straight foot position. In Boston it had not been possible to get the correct position adopted in the public schools.

Dr. C. W. Wilson of Montreal said that English grenadiers had adopted recently the straight foot position.

Dr. L. A. Weigel of Buffalo said that he had recently observed the foot position maintained by the native population in Jamaica, where large loads are carried upon the head and shoes are not worn, and had found that the straight toe position was the one used. A number of photographs, taken without the knowledge of the subjects, confirmed the statements made.

Dr. R. H. Sayre of New York stated that all practical trainers taught sprinters and runners to toe straight, finding that great speed can be accomplished only in this way.

Dr. Taylor, in closing, presented two drawings of a celebrated classical statue, in the second of which the pleasing lines of the figure were destroyed by change to an out-toe position, and said that the strong position is the useful

position, and also the beautiful position, fully in accord with that shown by the best art in sculpture and paining.

**Spontaneous Fractures with Rickets.**—Dr. Henry O. Feiss of Cleveland, Ohio, by invitation reported a case occurring in a child four years old, presenting all the characteristics of marked rickets, and for purposes of investigation the writer took Röntgen pictures of the limbs, and discovered three fractures in the arms. There had been no history of injury, and the bone fragments were in complete alignment, although they were complete breaks. In a review of the literature he called attention to the report of M. John, who had come across similar fractures combined with rickets. The latter writer considered the condition as an individual disease, because the ordinary rachitic fractures are green stick fractures.

Dr. R. F. Taylor of Baltimore thought that there might be coincident existence of osteomalacia and rickets. He had under observation a child which presented evidences of both conditions. The radius and ulna of one forearm, both femora and both tibiæ had been fractured. In another case there were nineteen fractures with evidences of rachitic changs.

Dr. R. H. Sayre of New York said that he had seen a case where the most careful handling resulted in fractures

Dr. Phil Hoffman thought that very likely the case reported was not one of pure rickets. One case of which he had knowledge at first regarded as rickets under observation for 9 years, was finally decided to be osteomalacia. This was in a female, among whom he considered the latter disease more common.

Dr. C. W. Wilson of Montreal had had a case brought to him for correction of knock-knees, in which the bones of the leg were bent by manual force with the greatest ease. Such a case, he thought, might have had fractures from slight causes.

Dr. Feiss, in closing, said that he regarded the case reported as one of pure rickets, based upon the pathological findings. Osteomalacia has an entirely different pathology.

**Congenital Luxation of the Head of the Radius.**—Dr. E. E. Blodgett of Detroit, Mich., by invitation reported a case of bilateral anterior luxation of the head of the radius, occurring in a girl 15 years of age. Decreased function was first noted when patient was an infant, by inability to hold a lump of sugar in the palm. The chief complaint was a partial disability of each arm, illustrated by inability to grasp objects with the thumb on the upper surface. At one time had sudden pain in left elbow on flexion, which gradually disappeared. The forearms were fixed, in respect to rotary motion, in full pronation. Flexion and extension were free. There was hyperextension beyond the straight line, 10° on left and 20° on right. The space usually occupied by head of radius was vacant. Another case occurred in boy of 6 years of age. Since birth the forearms had been fixed in pronation and extension. Radiographs showed bilateral anterior luxation of radial heads. Owing to the fixation, the disability was great. The upper end of the radius on each side was excised, with some improvement 18 months after, but the patient still grasped objects with thumb underneath.

Dr. L. A. Weigel of Rochester said that it was impossible from a flat picture to tell in what plane the radius was lying, whether behind or in front. The only way to definitely determine this point was to have pictures taken stereoscopically. In the present case there was certainly an overgrowth of bone, but he did not feel sure that a dislocation existed.

Dr. Blodgett in reply, stated that his reasons for believing an anterior dislocation to exist aside from the evidence afforded by the *x*-ray were (1) The head was plainly felt in an anterior position; (2) the place it should normally occupy was vacant; (3) the case conformed as a whole to other reported cases, and (4) the case was analogous, in both the general examination and radiographic appearance, to other cases in which visual demonstration of anterior luxation of the head was afforded.

**Skiagraphic Revelations in Rachitic Deformities of the Legs.**—Dr. Wallace Blanchard of Chicago presented this paper in which he said that the correction of over 700 cases of genu valgum and genu varum by rapid osteoclasis furnished opportunities for many skiagraphic comparisons before and after obliteration of deformities. Corrected knock-knee tibiæ have uncovered bow-leg femurs, thus producing bow legs; conversely, corrected bow-leg femurs have disclosed knock-knee tibiæ, creating knock-knees. These have been designated "transition cases." Unsuspected unilateral coxa vara has been uncovered by correction of unilateral knock-knee. Coxa vara is frequent, but covered by more apparent deformities. A weak epiphyseal attachment caused one epiphyseolysis in the use of the Gratten osteoclast. This was the only case occurring in over three hundred supracondyloid osteoclases. Skiagrams of osteoclases revealed an acute angle at the fracture point, and of osteocampsis a longitudinal line between overstretched and impacted sides. A dark shadow marked the extent and degree of impaction. Skiagrams frequently showed only the slightest shadows after extensive fracturing and redressment.

**A Study of Bow Legs.**—Dr. John Dane of Boston read a paper with this title in which he said that the deformity of bow legs had always been regarded as an outward bowing. The accuracy of this belief he questioned. The question of outward or inward bowing is really a question of what is the proper base line from which to measure. If a vertical line down the shaft of the femur is taken, then the tibia is bowed inwards. This bowing is probably caused by the cross-legged position taken by the child in sitting, before it begins to stand. The action of muscles could not produce such a bowing, because they would of necessity produce an equinovarus. After the tibiæ once curve, the altered statics lead to abduction of the femora and this predisposes to anterior bowing of the shaft and coxa vara.

Dr. H. A. Wilson of Philadelphia said that he would like to know the experience of others with reference to the question of whether or not bow legs is a condition which may be outgrown. His personal experience had been that while a compensating curve might remove the external evidences of the deformity, the curve in reality was increased.

Dr. R. H. Sayre of New York said that he had long noted that the curve in bow legs occurred at about the point of crossing of the legs, but it had not occurred to him that this was an etiological factor. He observed, also, that in cases of anterior bow-legs the curve occurred at the point where the legs projected beyond the lap of the mother, and thought this to be one of the causes. He detailed one case where there had been a spontaneous recovery from bow-legs, but he thought such recoveries rare. In the correction of such deformities he used the osteoclast, except where the curve was close to a joint, when he thought the open operation and chisel better, because the osteoclast produced the break further away from the joint than it should be.

Dr. B. E. McKenzie of Toronto said that it was his custom when a child with bow legs was brought to him under 3 years of age, to instruct the parents in massage and manipulations, and that 90 per cent. of the patients recovered without further treatment.

Dr. Henry Ling Taylor of New York called attention to the inward rotation in bow-legs and urged that after the osteoclasis there should be an outward rotation to overcome this tendency.

Dr. John Ridlon of Chicago said that he had never found it necessary to cut the tendo Achillis, but that he had always been able to correct the deformity of the bones broken, without this procedure. He did not believe that there was any tendency to outgrow the deformity, although in exceptional cases it does occur.

Dr. Phil Hoffman of St. Louis reported the results of a number of skiagrams taken in knock knees. He found always a bowing in the upper end of the tibia, and occasionally in the lower end of the femur.

Dr. Frank E. Peckham of Providence reported a severe case of bow legs in which a spontaneous recovery had been

case of bow legs in which a spontaneous recovery had been made. He does not think it necessary to do a tenotomy of the tendo Achillis in anterior curvature.

Dr. BLANCHARD, in closing the discussion, said that the question of performing a tenotomy of the tendo Achillis in anterior curvature was largely a matter of strength on the part of the operator. Aside from that, however, he thought foot could be held in better position after tenotomy. In early cases he thought spontaneous recovery might occur, but where eburnation was complete and bones solid such recovery would be impossible. The so-called spontaneous recoveries were due more or less to manipulation and massage of mothers. In the opportunity to study 1,000 cases, he had yet to see his first case of non-union. He thought it practically never occurred in this country. Another point he wished to make was that in the abduction of the femur there was a change in the direction of the neck without having coxa vara. The neck of the femur might be nearly horizontal with femur abducted, but when parallel the necks are normal. This might be called a simulated coxa vara. True coxa vara is associated with bow legs in some cases, but less frequently, he thought, than had been indicated.

Dr. DANE thought there were natural corrective tendencies and had seen a number of cases improve without formal treatment. He thought bow legs should be considered an inward and not an outward bowing.

**Conclusions Drawn from a Comparative Study of the Feet of Barefooted and Shoewearing Peoples.**—Dr. PHIL HOFFMAN of St. Louis, in a lengthy paper, written after a study of 186 pairs of feet of primitive people, for the most part Filipinos and native Africans, as well as upon shoe-wearing Africans and Caucasians, reached the following conclusions: The relative lengths of the foot and its component parts are the same in barefooted and shoewearing races. Its form and functions are the same in both, up to the time of shoe-wearing, after which progressive characteristic deformation and inhibition of function ensue. These acquired characteristics are not transmitted to progeny. The naked foot presents peculiar plantar and dorsal skin markings due to function. The height and shape of the longitudinal arch have no bearing on the strength or usefulness of the foot, unless existent lowness in an individual is a transition from an originally higher state. There is no exclusive type of arch, for the normal includes the high, medium, and low. There is no relationship between the height of the arch and the character of gait. While the straight position of the foot is the one generally found among primitive people, the everted position is also found. The normal position of the great toe is one in which a prolongation of its axis passes through the center of the heel. A few years of shoe wearing, as shown by certain African tribes, who have adopted shoes since the Boer war, suffices to induce deformity. Compression of the feet necessary to produce deformity may be entirely painless.

Dr. T. HALSTED MYERS of New York thought that the statement made of primitives that the height of the arch and general shape of the foot are not a measure of symptoms, was equally true of the white races.

Dr. JOHN RIDLON wished to state that all painful conditions of the feet relieved by an arch supporter could not be regarded as cases of flat feet. Such symptoms might arise from a lack of normal dorsal flexion due to a shortening of the calf muscles, or what has been called a non-deforming club-foot.

The paper was also discussed by Dr. H. L. Taylor and Dr. A. H. Freiberg.

**Congenital Absence of Tibia.**—Dr. T. HALSTED MYERS reported this case. (See page 93.)

**The Desirability of Replacing Congenital Hip Dislocation in Infancy.**—Dr. BERNARD BARTOW of Buffalo in a paper of this title stated that the case of reduction and the percentage of anatomical cures increase as the operation is performed more closely to the age when the child should walk. The present lower age limit is arbitrarily placed between the second and third years. Objection to further approximation of the reduction maneuver to the infantile age is based on the difficulty of maintaining cleanliness of the retention dressings. Sufficient importance is not attached to changes occurring in the hard and soft parts during the two or three years following birth. These are elements which increase resistance to reduction and diminish security of replacement and opportunity for anatomical restoration, compared with the lesser pathological changes present at the walking age. The difficulty of caring for the child at the walking age is not a barrier to lowering the age limit. A shorter period of splint retention is necessary and there is probably an increased percentage of anatomical restorations. The cast may be extensively cut away on the lateral and posterior thigh portions, leaving a bridge about three inches wide connecting the pelvic girdle with a girdle encasing the lower third of the thigh. No deficiency of support appears to follow. Several cases were reported showing a period of splint restraint shorter by three or four months than could be safely contemplated at the age of 2 or 2½ years. In five unilateral cases where treatment was begun prior to the second year, anatomical cure was obtained in all. Four of these cases were 16 months or younger.

**A Study of the Anatomy of Congenital Dislocation of the Hip After Manipulative Reduction.**—Dr. NATHANIEL ALLISON of St. Louis, by invitation, presented this paper. The case was one of typical double congenital dislocation of the hip, occurring in a girl of seven years, reduced by the Lorenz method. Four months after operation the child died of tuberculous meningitis, and pelvis was obtained at autopsy. The specimen was carefully studied as to the condition of the muscles, nerves, joint capsule, acetabulum, and head of the femur. The iliofemoral band was short and abnormally strong, and would have offered an absolute resistance to a return of the thigh to normal position. Forcing extension resulted in dislocation. The head of the bone was conical and the neck abnormal. The acetabulum was shallow, triangular in shape, with the base posterior. The anatomical conditions found in this case were compared with those found in the cases so far reported.

Dr. JOHN RIDLON of Chicago said that while theoretically he agreed with Dr. Bartow, practically he could not. His youngest patient had been 17 months, and his experience was such at that time that he decided never to operate on so young a child again. He thought that those who had operated upon patients under two years appreciated that while perhaps it was more easy to reduce the head in the young cases it was more difficult to keep it there than was the case in those older. In the latter cases often when once reduced it stays in place securely. He did not believe that the older cases required a longer period of immobilization. In young children, after as much as ten months in plaster, the head will still slip out of the acetabulum. It is possible that other muscles besides the adductors act as stays to keep the head in place, and that this force is absent in young children. We do not know yet what factors lead up to perfect anatomical results. Doubtless it was easier to replace the head in the young and the traumatism was less.

Dr. H. AUGUSTUS WILSON of Philadelphia thought that while it might appear on the surface that early replacement was desirable, the fact existed that in the inability of the child to walk an important factor in the production of good final results was lost. No two cases were alike, and he thought the procedure adopted should depend upon a study of the individual characteristics of each case.

Dr. BARTOW, in closing, said that his cases were too few in number to establish a precedent. His experience, however, did not correspond with Dr. Ridlon's.

SECOND DAY—WEDNESDAY, JUNE 7.

**Clinical Demonstration of the Pathology and of the Methods of Treatment of Congenital Dislocation of the Hip.**—Dr. E. H. BRADFORD of Boston gave this demonstration at the Children's Hospital, exhibiting a number of

cases and pathological specimens. A machine designed to effect reduction in this condition was exhibited and demonstrated by Mr. R. W. Bartlett of Boston.

**Demonstration and Exhibition by Lantern Slides of Lesions in Chronic Non-Tuberculous Arthritis.**—Dr. E. Nichols of Boston gave this demonstration showing the changes undergone by the bones and cartilages in various forms of chronic conditions. The various processes of thickening, erosion, fibrillation, ossification, and formation of joint mice and osteophytes were illustrated.

**Skiagraphic Demonstration of Bone Changes in Osteoarthritis.**—Dr. L. A. Weigel of Rochester showed a number of skiagraphs showing the changes undergone by bone osteoarthritic conditions.

Dr. Reginald Sayre of New York wished to urge the importance of mechanical treatment in such conditions. He thought that a large number of different names had been assigned to the same process, and very probably a varying number of processes to which the same name has been assigned, just as we have different pathological conditions and a very large number of clinical pictures, so we have a large number of etiological factors which have been assigned as a cause. It seemed to him that one must come to the conclusion that in these conditions we are dealing with an inflammation of the joint and that we have very distinct indications for local protection. He thought this requirement had been largely overlooked. His experience, in a number of cases which he reported, had shown good results from such treatment.

Dr. G. G. Davis of Philadelphia said that the prevention of deformity was of importance in the treatment of this condition. Fixation should be used and sometimes excision. With regard to the use of methods forcibly to break up adhesions, his personal experience was that they reformed with the production of a worse condition than before existed. He believed that oftentimes considerable might be accomplished in the smaller joints, particularly of hands and fingers, and perhaps of elbow and knee, by continued small movements never carried to the point of production of excessive or lasting pain. Pain which lasts was thought to be indicative of a relighting of the inflammatory process. A pendulum apparatus to jog the joint would produce a re-establishment of considerable motion.

Dr. J. E. Goldthwait of Boston thought that distinct advances were being made along the line of bone pathology, and that when the pathology was worked out and associated with the clinical pictures an early classification would be arrived at. What have been considered as types of disease will be found perhaps to consist of stages of the same process. An infection of some sort was considered to be responsible for some of the conditions. In the production of the large amount of fringing of the membrane, bacteria had been demonstrated.

Dr. Nichols, in closing, speaking of the treatment, said that while in the advanced cases the changes were so extreme as to be hopeless, in the early stages fixation and protection, baking and passive congestion might relieve the symptoms and give nature a chance to make partial restoration. In those cases due to infection, opening the joint and the establishment of drainage should prove beneficial. In the extreme cases, with destruction of cartilage, eburnation and dentition of the joint, excision for the relief of pain might be a justifiable procedure.

**A Report on the Adult Ward for Women in the Hospital for Ruptured and Crippled for Two Years Ending March 1, 1905.**—Dr. V. P. Gibney of New York in presenting this report commented upon the increased extent of orthopedic work in its application to adult life. The Hospital for Ruptured and Crippled had gone on for forty years without a ward in which those above 16 years of age might be treated for orthopedic conditions. His present report embraced patients from 15 to 67 years of age. Some of the conditions treated were: Torticollis treated by removal of spinal accessory nerve and some of the cervical nerves, various arthritic conditions, curvatures and fractures of the spine, paraplegia, fractures and dislocations of the hip, various acute and chronic conditions of the knee, anterior poliomyelitis, sarcoma of bones, flat foot, hallux valgus, club-foot, and various acute and chronic conditions occurring in the upper extremity.

**Concerning Patterns of the Spinal Curve of Patients with Plaster Jackets for Pott's Disease.—How These May Be Used Without Disturbing the Jacket to Detect Slight Changes of the Curvature.**—Dr. Aug. Thorndike of Boston read this paper and exhibited the apparatus for making measurements. He believed that by the use of this apparatus more careful watch could be kept of the progress of the case. Tendencies toward recurrence of deformity were soon detected and indications for a new jacket made evident. On the other hand, satisfactory progress would be evident and needless changing of jackets with incidental untoward effects avoided. He advocated a modified "hammock" method of applying the jackets as having yielded the most satisfactory results after a comparison with other methods.

The afternoon session was held in the Industrial School for Crippled and Deformed Children, after the members of the association had been afforded the opportunity to inspect the building and the work done in the institution.

**Rigid Spine; A Study, With a Report of Five Cases. Autopsy.**—Dr. Geo. R. Elliott of New York presented this paper and reported two cases of rigid spine of the Strumpell-Marie type, with a report of autopsy in one of the cases. Another case was reported showing the so-called Bechterew type. He suggested that a new classification be adopted, since he believed that many cases were now grouped under one heading, representing entirely different pathological entities, and presented such a classification for consideration.

Dr. J. E. Goldthwait said that he believed that many of the traumatic cases of rigid spine were in reality cases of osteoarthritis, the trauma being the etiological factor in the disease. He believed that pathological investigation would produce a more exact classification. The differential diagnosis was regarded of very great importance in relation to the prognosis and treatment.

**Coxa Vara Adolescentium and Osteoarthritis Deformans Coxæ.**—Dr. A. H. Frieberg of Cincinnati presented this paper in which he saw that since Mueller's description of coxa vara adolescentium (1888) investigation has resolved the condition of bending the femoral neck into a number of components depending upon a variety of morbid processes. Maydl (1897) called attention to the fact that osteoarthritis deformans occurs in juvenile form and may simulate non-symptomatic coxa vara. Pathological investigation has shown this condition as far from rare in youth and requiring it to be taken into account more carefully in the differential diagnosis of coxa vara. The contention that the juvenile form is always traumatic is no longer tenable. Two cases were reported in which this condition came on after adolescence with symptoms precisely those of essential coxa vara. The differential diagnosis was made only by the *x*-ray, which showed the process to be one of yielding of the femoral neck. He insisted upon the importance of differential diagnosis in reference to treatment and ultimate prognosis.

Dr. J. E. Goldthwait of Boston had seen a similar case to those reported with bilateral involvement in which he had deemed osteotomy inadvisable.

Dr. Reginald H. Sayre of New York said that he had seen a unilateral case similar to those reported in which the first symptoms were those of incipient hip joint disease. An *x*-ray examination showed the head and neck porous, a condition which must have existed long before symptoms developed. No deformity was present, but from the condition presented it would almost certainly have taken place later. A protective splint was applied to remove weight bearing from the affected leg.

**Fracture of the Cervical Spine.**—Dr. R. H. Sayre of New York, in discussing this subject, said that fracture of the cervical spine was not necessarily fatal. A number of cases were reported where the results had been satisfactory. The

deformity after the injury resembled that of torticollis. Treatment consisted in rest in bed and the application of the jury mast and plaster jackets, including the head and neck. Patients were frequently allowed to stand upright too soon, with return of various paralyses which are present in nearly every case. If fracture has not united completely, pressure paralyses are apt to be caused in the arms and sometimes in the legs through change in the relation of fragments. These symptoms can often be removed by supporting the head and by degrees restoring the relations of the parts more nearly to the normal. In a certain number of these cases, support can be dispensed with after a time without the recurrence of paralyses. In some cases operative interruption is necessary for a cure.

**Periarthritis of the Shoulder, with Report of Eight Cases.**—Dr. Homer Gibney of New York read this paper. Six of the cases reported were the result of a fall. Three of them were diagnosticated as rheumatism, one as contusion, and one showed evidences of general involvement of joints. Two cases were reported not the result of trauma. Both were treated by breaking up adhesions under ether, application of hot compresses immediately, massage, and use of Paquelin hermocautery. The latter agent he considered very useful as a means of counter-irritation for relief of pain, when used freely. All the cases responded to treatment. He believed that such cases were associated with a circumflex neuritis.

**Multiple Osteoma.**—Dr. G. G. Davis of Philadelphia read this paper, in which he reported two cases of multiple osteoma. One occurred in a man aged 53 years. There was no history of others, members of the family or relatives, having suffered from the same disease. The disease began at 12 years of age. Traumatism was not apparent as a cause. The deformities were of the types of both exostosis and osteophytes, involving one finger, left ulna, both wrists, both humeri, both femora, the left clavicle above the coracoid process, right ankle, and bones of the legs. The patient had a funnel breast and hallux valgus of both feet. The other case reported occurred in a child. The masses were found upon the left fibula at the malleolus, upper third of left tibia, lower third of left femur, right tibia and outer side of fibula, right ulna, right scapula, vertebral border, left scapula at angle, and left humerus. There was beading of the ribs and the epiphyses were all somewhat enlarged. The facial bones were not affected in either case. The paper dealt at length with the various theories advanced, explaining the production of the condition, review of cases so far reported, and various other aspects associated with this condition.

Dr. Henry Ling Taylor of New York said that he had a similar condition to the one reported occurring in three children of the same family. The ages ranged from 6 to 14 years. All were seriously affected with gradually growing tumors, painful in character and deformity producing. The mother had no similar involvement, but the father had a stiffness of the joints.

Dr. H. P. H. Galloway of Toronto had seen a similar case occurring in a patient 18 years of age. The disease began at 9 years of age with growths in the feet and one around the shoulder. These were removed and did not recur, but other enlargements appeared all over the body. They were painless except those situated on the posterior aspect of the leg, which interfered with comfort in sitting. The growths were nearly all situated in the neighborhood of the epiphyseal lines. A brother was similarly affected.

Dr. A. H. Friedberg of Cincinnati reported a case occurring in a boy of 18, who gave a history of a similar affection for three generations. An operation was performed for an aneurysm in the popliteal space caused by one of the growths. Most of the growths were situated near the joints, causing mechanical interference with full movements.

Dr. Dexter D. Ashley of New York mentioned the occurrence of the same condition in a family where the affection was present in four generations.

Dr. L. A. Weigel of Rochester did not consider that the case reported should be considered as one of osteomata, but rather, from the evidence presented by the *x*-ray, should be regarded as one of actual bone disease of the entire osseous system rather than a localized process.

THIRD DAY—THURSDAY, JUNE 8.

Dr. J. E. Goldthwait and Dr. C. F. Painter of Boston gave a clinical demonstration at the Massachusetts General Hospital, of cases illustrative of the various forms of bone and joint disease met with in adults.

Dr. E. A. Codman of Boston, by invitation, gave a demonstration of the surgical anatomy of periarthritis of the shoulder joint with an exhibition of a number of frozen sections.

**An Analysis of 152 Cases of Hallux Valgus in 77 Patients, With a Report Upon a New Operation for Its Relief.**—Dr. H. Augustus Wilson of Philadelphia read this paper. The principal etiological factors in the production of hallux valgus were given as shoes that are too short, those having high heels and pointed toes, and too short stockings and those having pointed toes. These were causative of eversion and pronation of the feet, the greatest factors of all in the production of the condition. Hallux valgus is usually synonomous with bunion, although either may occur independently. An analysis of 152 cases of hallux valgus occurring in 77 patients suffering from this condition out of 397 patients examined, showed apparent exostosis in 141 feet. Radiographic examination did not confirm this finding, since what appeared clinically to be an exostosis was in very many cases in reality the inner and protruding aspect of the distal extremity of the metatarsal bone. In 73 cases there were evidences of external inflammation and apparent bursa formation while in 79 cases there were no such evidences. Observation of the feet in standing and walking showed pronation to exist in 121 feet, while only 33 appeared to approach normal in this respect. Whether this was a result or a cause of the condition under discussion, it was considered as having aggravated the condition. The position of the feet in walking showed 132 feet markedly everted, while 22 approached fairly closely to normal. With such use of the feet the final propulsive spring must fall largely upon that bunion joint instead of upon the great toe. The distinct inactivity of the big toe in the everted and pronated foot constantly tends to produce improper pressure upon the bunion joint. The position of the big toe with reference to the other toes was observed to be as follows: In 14 cases there was no overlapping. In 16 cases there was overlapping by the big toe. In 124 cases there was overlapping by the smaller toes. In 36 feet there was distinct type of plantaris. A large number of *x*-ray pictures were shown to illustrate the pathological anatomy. This was shown to consist in widening of the space between the first and second metatarsal bones, with often a curve in the length of the first metatarsal bone. Displacement in some cases amounting to a partial dislocation at the metatarsophalangeal articulation with projection of the metatarsal bone inward giving rise to an apparent exostosis. Angular deformity of the great toe. True exostosis in some cases. Hypertrophic enlargement of the head of the metatarsal bone in some cases. The operation for the relief of this condition consisted in the removal of that portion of the metatarsal bone projecting inwards beyond the first phalanx, after exciting inflammatory bursæ. The great toe was placed in a normal position by means of a plantar splint with an extension for the great toe. Passive movements were instituted in two weeks, and patients allowed to walk at the end of three weeks. Results in cases reported were entirely satisfactory, with normal function and freedom from pain. Ankylosis resulted in one case only, and that was due to failure on the part of the patient to carry out instructions. Points of superiority claimed for the operation were, unimpaired mobility of the joint, no alteration in the tension exerted upon the tendons of the foot as is the case with linear osteotomy, which increases it, and cuneiform osteotomy which decreases it, and non interfer

ence with the supporting arches of the foot, and the removal of inflammatory bursæ and their cause.

Dr. James K. Young of Philadelphia said that he had obtained satisfactory results in all cases requiring operation by the use of linear osteotomy just back of the head of the metatarsal bone.

Dr. Henry Ling Taylor of New York said that he had used an operation where an oblique bite had been taken off the inner condyle of the metatarsal bone by use of bone forceps subperiosteally. This gave fairly good results, but was not satisfactory. He now took off the whole head of the metatarsal bone by means of an ordinary transverse bite with bone forceps. He did not feel that shortening of the foot thereby produced damage to the arches of the foot, or that the partial ankylosis resulting was of such consequence as to offer serious objections to the operation.

Dr. Charles F. Painter did not think that function was interfered with in the removal of bone by the old method except perhaps in a very few cases. He thought very probably some cases were due to hypertrophy of bone, and that a great many of them were true exostoses.

Dr. Reginald Sayre of New York reported a case of hallux valgus upon whom an operation seemed essential. Abduction of the sac caused rupture of ligamentous bands, and the sac was snapped into excellent position with a loud noise.

Dr. Newton M. Shaffer of New York thought it would be of value to know in how many cases of hallux valgus a contraction of the calf muscles would be found. He believed that this condition was often a factor in the production of hallux valgus.

Dr. Phil Hoffman of St. Louis thought the deformity must always be due to the shoe. However, in most women wearing high heels a compensatory shortening of calf muscles would be found.

Dr. Shaffer said that many of such cases were due to a shortening of the gastrocnemius and were relieved by the application of the traction shoe.

**Demonstration of Machine for Correction of Deformities at the Hip Following Hip Disease, and for Holding the Limb in a Corrected Position While Plaster Is Applied.**—Dr. John Ridlon of Chicago exhibited and demonstrated an apparatus for the purposes set forth in the title.

**Achillotomy and Fasciotomy in a Patient Seventy-two Years of Age.**—Dr. A. R. Shands of Washington, D. C., presented this paper, his object being to show what results may be expected in tenotomy done upon the aged. The patient, aged 72, as result of poliomyelitis occurring in infancy had a partially paralyzed foot with a mild degree of equinovarus. He was unusually well developed and in good physical condition. Under cocaine anesthesia the tendo Achillis was divided subcutaneously and also the constricting bands of the plantar fascia. The foot was placed in plaster of paris in an overcorrected position and so retained for three weeks. The result was entirely satisfactory. There was prompt union of the tendon, and patient could walk with ease and comfort.

Dr. F. E. Peckham of Providence said that he had performed the operation in a patient 70 years of age with satisfactory result.

Dr. Phil Hoffman of St. Louis reported a case in which the limb upon which the tenotomy had been done was found at autopsy, twelve days after operation, to contain no muscular tissue whatever, and all conditions extremely unfavorable for repair, and yet the tendon was fairly well united in this patient of 45 years.

**Investigations on the Value of Traction in the Treatment of Hip Disease.**—Dr. E. H. Bradford of Boston, in a résumé of his paper, illustrated by a number of drawings and models, said that the advantages of traction in the treatment of hip disease had been abundantly shown. The benefit to be derived had been questioned by some writers, and further demonstration of the value of this method would be of use. He assumed that bone affected by tuberculous ostitis might, under favorable conditions, be transformed into a healthy state, and that constant irritation and bruising of the diseased portion of the bony structure was unfavorable to repair and cure. He had examined a number of specimens of advanced hip disease, some of which were old specimens collected by museums before the use of traction in the treatment of this condition, that showed undisputably the forcible crowding of the head of the femur upwards and backwards, leaving the lower portion of the acetabulum opportunity for repair, which had taken place. Corresponding changes took place in the head of the femur when the opportunity for rest was given by the use of traction. Crowding resulted in erosion and destruction. It was manifestly desirable in placing the bone in a condition favorable to repair that this crowding be prevented. That traction could be used so as to prevent such crowding was shown by a series of skiagrams taken with patients suffering from hip disease and subjected to various degrees of traction. The distraction caused by traction was varied in the different stages of hip disease. Traction was often applied in an improper manner and in such way as not to result in pulling the head away from the acetabulum. Such traction should be employed as would overcome the muscular spasm.

Dr. Phil. Hoffman of St. Louis reported a case which had been seen illustrating the tendency in this condition to a crowding and flattening of the joint surfaces. The case occurred in a boy of 11 years of age suffering from hip joint disease who died of meningitis. The specimen showed the disease to exist in the epiphysis of the head of the femur, and the pus had only just burst into the joint, as microscopical examination showed no actual disease of the joint. However, there was a distinct flattening and wearing away of the cartilaginous surfaces.

Dr. Reginald H. Sayre said that he believed in the utility of traction, not only in hip cases, but in ankle and knee cases as well.

**A Study of Thirty Cases of Chronic Non-Tuberculous Joint Disease Occurring in Adults, with Special Reference to Some of Doubtful Identity.**—Dr. Harold W. Jones of St. Louis, by invitation, read this paper considering monoarticular joint lesions of non-tuberculous origin, involving the spine, hip, knee, shoulder, elbow, and ankle. Gonorrhea was the etiological factor in these cases, and syphilis in one other. The cases were divided, for the purpose of study, into (1) cases characterized principally by hypertrophy of the joint, of which there were seven; (2) cases characterized principally by atrophy of the joint, of which there was one; (3) cases of undoubted joint infection, in some of which erosion of the articular surfaces was demonstrated; there were five cases in this group; (4) cases of probable periarthritis, in which infection was at least uncertain and in which no permanent changes in the joint could be shown. In this group seventeen cases were included. In the entire series of cases osseous hypertrophy occurred entirely in the male sex and in the weight-bearing joints. Exposure to sudden changes of temperature and occupation trauma were not found to be an important factor, except in the shoulder, often the seat of disabling joint lesion, where trauma was regarded as an important factor. Moderate success only was achieved in the treatment of the various conditions presented.

**A Portable Frame for Holding a Patient with a Fracture of the Shaft of the Femur while Plaster of Paris is Applied.**—Dr. Frank E. Peckham of Providence in his paper explained and described a frame as above, combining in one frame a number of features found in other devices. One advantage possessed by it was the ability to apply or take off the frame without the necessity of raising the patient from the bed.

**A Modification of the Dollinger Brace for Cervical and Upper Dorsal Pott's Disease.**—Dr. R. Tunstall Taylor of Baltimore read a paper describing a brace which he had used with very satisfactory results not obtained by the use of other mechanical means, the advantages claimed being rigidity, durability, and lightness.

**A Modification of the Back Brace for Pott's Disease.**—

Dr. Aug. Thorndike of Boston read a paper describing a brace to be used in Pott's disease. The apparatus was exhibited and its advantages illustrated.

**Election of Officers and Place of Meeting.**—The following officers were unanimously elected for the ensuing year: *President*, Dr. B. E. McKenzie of Toronto; *First Vice-President*, Dr. C. W. Wilson of Montreal; *Second Vice-President*, Dr. H. P. H. Galloway of Toronto; *Secretary*, Dr. John Ridlon of Chicago, re-elected; *Treasurer*, Dr. E. G. Brackett of Boston.

The association adjourned to meet in Toronto, Canada, at such time as would be appointed by its Executive Committee for the next annual meeting.

## BRITISH MEDICAL ASSOCIATION.

*Seventy-third Annual Meeting, Held at Leicester, July 25, 26, 27, and 28, 1905.*

(Special Report to the Medical Record.)

(*Continued from page* 403.)

### SECTION OF SURGERY.

*Third Day—Friday, July 28.*

**Congenital Dislocation of the Hip and Its Modern Treatment.**—Mr. Jackson Clarke read a paper with this title. He said that Lorenz's method of treatment of these cases was a great advance upon the old operation by the open method, and that the improvement which followed the treatment was greater than that which followed operation. He considered that Lorenz's method was based upon a scientific consideration of the factors upon which success depended. He therefore strongly advocated this method, and thought that it should be followed in all its details according to Lorenz's teaching.

Mr. Jordan Lloyd said that he agreed that this method marked a great stride in the treatment of these cases, but it should be frankly admitted that there was in most cases no real cure effected. As a rule even in the most successful cases treated by this or any other method, the waddling gait and the limping remained, though they were diminished. This should be plainly told the parents before the operation, or much dissatisfaction was likely to result. He considered that no skiagram was of the least use in these cases, for the hand could tell more than the skiagram could show, and further the treatment and method were totally uninfluenced by the skiagram. It was absurd to suggest, as some people did, that one ought to be a specialist to deal with these cases. All that was necessary was courage, though of course the operator must be a man accustomed to dealing with operative and serious cases; and must have given due attention to the technique of Lorenz's method.

Mr. Keetley said that after the patient had reached four years of age the difficulty of obtaining a good result was much increased; personally he considered that many of these cases were simply traumatic, and not congenital at all. Reduction of the dislocation was therefore likely to be followed by marked success. The difficulty in many of them was not the reduction of the dislocation, but the retention of the head of the femur in the acetabulum, which was in some cases partly filled up, and in others but poorly developed, owing to the absence of the head of the femur from it. In these cases he considered that an open incision and the wiring of the head of the femur into the acetabulum gave by far the best result. He passed a wire through the neck of the femur and out again through the acetabulum below the anterior inferior iliac spine. He regarded Lorenz's method as most applicable to very young children, and said that not infrequently it must be followed by an open operation and wiring.

Sir Charles Ball said that the open operation gave no doubt a slight increase of risk, but that the advantage of seeing exactly what were the resisting structures to reduction, and the condition of the acetabulum, with the increased facility for dealing with any troubles that might exist, was so great that he considered the open method was much preferable.

Mr. Jackson Clarke replied that Lorenz was a brave surgeon and not afraid to face the operation by the open method, but he had discarded it as he found the manipulative method better. Many first-rate surgeons on the continent had followed his example and teaching. Lorenz's method was based on the science of the condition; thus, whereas the division of the pelvitrochanteric muscles, which took place in the cutting operation, resulted in their lengthening and a failure to keep the head in its socket after reduction; Lorenz's method of tearing them resulted in their contraction and shortening. He thought that Mr. Jordan Lloyd had been very unfortunate in his results generally. The speaker had as a rule got rid of the limp and the waddling gait and had been able to satisfy the parents.

**Appendicostomy.**—Mr. C. B. Keetley read a paper on this operation, by which he meant stitching the appendix to the anterior abdominal wall and opening it there, so as to make a side entrance to the alimentary canal. The chief indications for its use were mucous colitis, syphilitic ulceration of the bowel, and similar conditions, where lavage of the large intestine was desired. Again in extreme cases of constipation it was safer to perform this operation than to do ileosigmoidostomy. Robert Weir of New York had published the first case of appendicostomy about two years ago. The patient was a girl of 15 years, who suffered from severe constipation and had been 24 days without a motion. After the operation a daily enema through a catheter which was passed into the open appendix was attended by complete success, and a daily motion was in this way obtained, the girl regaining perfect health. Again in some cases of ileocecal intussusception it was quite an open question whether it was not a wise proceeding to fix the cecum to the abdominal wall by the appendix, which might be opened, if thought desirable, at the same time, to leave a safe side entrance into the bowel for use on any future occasion if it should become necessary.

Mr. P. Furnivall said that he had not had any experience of appendicostomy, but that he had on five occasions performed the operation of cecostomy, bringing the cecum to the anterior abdominal wall, fastening it there, and opening it by an incision so as to allow of lavage of the large intestine. The cases were under the care of Dr. R. Hutchinson at the London Hospital, and every effort had been made to cure the condition from which they were suffering, namely dysenteric ulceration, by the ordinary enemata, but without success. After the operation lavage of the large bowel through the cecal opening was speedily successful in each of the five cases. A ¼ per cent. solution of nitrate of silver was used and followed by decinormal salt solution; later a rather stronger solution of silver nitrate was used. He regarded the operation of cecostomy as safer than appendicostomy, and less likely to lead to a permanent fistula, since the cecal wound closed in a few days unless deliberately kept open.

Dr. Howard Kelly of Baltimore said that to some extent he agreed with the idea of the operation, but he thought it extremely likely to be abused. Many of these cases of so-called colitis were not colitis at all, but proctitis, the rectum alone being to blame; he therefore advocated a thorough examination of the rectum, the electric speculum being used if necessary. In the rectal cases it would be absurd to perform any such operation, for proper treatment applied to the rectum was all that was necessary. With regard to the treatment of constipation by this operation, he thought again that in many cases it would be a mistake. Personally he divided constipation into two classes: (1) rectal, and (2) those due to a fault higher up in the bowel. In the former it was quite unnecessary to resort to any operation, for it was due entirely to inertia of the rectum, which was easily remedied by other and simpler measures. He thought there was considerable danger in bringing forward an operation like this which was so liable to be misapplied, and he con-

sidered that the ordinary views upon colitis and constipation required revision and a closer analysis.

Sir Charles Ball thought that if the appendix were ever to be used for anchoring, it would be both safer and better to fasten the cecum to the posterior abdominal wall rather than the anterior. He wished also to ask whether there was not a leakage from the opening of the appendix, which must be very objectionable to the patient.

Mr. Keetley replied that there was no reason why the operation should be misapplied. He thanked Dr. Kelly for his remarks and said that if his paper had produced no other result, he was glad to have read it, as it had led to their hearing from Dr. Kelly his most interesting views upon colitis and constipation. There was no leakage from the opening even of gas, and it was so small that it could not be seen unless the skin folds were drawn aside to show it; at the same time a catheter was introduced with perfect ease for the purpose of irrigation. He quite agreed that the operation should not be used lightly.

**Note on a Specimen of Bladder and Urethra Removed Two Years After Prostatectomy.**—Mr. J. F. Thompson Walker showed a specimen of a bladder and urethra removed from a patient who had died two years after the operation of prostatectomy. It showed that a cavity was left after the removal of the prostate. He also showed some lantern slides of the specimen.

Mr. Barnard raised the question as to whether stricture resulted after prostatectomy, and said that no cases had been published. Undoubtedly a tendency to stricture did exist. He advised removing the prostate in two pieces; the prostatic urethra might then possibly be saved. He thought that after the operation a catheter should be passed every day to prevent the liability of the formation of stricture. The patient should sit up in bed early, say by the fifth day, to enable him properly to empty his bladder; in this way the retention of residual urine and the deposition of phosphates upon the wound and bladder wall would be avoided. It was most important to get the urine as healthy as possible before operating, and he thought there was nothing so good as the acidsodium phosphate, which was the normal acidifying agent of the urine. Patients should be given 3 to 4 pints daily of acid sodium phosphate solution (one drachm to the pint of water), when in two or three days the urine would become acid. With regard to the prostates which should be operated on, it was generally said that the small hard prostate should be left alone; he had operated upon one, and after about $1\frac{1}{2}$ hours hard work he had been able to get away nothing but broken shreds of prostatic tissue, but the patient made a good recovery.

Mr. Jordan Lloyd had heard of a case of Mr. Freyer's where stricture had followed—but Mr. Freyer had not heard of it. He considered it usually due to the formation of a diaphragm across the floor of the bladder owing to the cicatricial contraction of the capsule of the prostate, and he considered that the lantern slides which Mr. Walker had shown gave a perfectly obvious picture of the position in which this diaphragm formed and the manner in which it acted. As a rule, these cases where increasing difficulty followed at some date after the operation, the removal of the prostate had been incomplete, and a residnum of prostatic tissue left behind. He thought it better to remove the prostate working from within the urethra rather than by the ordinary method of enucleating from the periphery of the prostate between the capsule and the gland substance. By this method the gland was peeled off the urethra, which was more likely thus to be left uninjured. This method made it necessary to remove the prostate in two pieces, as Mr. Barnard had suggested. He would like to know what was the lining of the prostatic cavity in Mr. Walker's specimen.

Mr. Walker said that he had shown the specimen, as it was of interest to see the after-results in these cases, but he had not anticipated a discussion upon the whole range of prostatectomy, and he really could not go into all the points which had been raised. He did not regard it as possible to save the prostatic urethra, nor did he think it was of the least advantage to attempt to do so, for if the urethra were saved uninjured it must still slough; since a tube running across a space, such as was left after the removal of the prostate, could scarcely be expected to survive. He did not believe that a diaphragm formed across the floor of the bladder, but in some cases secondary contraction of the neck of the bladder from the formation of cicatricial tissue was apt to occur. The lining of the cavity from which the prostate had been removed in the specimen he had shown was a layer of flattened cells with rounder cells below in the deeper layers, but he could hardly describe it as a true surface epithelium.

**Acute Periostitis and Ostitis of the Spine.**—Mr. A. H. Tubby read a paper on this subject. He said that these cases were generally pyemic; he had seen septic periostitis second to osteostomatitis and double pneumonia. Makin and Abbot had drawn attention to these cases; in one case, which J. R. Hunt had examined bacteriologically, staphylococci were found. The signs of the mischief were tenderness and pain in the supine position; when the neural arches were affected, acute meningitis and acute myelitis might result. The disease occurred most frequently in children and adolescents, occasionally in adults; it was more common in males than in females by 2 to 1. The site of the mischief, as in other inflammatory lesions of the spine, was usually the lumbar region, and then the cervical region, in which it was more frequent than in the dorsal.

**Two Cases of Operation Involving the Surgery of the Thoracic Duct.**—Mr. T. R. H. Bucknall read this paper. The first case was one in which operation was performed for recumbent tuberculous glands of the neck; they were removed and an extensive operation was necessary. The thoracic duct was opened or gave way later, for a large quantity of chyle was poured out into the wound, but this gradually ceased in the course of two or three weeks; no ill effects or interference with nutrition being observed. The patient died some five or six months later from general tuberculosis, and it was an interesting point as to whether or not general infection might have taken place through the duct. The second case was one in which a mass of cancerous glands was removed from the supraclavicular fossa for severe pain due to pressure upon the brachial plexus. The thoracic duct was opened and at once recognized and ligatured; no ill result followed, and there was no impediment of nutrition attributable to interference with the absorption of chyle.

Mr. Barnard said no ill resulted in two cases in which he had ligatured the thoracic duct, and that it had been shown that the thoracic duct had other venous communications than the one opening into the junction of the left internal jugular and subclavian, notably with the right innominate vein, which no doubt accounted for the impunity with which it might be ligatured.

**Sixty-seven Cases of Cleft Palate Treated by Operation.**—Mr. J. Berry read this paper. He said that he performed the old operation and that he thought the new methods of operating by flaps and of fracturing and wiring the superior maxillæ were innovations which had nothing to recommend them, nor to justify their existence. The operation of Fergusson, so ably advanced by Sir Thomas Smith, was far in front of these modern operations. The flap operation of Arbuthnot Lane was said to enable the operation to be performed upon a low arch, where, by the old operation, it was not possible for the flaps to be brought together and the cleft closed. He thought if his hearers would look at one of his cases, which he would show afterwards, they would see that the old operation properly performed could be a success in the lowest of arches. As for the other method (Brodie's operation) which Mr. Edmund Owen advocated, that of fracturing the superior maxillæ so as to diminish the cleft, it was far too severe for these young children and was simply substituting violence for skill. He knew of ten cases in which this operation had been performed in this country; in four it had resulted in death and in one in necrosis; in his opinion it was neither necessary nor justifiable. He consid-

ered that the proper age at which to operate was three years, for after this age the method of speech was rapidly formed, and it was desirable that the soft palate should be repaired and the hard palate also before an imperfect method of speaking was acquired. Some advised operation during the first year; he considered this wrong, because the cleft between the bones tended naturally to close and was very much smaller in the third year than in the first. These operators were gaining great praise because they operated when others refused and apparently with great success, closing the cleft to the parents' great delight; the disadvantages to the child, however, were very great, for the extra dragging of the soft palate to make it inert across the wider cleft of the first year resulted in impaired movement of the soft palate, which made the speech far more imperfect than it would have been if the child had been left for operation in the third year, when the cleft was narrower. Of course the parents did not know this, but he regarded this operating in the first year and the closing of the wider cleft as an attempt to obtain unfair praise at other surgeons' expense. Mr. Arbuthnot Lane, who had suggested the flap operation, said that the reason speech was imperfect in these children was that the air did not pass through the nose during speaking; but, if they compared the speech of cleft palate cases with that of a person suffering from a bad cold, they would find that the consonants which suffered were different, and the manner in which they were uttered was also different, so that it was clear Mr. Arbuthnot Lane knew very little of the condition for which he was devising an operation, and the speaker recommended him to study the matter further. He was absolutely dissatisfied with these new operations; they ought to bring forward more proof of superiority; improved enunciation in isolated cases was not sufficient to prove an advance upon the old operation, which was not necessarily bad because it was old, any more than these were necessarily good because they were new. There was no occasion for a new operation, and he challenged the advocates of these new methods to come forward and justify them if they could. He afterwards showed ten patients upon whom he had operated.

Mr. Cuthbert recommended that too much sponging and handling of the flaps should not be indulged in. He considered the old operation a most successful one.

Mr. Willis of Nottingham said that having read an account of the operation for cleft palate by the method of fracturing the upper maxillæ, he performed it, following most carefully all the details as described by Mr. Edmund Owen. His experience had been most unfortunate, the child getting necrosis, which was shortly followed by septic bronchopneumonia and death.

**A Case of Talma-Morrison Operation for Cirrhosis of the Liver.**—Mr. W. T. de C. Wheeler of Dublin reported this case. There was considerable ascites, the patient's general health was very bad, and he was much emaciated. The speaker opened the abdomen, withdrew the ascitic fluid, and brought the omentum up into the wound in the usual manner. The patient did extremely well, gaining 21 pounds in weight and regaining his health. It was suggested that the operation was Drummond and Morrison's, not Talma's, but Talma was the first to suggest its performance and Morrison himself recognized this.

**Ligature of the Innominate Artery for Aneurysm.**—Mr. W. Sheen reported this case, showing photographs of the patient. There had been symptoms for six months preceding the operation. He tied the artery by the Ballance stay knot so as to occlude it, but not break the inner and middle coats; no ill result followed, but there was a little chattering and mental disturbance. Pulsation, however, returned. A second operation was attempted, but bleeding deep in the wound made it impossible to proceed. It was therefore decided to tie the second part of the subclavian artery, and this was ligatured in two places at the third operation. The aneurysm was quite cured; it was now 16 months since the first operation.

**Two Cases of Partial Sloughing of the Vermiform Appendix.**—Mr. J. D. Malcolm reported the cases. He considered that this form of sloughing might occur without any symptoms, as in senile gangrene or in the wall of an ovarian tumor; it was not a true inflammatory process and possibly accounted for some anomalous symptoms in appendix cases. In each of the two cases a part of the appendix wall had undergone necrosis but there was no sign of surrounding inflammation.

**Epigastric Invasion of the Abdomen in Surgery of the Breast.**—Mr. W. Sampson Handley of London exhibited a number of lantern slides showing how invasion of the abdominal viscera usually occurred in cases of mammary cancer (see page 381).

## Medical Items.

**Contribution to the Physiopathology of the Pancreas.**—Pende tells us that when animals have had the duct of Wirsung ligated, the glands of the intestine, gastric and salivary, the liver and spleen show no alteration which would lead one to think of a vicarious action on the part of these organs. The secretory activity of the pancreas is suspended after about one week. A portion of the pancreas remains unaffected after the ligation for a long time, namely the islands of Langerhans. After some time they begin to take on retrograde changes, and begin to disappear. At the end of ten months they may still be found, but are so altered that it is evident that they are undergoing destruction. As regards glycosuria, animals without any pancreas do not differ from normal animals.—*La Riforma Medica.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, Public Health and Marine Hospital Service during the week ending September 2, 1905:

| | | CASES | DEATHS |
|---|---|---|---|
| **SMALLPOX—UNITED STATES.** | | | |
| Arkansas, Fort Smith | May 20–June 3 | 2 | .. |
| California, Los Angeles | Aug. 5–12 | 5 | .. |
| San Francisco | Aug. 12–19 | 2 | .. |
| District of Columbia, Washington | Aug. 12–19 | 2 | .. |
| Florida, Jacksonville | Aug. 12–19 | 1 | .. |
| Illinois, Chicago | Aug. 12–19 | 2 | 2 |
| Louisiana, New Orleans | Aug. 12–19 | 1 | Imp'd. |
| Massachusetts, Lowell | Aug. 12–19 | 1 | .. |
| Ohio, Canton | Mar. 2–Apr. 2 | 1 | .. |
| Wisconsin, Appleton | Aug. 11–18 | 4 | .. |
| Milwaukee | July 30–Aug. 12 | 2 | .. |
| **SMALLPOX—INSULAR.** | | | |
| Philippine Islands, Manila | June 17–24 | 1 | .. |
| **SMALLPOX—FOREIGN.** | | | |
| Africa, Cape Town | July 8–15 | 5 | .. |
| Brazil, Bahia | July 15–22 | .. | 1 |
| Rio de Janeiro | July 16–23 | 21 | 1 |
| Rio Grande do Sul | July 11 | Epidemic | |
| France, Paris | Aug. 4–11 | 17 | 7 |
| Great Britain, Cardiff | Aug. 6–12 | 2 | .. |
| New Castle-on-Tyne | July 29–Aug. 5 | 1 | .. |
| India, Bombay | July 11–25 | .. | 1 |
| Calcutta | July 15–22 | .. | 2 |
| Karachi | July 16–23 | 1 | 1 |
| Madras | July 8–21 | .. | 8 |
| Mexico, City of Mexico | July 15–Aug. 12 | 23 | 18 |
| Panama, Bocas del Toro | July 22–28 | 1 | .. |
| Russia, Odessa | July 30–Aug. 5 | 9 | 2 |
| St. Petersburg | July 15–29 | 5 | 3 |
| Spain, Barcelona | July 21–Aug. 10 | .. | 7 |
| Turkey, Constantinople | July 23–Aug. 6 | .. | 7 |
| **YELLOW FEVER—UNITED STATES.** | | | |
| Louisiana, Ascension Parish | Aug. 14 | 1 | 1 |
| Avoyells Parish | Aug. 14 | 1 | 1 |
| Caddo Parish | Aug. 14 | 4 | .. |
| Calcasieu Parish | Aug. 14 | 3 | 2 |
| East Carroll Parish | Aug. 14 | 1 | 1 |
| Iberville Parish | Aug. 14 | 1 | 1 |
| Jefferson Parish | Aug. 14 | 5 | 5 |
| Lafourche Parish | Aug. 14 | 3 | 1 |
| Madison Parish | Aug. 14 | 2 | 1 |
| Orleans Parish | July 21–Aug. 17 | 1129 | 165 |
| Plaquemines Parish | Aug. 14 | 11 | 2 |
| Rapides Parish | Aug. 14 | 2 | .. |
| St. Charles Parish | Aug. 15–about | 18 | 3 |
| St. James Parish | Aug. 15 | 1 | .. |
| St. John Parish | Aug. 14–about | 12 | 2 |
| St. Mary Parish | | 48 | 3 |
| Terrebonne Parish | Aug. 14 | 2 | 1 |
| Mississippi, Mississippi City | Aug. 17 | 10 | .. |
| **YELLOW FEVER—FOREIGN.** | | | |
| Brazil, Rio de Janeiro | July 16–23 | 20 | 7 |
| Guatemala, Livingston | July 22–Aug. 5 | .. | 4 |
| Zacapa | Aug. 5 | Present. | |
| Honduras, Chamelicon | Aug. 10 | Present. | |
| Choloma | Aug. 10 | Present. | |
| Puerto Cortez | July 22–28 | 2 | .. |
| Puerto Cortez | Aug. 3–10 | .. | 1 |
| Mexico, Tierra Blanca | Aug. 6–12 | 2 | 1 |
| Vera Cruz | Aug. 6–12 | 6 | 3 |
| **CHOLERA.** | | | |
| India, Bombay | July 11–25 | .. | 2 |
| Calcutta | July 15–22 | .. | 14 |
| Madras | July 7–21 | .. | 33 |
| **PLAGUE—INSULAR.** | | | |
| Philippine Islands, Manila | June 17–24 | 2 | 2 |
| Cebu | June 17–24 | 2 | 2 |
| **PLAGUE—FOREIGN.** | | | |
| China, Hongkong | June 3–17 | 47 | 47 |
| India, Bombay | July 11–25 | .. | 84 |
| Calcutta | July 15–22 | .. | 10 |
| Karachi | July 8–23 | 18 | 15 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68. No. 12.
Whole No. 1819.

NEW YORK, SEPTEMBER 16, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### REMARKS ON THE DIAGNOSIS OF DISEASES OF THE NERVOUS SYSTEM.*

BY JOSEPH COLLINS, M.D.,

NEW YORK.

No problem in clinical medicine presents so uninviting a prospect to the general practitioner as that offered by diseases of the nervous system. "You see, I know nothing about nervous diseases!" or, "Nervous diseases are too much for me!" are the most frequent comments that I hear from physicians whom I encounter in my work as a teacher and as a specialist. There seems to be an inherent conviction that the nervous system manifests the phenomena of disease in some obscure and mysterious way, *i.e.* in a way not apparent from inspection nor deducible from what is thus apparent, and, therefore, that it is futile to try and comprehend and interpret these phenomena without special training. In just the same measure as this is true for all problems of internal medicine, it is true for neurology, and no further. To one who has been made familiar with the problems of internal medicine by a service of ten years in the wards of a large general hospital, the feeling of the general practitioner confronted with the phenomena of nervous disease is inexplicable. Naturally, there are individual examples of disease of the nervous system which do not portray themselves in a characteristic way, just as there are examples of diseases of the pancreas, of the intestines, and of other viscera which lead to death, without having caused symptoms from a consideration of which the disease can be determined during life.

I am not endeavoring to gainsay that the diagnosis of the nervous system does not call for and require clinical training. I contend merely that it requires no more study, experience, or training—call it what you may—than does the diagnosis of diseases of the abdominal organs. Nearly every physician who is entitled to practice considers that he is competent to interpret the phenomena of disease of the abdominal viscera and with reasonable assurance that his interpretation will be correct, even though he has had no special experience or training in this direction. He brings no self-assurance to the interpretation of the phenomena of diseases of the nervous system; and this is the remarkable state of affairs to which I specifically draw your attention, and which I hope to be able to convince you should not exist.

During the past twenty years the recognition of nervous diseases has been tremendously enhanced by the cooperation of the physiologist, the anatomist, and the clinician. The result is that to-day the utilization of their united labors by any practitioner who wishes to do so, is one of the easiest things in internal medicine. As a matter of fact, the recognition of many organic nervous diseases is reduced to a mere matter of observation. The only excuse for not correctly diagnosticating many of them is that careful and intelligent observation are neglected. Take, for instance, the disease commonly known as locomotor ataxia. Its recognition depends upon the absence of response of the pupils to light, absence of the tendon-jerks of the lower extremities, disorder of sensibility in areas corresponding to the relation of the sensory nerves to the segment of the spinal cord from which they spring (segmental hypotonia and anesthesia), and the diminution of tone (hypotonia) of the muscles. Unless two or more of these conditions are present, it matters not what symptoms exist, it is scarcely ever justifiable to make the diagnosis. On the other hand, when two or more of them can be elicited, there is but one disease, and that the twin brother of tabes, general paresis, that can be confounded with it. The distinction can readily be made between tabes and general paresis in the vast majority of instances by the occurrence of symptoms indicative of a disordered mind in the former, in the shape of depression, expansion, or loss of insight. Naturally, an experienced clinician may be led to make the diagnosis of incipient tabes from a consideration of subjective symptoms alone, such as pain, just as he may make the diagnosis of gastric ulcer from a similar symptom, but it is not incumbent upon him to do so nor is it usually safe. Now no special training is required to test the knee-jerks, to examine the pupils to see whether or not they contract when a ray of light is directed into them, to know whether or not the tone of the patient's muscles is diminished so that there is greater mobility of the joints such as the knee and hip-joints than there should be, or, to determine whether or not there are objective sensory disturbances. The occasion, however, demands that the patient, who seeks relief from pain which he or his neighbor calls rheumatism, from hesitancy in starting the urinary stream, which he is inclined to attribute to an ancient gonorrhea, from diplopia, which he believes is due to some disease or disorder of the eyes, or from any one or more of the various symptoms which usher in tabes and which he attributes to this or that condition, should be subjected to simple examination just as he is subjected to an examination by palpation, percussion, and auscultation, if he comes complaining of pain in the chest, cough, or emaciation. A patient consults a physician for the relief of chronic abdominal pain. Such pain may be due to spasm of the colon, it may be due to chronic appendicitis, to subacute or chronic cholecystitis of various origin, to catarrh of the caput coli, to malignant disease, it may be the expression of a general neurasthenic condition, or it may be caused by several other conditions. The physician attempts to determine which one of these it is due to by examination. He neither takes the patient's interpretation of it nor does he attempt to treat him until he has satisfied himself of certain physical conditions. A similar attitude assumed towards the patient who comes complaining of the early phenomena of tabes will result in a correct diagnosis in upwards of three-fourths of the

* The Annual Address to the Lehigh Valley Medical Society, June 22, 1905.

cases. More than that—it will result in the diagnosis being made at a period in the course of the disease when treatment stands a fair chance of either permanently arresting the diseased process, or of so shaping its course that the patient's career is not materially changed by the disease. These remarks are as applicable to many other diseases of the nervous system as they are to tabes. I have singled out locomotor ataxia because it is the disease above all others which is most often incorrectly diagnosticated, and because it is the organic disease of the nervous system that offers the best opportunities for arrest or cure. I have records of upwards of three hundred cases of tabes. In about two-thirds the statement is made that the patient had been under treatment for rheumatism, neuralgia, flat feet, nervous prostration, etc., often for a period extending over years, before the real nature of the disease was recognized.

There are a number of nervous diseases characterized principally by wasting of the muscles and consequent functional impairment of the latter which may amount to a paralysis. These diseases are due to lesion of the spinal cord, of the peripheral nerves under which we include the nerve plexus, and of the muscles themselves. Such maladies may present themselves in an acute or chronic fashion and there may be any gradation between the acute and the chronic. Under this heading is included anterior poliomyelitis, which, when occurring in children, is often spoken of as the essential paralysis of children, multiple neuritis, multiple myositis, and progressive muscular atrophy of spinal, bulbar, neural, and myopathic origin. These diseases constitute a group which oftentimes present many difficulties of diagnosis to the general practitioner. When they occur without complications they should, however, be readily recognized provided that a certain fundamental knowledge of the anatomy of the nervous system is brought to the bedside. No one has studied medicine within the past ten years without having had to learn that there is a functional unit of the nervous system to which the name neuron is given. For a time it was thought that the functional unit was likewise an anatomical unit, in other words, that the nervous system was merely an aggregation of these units or neurons. Although this has been satisfactorily disproven, the neuron is for all practical purposes an anatomical unit as well as a functional one. This neuron consists of a cell-body and its integral substance, of a nucleus and nucleolus, of prolongations going out from the sides of the cell-body which are called dendrites and which are concerned very largely with the nutrition of the cell, and of a conductive prolongation known as the axis-cylinder or neuraxon, which goes from the cell in some part of the central nervous system to the periphery, and which constitute nerve roots and the peripheral nerves, and its termination. The motor cell-bodies and their immediate possessions, *i.e.* the dendrites, the integral structural substance of the body of the cells, the nucleus and the nucleolus, make up, with their supporting stroma, the anterior gray matter of the spinal cord, and of the medulla oblongata, which is the bulb of the spinal cord. Now, when these cell-bodies are the seat of disease, be it acute, subacute, or chronic, the effects of which it produces are manifest in the terminations of their respective axis-cylinders, which are, of course, in the muscles at the periphery of the body, the result being an impairment of their anatomical and physiological or functional integrity. This impairment is exactly in proportion to the intensity and extent of the lesion, whether the lesion be in the cell-body of the spinal marrow or in the conglomeration of neuraxons constituting the plexus of nerves, cervical, brachial, lumbar and sacral, in the individual nerves themselves after they have separated themselves from the plexus, or, finally, in the actively contractile muscular substance of the muscle to which the axis-cylinder distributes itself in the motor end-plate. Such an amount of anatomical and physiological knowledge must be brought to the bedside of a patient suffering from diseases of the spinal cord and of the nerves. Take, for instance, in a case of anterior poliomyelitis, there are first the general phenomena of an acute infectious disease, then within a very short time there develop paralysis of one or all of the extremities, rapidly increasing muscular atrophy, and finally contracture of those muscles which are not involved. The somatic phenomena of the disease is the same as it is in any acute infection, the particular symptoms upon which the diagnosis can be based are the result of the lesion or destruction of the cell-bodies of the neurons which are situated in the anterior horns of the spinal cord. If the focus of disease be in the cervical region, the muscles supplied by axis-cylinders going from the cervical region will be the ones that are atrophic and paralyzed. If it be in the cell-bodies of the neurons situated in the lumbar region, the muscles of the thigh and leg will be involved. If the focus of disease is very extensive it may affect both of these enlargements of the spinal cord and the sacral and dorsal divisions of the cord as well, in which case the resulting paralytic manifestations are very extensive. The disease, however, is not only apt to confine itself at least to one or two segments of the spinal cord, but generally it confines itself to one-half of one or two segments, *i.e.* the lesion is very much more intense in one anterior horn than it is in another.

In the beginning of the disease it may seem that the functional disturbances of the muscles are much more extensive and widespread, but after the acute manifestations have had time to disappear many of the groups of muscles, perhaps even an entire extremity which seemed to be functionless, are completely restored. If one waits until this stage of the disease, the diagnosis is comparatively simple. Now the clinical phenomena which are the result of destruction of the parenchyma of the anterior horns, *i.e* the ganglion cells of the anterior horn, may be produced by lesion of any part of the neuraxons in their course from the anterior horn to their eventual termination in the actively contractile part of the muscle substance. In other words, such phenomena may accompany neuritis and myositis. If the inflammatory process underlying each of these be limited to a strictly confined area, such as one or two nerves or a corresponding number of muscles, there will be very little danger of confounding the resulting condition with poliomyelitis, because the paralytic manifestations of poliomyelitis are rarely if ever thus confined. The problem is to distinguish between the paralysis and atrophy produced by poliomyelitis, polyneuritis, and polymyositis, the three conditions, which produce, on casual examination, similar phenomena. This is not difficult if it be kept in mind that the distribution of the paralysis and the atrophy is very unlike in the majority of cases of these three diseases. In poliomyelitis the paralysis and atrophy are usually limited to the muscles supplied by a certain group or groups of cells in one of the enlargements of the spinal cord. In multiple neuritis and in multiple myositis also, the paralysis and atrophy are confined to one or more extremities, and are likely to involve all the muscles of such an extremity, no matter what relationship these muscles have to the segments of the spinal cord from which their nerve supply comes. For instance, in polio-

myelitis accompanied by paralysis of one leg—let us say—one of the commonest occurrences is to have a paralysis of the extensor muscles of the foot, while the flexor muscles of the foot are relatively spared. In other words, the inflammatory focus has sought out the cells in the anterior horn from which the neuraxons going to the extensor muscles have their origin and has destroyed them, whereas a multiple neuritis which would cause a corresponding paralysis and atrophy of the leg, would be most likely to involve all the nerves of the leg, flexor and extensor alike, because the agency from which the multiple neuritis arose was probably conveyed to the nerves through the vascular system, and affects one and all of the nerves in the extremity alike. In the differentiation of multiple neuritis and poliomyelitis we have the very important sign that in the former there is almost invariably profound sensory disturbances, both subjective and objective, while in the latter there are no sensory disturbances after the acute manifestations of the disease have subsided, *i.e.* after the inflammation in the spinal cord has ceased to exist as an acute process. Of course, there are cases of motor neuritis in which the etiological factor, whatever it is, has confined itself almost wholly to the motor nerves, and in these cases the sensory disturbances are not very prominent. But even in these, the most important sign, viz., sensitiveness of the nerves to pressure, is invariably present. Therefore, in a case which presents the objective symptoms of poliomyelitis and multiple neuritis, the distinction is to be made by the presence or absence of sensory symptoms, subjective and objective. Moreover, in poliomyelitis, if the lesion is in or below the dorsal cord, there are often symptoms of sphincteric involvement and of vasomotor manifestations which are rarely if ever a constant accompaniment of multiple neuritis. If the problem be to distinguish multiple myositis, we have, as the most important symptom distinguishing the latter, more or less irregular swelling of the muscles that are the seat of the disease, the characteristic sensation which they produce to the touch, the irregular distribution of the inflammation in different muscles, and the very important different reaction which they give to the faradic current. In multiple neuritis, for example, the iritability of the muscle and nerve to the faradic current is less in proportion to the intensity of the inflammation. If the inflammation is so complete that the nerve is put out of commission, then the faradic irritability is entirely lost. This is not the case in multiple myositis. The faradic irritability is never entirely lost while there is any uninvolved muscular fiber remaining in the muscle. Myositis, whether single or multiple, is a diagnosis that is not very frequently made, and this, in face of the fact that it is of very common occurrence, much more common, indeed, than either neuritis and poliomyelitis. Many of the cases diagnosticated as neuritis, are in reality, cases of inflammation in the muscle substance, *i.e.* in the connective tissue part of the muscle substance. Some of these cases are diagnosticated as an excess of uric acid, as muscular rheumatism, as pleurodynia, as tender spots, as stiffness of the spine, etc. The clinical delineation of myositis, particularly in its simplest forms, has yet to be generally recognized.

When the peripheral neuron, *i.e.* the neuron extending from the spinal cord and its bulb to the surface of the body, degenerates slowly, it causes as its most conspicuous symptom a progressive muscular atrophy. If the seat of the lesion is the spinal cord proper, we call it a spinal progressive muscular atrophy, if in the medulla oblongata, we call it a bulbar progressive muscular atrophy or bulbar paralysis. If it is in the peripheral nerves, we call it neural progressive muscular atrophy, and if it is in the muscle substance itself, we call it a dystrophy. Now each one of these parts of the neuron is undergoing slow dissolution to constitute a chronic disease, doing it in a more or less characteristic way, and it is upon the recognition of those characteristics that the correct diagnosis depends. A more or less progressive atrophy of the muscles is the most conspicuous objective symptom of all of them, and a more or less corresponding progressive paralysis or functional inadequacy of the muscle is the conspicuous subjective symptom. In the case of the spinal muscular atrophies, the lesion is a gradual destruction of the cytoplasm of the cell-body and its dendritic processes, and the distribution of the atrophy corresponds to the situation and number of the cells involved. For instance, if the lesion is in the cervical enlargement of the spinal cord, the muscles of the hand and the upper extremities will show atrophy, if the lesion is in the oblongata the muscles of the lips, tongue, and larynx will manifest the atrophy, and in a similar way, if the lesion is in the lumbar enlargement of the spinal cord, the atrophy will appear first in the lower extremities. The essential point to remember is that the disease process is the same in each instance. If this one fact is kept in mind it contributes very materially to simplifying the diagnosis of the progressive muscular atrophies. One does not need to learn a different pathological description or etiology or prognosis or plan of treatment for spinal progressive muscular atrophy and for bulbar paralysis, because they are really the same disease, the only difference being that the seat of the disease is in different parts of the spinal marrow. The phenomena which they produce, it has been said above, are similar to those produced when the lesion is in the nerve itself, and not very unlike those resulting from a lesion of the termination of the neuron in the muscular substance, and the problem, therefore, is to distinguish between the progressive muscular atrophies dependent upon these three conditions. Now, what has been said in regard to the distribution of the atrophy in poliomyelitis, as compared with the distribution of the atrophy in multiple neuritis, applies just as truthfully to the distribution of the atrophy in the diseases under discussion, and, therefore, need not be repeated, though it needs to be emphasized because it is one of the important features in the distinction between the two diseases. Another symptom that is of great aid in distinguishing the progressive muscular atrophy of spinal origin from that of neural origin (a symptom that cannot be deduced from a consideration of the anatomy or physiology of the nervous system, and one, therefore, that must be learned by clinical experience), is that in the former, *i. e.* in spinal progressive muscular atrophy, the fibrillary tremor of the decaying muscles is a constant and almost pathognomonic symptom, while in its true form it never occurs in progressive muscular atrophy of neural origin. The distinction between the two diseases is further contributed to by an examination with the faradic current. In spinal progressive muscular atrophy there is a reaction of degeneration only in proportion to the amount of atrophy in the muscles, while in neural progressive muscular atrophy there is, if the disease is of any considerable intensity, an almost complete absence of faradic irritability. These features taken in conjunction with the presence of splanchnic symptoms in many cases of spinal progressive muscular atrophy and their absence in cases of neural progressive muscular atrophy, suffice to make the diagnosis. To distinguish either or both of them from the dystrophies, *i.e.* the form of progressive muscu-

lar atrophy in which the lesion is primarily in the actively contractile muscle substance, the point at which the neuron terminates, is easy in the majority of instances. In the first place, the latter is usually a family disease: it occurs almost always before adult life, and one variety of it, the commonest, is preceded and accompanied by voluminous enlargement of the outline of the muscle causing a spurious hypertrophy. There is no fibrillary twitching of the muscles, and there is rarely, if ever, any true reaction to degeneration to the electrical currents. Of course, when it comes to a differentiation between the three types of primary dystrophies, *i.e.* the type which is characterized by a spurious hypertrophy, the type which appears during the juvenile period of life, and the type in which the atrophy begins in or involves simultaneously the face and shoulder girdle, the matter is very different, and it is questionable whether the practitioner should be expected to make a differentiation. But once the dystrophy is recognized as such, then a consideration of its particular features will, if compared to the clinical descriptions given of the various forms in any of the text-books, lead readily to the differentiation.

Occasionally we encounter a patient who in addition to the objective symptoms of progressive muscular atrophy of spinal origin, has the phenomenon of spasticity, *i.e.* has an entirely new element added to the clinical picture, and this feature tends to befuddle the practitioner. Now, if the latter's knowledge of the rudiments of physiology be focussed upon the problem, however, this obscuration will quickly disappear. Everyone knows that the muscles are in a more or less constant state of tonicity, and this tonicity, which can be enormously increased by voluntarily contracting the muscle, is conditioned by the existence of some form of energy traversing the motor pathways from the beginning of the neurons in the cortex to their termination in the muscles. Anything that irritates these motor pathways naturally increases the tonicity of the muscles, and this stimulation becoming constant constitutes spasticity. Now, the motor pathways in the spinal cord are situated in the lateral parts of the cord, and when there is a disease characterized by trophic lesion of muscles we use the word amyotrophic to describe it, and if there is added to it the phenomenon of sclerosis in the lateral parts of the spinal cord, we call the disease amyotrophic lateral sclerosis. Amyotrophic lateral sclerosis has a very definite clinical course, quite unlike that of spinal progressive muscular atrophy. This alone is amply sufficient, even though there were no other reason, for calling it an entirely different disease, but it is not to that point that I wish particularly to draw your attention, but rather to the ease with which the disease is diagnosticated. Unless one himself has seen and watched a case of the disease, or unless he has recognized it and has had the course of the disease impressed upon his mind by reading about it, he naturally cannot have a knowledge of its clinical display, which makes it an entirely different disease from spinal progressive muscular atrophy. Progressive muscular atrophy plus spasticity of the extremities with its invariable coexisting phenomena, *i.e.* increase of tendon jerks, exalted direct myotatic irritability, the Babinski toe-phenomenon, *i.e.* simultaneous extension of the big toe and flexion of the small toes when the plantar surface of the foot is stroked with some rough object, such as the end of a match, are quite enough upon which to place the diagnosis.

In this connection I wish to say a word concerning the diagnostic significance of the Babinski toe phenomenon. Although there is a vast amount of literature on the subject, considering that it is scarcely seven years since Babinski called attention to its occurrence, I am inclined to believe that popular dissemination of it is still wanting, considering that it is as Babinski maintained, a sure means of differentiating certain organic lesions of the central nervous system from functional lesions which simulate them. For instance, it is oftentimes very difficult to say whether hemiplegia is hysterical or organic. The occurrence of the Babinski toe phenomenon makes it absolutely certain that it is not hysterical. In the same way it is often of the greatest importance in differentiating hysteria from disseminated sclerosis. As a matter of fact it may be stated positively that it never occurs in an individual above one year of age, who has not an organic nervous disease which implicates the upper motor neurons, *i.e.* the neurons extending from the cortex of the brain to their distribution around the ganglionic cells of the anterior horns of the spinal cord and oblongata. In infants up to one year of age, *i.e.* before the primary motor neurons are clothed with their normal myeline sheaths, the Babinski jerk is a natural possession. I make this statement knowing that occasionally there is a Babinski phenomenon after an epileptic convulsion, and occasionally in strychnin poisoning and in tetanus, but to these exceptions no attention need be given. The test is so simple and gives such important and valuable information that it should be made a part of the routine examination in all cases in which there are any symptoms of nervous disease.

Progressive muscular atrophy of spinal, neural, and muscular origin causes a complex of symptoms which is wholly motor. There are rarely any sensory disturbances, even the slightest. There is a disease of the spinal cord, however, which causes muscular atrophies plus distinct disturbances of sensibility. This disease is called syringomyelia, a compound word meaning a channel within the spinal cord. Syringomyelia is a disease that should be diagnosticated with very considerable readiness, because its recognition is almost entirely dependent upon the presence of muscular atrophy in one or more members of the body plus a peculiar disturbance of sensibility. This peculiarity of sensory disturbance consists in a relative preservation of tactile sensibility with blunting of pain and thermal sensibility. There are naturally many other objective symptoms that occur in syringomyelia dependent upon the seat and extent of the cavity formation within the center of the spinal cord. It is only within the past ten or twenty years that this disease has received the recognition that it merits. Even to-day the diagnosis does not seem to be made with anything like the same frequency here as it is abroad. For instance, in Strümpell's clinic in Erlangen, the statistics show that it is the third most common organic disease, disseminated sclerosis and tabes having precedence of it. In my own clinic for ambulatory cases only, it has been diagnosticated but 15 times during the past 7 years, during which time about 7,000 cases of nervous disease have been examined. In the same time 142 cases of tabes and 22 cases of disseminated sclerosis have been seen. It is a disease, however, that is often overlooked and there is very little doubt, I think, that the majority of the cases are classified as progressive muscular atrophy.

There is no disease in the entire domain of neurology that is so often incorrectly diagnosticated as the one known as multiple or disseminated insular sclerosis. In Great Britain and in all European countries it is one of the commonest organic nervous diseases, while in this country it is one of the rarest. This state of affairs is almost inexplicable on any other ground save the lack of recognition of

the disease on our part. It cannot be that the same race, existing under practically similar conditions in different countries, reacts differently to the cause of diseases. As a matter of fact, the diagnosis is probably never made in this country except, perhaps, by a few neurologists in any case in which the so-called cardinal symptoms—intention tremor, scanning speech, and nystagmus—are not present, and as these so-called cardinal symptoms are not present in the majority of the cases of disseminated sclerosis, it will readily be seen why the disease seems to be so rare in this country. I do not mean to be understood as saying that the apparent infrequency of the disease in this country is to be explained wholly by our failure to diagnosticate it. That accounts for the situation only in part, because when one is most alert to recognize it and is ready to include under the caption cases that are only suspected to be multiple sclerosis, even then the disease is relatively uncommon. All that can be said to the general practitioner concerning the diagnosis of disseminated sclerosis in patients who do not present the so-called cardinal symptoms, is that whenever an individual under 35 years of age, free from syphilitic infection, who has developed symptoms of any or all of the extremities without sensory disturbances, is encountered, the suspicion should be raised that he is dealing with a case of dessiminated insular sclerosis. If there should be added to this disturbance of vision which can be shown to be dependent upon atrophy of the optic nerves indicated by progressive pallor in the temporal portions of the discs, hurried action of the sphincters amounting at times to incontinence, or an ataxic tremor of any of the extremities, disturbances of articulation, ataxia of coordination, and especially if there are remissions in the course of the disease during which time the patient would seem to be getting well, the practitioner may be almost certain that he is dealing with a case of disseminated sclerosis. It is readily appreciated, considering the fact that the islets of sclerosis may be situated in any part of the central nervous system, that the symptoms which may result may parallel those of almost any organic nervous disease. For instance, if the patches of sclerosis affect principally the posterior columns of the spinal cord, the symptoms of tabes may make up the clinical picture. On the other hand, if they are situated in the anterior or anterio-lateral part of the spinal cord, the clinical picture may be that of amyotrophic lateral sclerosis or of lateral sclerosis alone. As a matter of fact probably more than two-thirds of the cases diagnosticated as lateral sclerosis are cases of disseminated insular sclerosis. On the other hand, if the islets of sclerosis are scattered more or less across the spinal cord, the clinical picture will be that formerly described as chronic myelitis and there is no doubt, I think, that nearly all of the cases formerly diagnosticated as chronic myelitis which were not the sequelæ of acute myelitis and other infectious disease, were cases of disseminated sclerosis. In the same way it is easy to understand that the disease may produce very bizarre symptoms, symptoms that do not conform in their grouping and other mode of display with any known organic disease. Likewise, it may be readily understood that the lesion of disseminated sclerosis may be so distributed that it will produce in the same individual and at the same time mental, emotional, and physical symptoms which cannot be interpreted as due to involvement of any definite part of the central nervous system. The recognition of this fact permits us to understand why it is so difficult at times to distinguish between disseminated sclerosis and hysteria which, by the way, is one of the most difficult distinctions the physician has to make. On an occasion such as this I can hint only at the necessity for making this distinction without entering into the details of both diseases. I venture to say, however, that within the coming decade disseminated sclerosis of the central nervous system will be very much better understood in this country than it is to-day.

To turn now to that form of progressive muscular atrophy which is dependent upon a lesion of the collection of cells or motor nuclei, from which spring the motor nerves going to the lips, tongue, and larynx, and which is commonly called glossolabiolaryngeal paralysis. As I have said before, the disease process and the clinical features of the disease are exactly similar to those of spinal progressive muscular atrophy, *i.e.* objectively they are made up of atrophy of the muscles, and subjectively, loss of function of these muscles. Anyone who will give the time to a consideration of what the symptoms should be in such a case, can easily portray them for himself, even though he has never seen a case of bulbar paralysis. Despite this, it is remarkable the number of cases of the disease that one sees that have never been diagnosticated. There are two conditions from which, however, this disease is not diagnosticated very readily; one is an inflammation of the peripheral motor nerves which have their origin in the medulla, bulbar neuritis as it is sometimes called, and the other is the disease known as asthenic bulbar paralysis. The history of a preceding infectious disease, the absence of fibrillary tremor, the absence of any symptoms of spasticity, and the comparatively slight atrophy might always tend to suggest the former. Asthenic bulbar paralysis is the name given to a complex of symptoms similar to those produced by gradual destruction of the motor nuclei in the oblongata constituting glossolabiolaryngeal paralysis, which symptoms often lead to a fatal termination, the most careful macroscopical examination of the nervous system, central and peripheral, failing to reveal any lesions to which the symptoms can be attributed. The disease is, therefore, sometimes known as bulbar paralysis without anatomical foundation. The first case of this sort to be recorded in this country was one published by myself in the *International Gazette* in 1894. The disease was first described by Wilkes in 1877 and by Erb in 1878, and popularized by Oppenheim of Berlin in 1887. Since then, a large number of genuine cases have been recorded. In lieu of giving a description of the disease, I shall read you the notes of a recent case.

The patient was a young woman 21 years of age, who noticed first when she was 19 years old, that her speech took on a nasal twang. Even previous to this time, however, she had remarked that she became exhausted after talking for any length of time, and that on such occasions her speech would become indistinct. The next symptom to develop was attacks of choking and coughing caused by the passage of particles of food into the larynx. The next symptom was occasional regurgitation of liquid through the nose. These three symptoms developed within six months from the time that she began to ail. A physician who treated her at this time said she had paralysis of the palate. She was constantly under treatment for nasal catarrh. She got gradually worse and people noticed that her speech became very thick and that her eyes were not right, especially that they did not close completely. About this time she began to complain of difficulty in opening her fingers especially when they were flexed. She had to struggle hard to get them open. She became very easily exhausted on comparatively slight efforts of walking and talking, and she noticed that

when she attempted to do any work it caused tremor or trembling of her hands. When she first came under my observation, on January 8, 1903, she complained of weakness of the deep muscles of the back, of diplopia, which she said was of about two months' duration, of numbness and jerky movements of her arms, especially when reclining, of heaviness of her head, of vertigo, of palpitation, insomnia, leg-weariness, occasional balooning of the abdomen, indistinctness of speech, difficulty in swallowing, attacks of spasmodic coughing and choking, a constant desire to expectorate, and of unwieldiness of the lips, face and tongue.

Examination showed a well-developed young woman of pasty complexion, mucous membranes rather pale, lines of the face obliterated, partial ptosis of both eyes, inability to obliterate the palpebral fissure on attempts to close the eyes, slight paralysis of the internal recti muscles of the right eye which caused a divergent squint. The facies of the disease is well shown by the accompanying illustration from a photograph (Fig. 1). Her facial appearance when she attempted to open her eyes wide is shown in Fig. 2. Vision of the right eye 20/20, left 20/40. Inability to pucker the lips. The tongue could not be protruded beyond the teeth and on continued effort in this direction was accompanied by irritation of the throat and desire to cough. During phonation the palate remained almost immobile, but the uvula was drawn to the right side, and the pharyngeal reflex was markedly diminished. There was no atrophy of the tongue or lips or of the face, and no fibrillary tremor. The reflexes of the upper extremities were about normal and the motor power of the hands and arms was diminished. The knee jerks were normal. The skin was dermographic. The sensibility all over was intact. The special senses were not impaired. The blood examination showed hemoglobin, 65 per cent.; erythrocytes, 5,505,000; color index, 0.6; leucocytes, 11,300. The differential count showed polymorphonuclear, 64 per cent.; lymphocytes, 22 per cent.; eosinophiles, 1 per cent. The blood stained well. There was considerable difference in size and shape of the cells with rather a prevalence of large cells. Polychromatophilia slight. There were no nucleated red cells, and no plasmodia seen. In other words, the type of the blood was that of a person suffering from a moderate chlorosis with a relative increase of the mononuclear elements.

In the upper extremities the peculiar reaction of nerves and muscles known as the myasthenic reaction, was easily elicited. This reaction, which was described by Jolly, consists of a normal response of the nerves and muscles where the faradic current is first applied, which response, however, rapidly exhausts. The neuromuscular apparatus regains its irritability after a short rest. The patient's symptoms fluctuated in intensity, being very much increased by everything that caused fatigue. She died in a state of exhaustion from dyspnea, the phenomena of bulbar paralysis having been intense for several days before her death.

Much experimentation with drugs was made upon her, the hypodermic administration of bichlorid of mercury, the administration of parathyroids, thyroids, etc., not having had the slightest effect upon her. An autopsy could not be obtained.

Asthenic bulbar paralysis, or myasthenia gravis, as it is often called, is a condition that the practitioner should have in mind when he meets a patient under thirty years of age, who presents symptoms of ptosis, inability to close tightly the eyelids, easily induced fatigue of the facial muscles or any of the ordinary symptoms of bulbar paralysis.

The diagnosis of intracranial diseases oftentimes presents the greatest difficulties with which we have to contend. The commonest intracranial lesion producing the phenomena is disease of the blood vessels, disease which eventually leads either to thrombosis or to rupture constituting apoplexy.

Fig. 1.—Facies in myasthenia gravia.

Fig. 2.—Myasthenia gravia; facial expression when attempt is made to open the left eye.

Much has been written concerning the means of differentiation of the three commonest causes of cerebral apoplexy, *i.e.* of embolism, thrombosis and rupture, but despite this it is frequently a very difficult differentiation to make, as a large number of autopsies in the City Hospital have convinced me. Nor can it always be made with anything like satisfaction from a history of the case and a consideration of the clinical phenomena of the disease. The foreshadowing symptoms of cerebral apoplexy are very much the same whether the apoplexy be dependent upon a thrombosis of the blood vessels or upon rupture of them, and in many cases there are no symptoms whatsoever, previous to the occurrence of the attack. It must be admitted, however, that these cases constitute the exception and that the symptomatology of cerebral arteriosclerosis and cerebral endarteritis has yet to be adequately written. We are told that vertigo, headache, forgetfulness, insomnia, a feeling of apprehension, are the most conspicuous symptoms of cerebral arteriosclerosis. It is probable that they occur when the sclerosis is most developed in the basilar artery and its immediate branches; but when

the process is rather generalized these symptoms do not, by any means, constitute the clinical picture.

As a matter of fact, the symptoms of neurasthenia, somatic, mental or splanchnic, occurring in an individual who has physical evidences of arterial degeneration manifested by increased blood pressure as determined by any of the various blood-pressure apparatuses, thickening of the walls of the blood vessels determined by palpation, and especialy if associated with tachycardia or bradycardia, a deficiency in the elimination of solids manifest by a continued low specific gravity of the urine, oftentimes the existence of granular casts, mild cardiac hypertrophy and well-marked accentuation of the second sound are in reality the symptoms of arterial sclerosis and should lead to the diagnosis of this condition in the vast majority of instances.

The most desirable equipment for the diagnosis of cerebral apoplexy is an intimacy with Bright's disease. The term Bright's disease is, in the mind of nine-tenths of us, synonymous with a primary disease of the kidney, such as acute exfoliative nephritis. In reality this is not Bright's disease at all as the term is now being employed. It would be desirable to drop the term Bright's disease altogether, but as this is impossible, we must teach our successors to use it only to designate a systemic disease caused by the presence of toxins of different origin in the circulation. It is complicated now and then with kidney disease, but it is by no means a necessary acompaniment, and the kidneys are probably not oftener involved (not nearly so often in my own experience) than the brain.

It is not my purpose to dwell here upon the etiology or most probable pathogenesis of this systemic disease. In the first place it is not germane to the subject, and in the second place I have it under consideration in another connection. It is my desire, however, to emphasize the fact that if arterial fibrosis in all its phases was recognized, many diseases, both mental and nervous, would lose their obscurity.

I shall probably succeed better in conveying to you the manner in which arterial sclerosis often presents itself to the neurologist, by citing a few cases rather than by discussing the subject academically. For instance, let us take the case of a lady 57 years old, who, when she was 50, had an attack very similar to that for which she consulted me, and another when 56. When she came to see me in February, 1904, she said she was troubled with her head, but it seemed as if there was some power or perhaps voices that permitted her to say or do things which she did not want to, and which she was convinced was not proper for her to do. The constant struggle against the dominion of this power or voices had exhausted her. She suffered a great deal from insomnia, from loss of physical energy, and her peace of mind was much disturbed. A year before coming to see me she had had a similar attack, but that lasted only two or three months. In the summer of 1893 she had had occasional attacks of vertigo and considerable daily headache, but she did not attach much importance to these symptoms. Her present symptoms began rather suddenly in January, 1904. She was sitting at the table at noon time and experienced a sensation as though some one had struck her on the head. She knew that this was the beginning of her "nerves" as she calls them.

Her complaint was that she tired easily, that she had no peace of mind. She is not quite sure that what disturbs her are voices, but she is constantly being prompted to do something contrary to her wishes. If she decides to go to church, to go shopping or to come to see me, something like a voice impels and argues and threatens with her in order to keep her from going. To use her own language: "All the time I am trying to fight it off, but they seem to make me give in and I get very little peace. They tell me about ordinary things that I should do and say. For instance, this morning on my way here, they argued with me and tried to convince me that I should not come. It is a terrible thing, and I can't stand it any longer!" She is not constantly depressed, but she often cries, particularly after these voices have been very troublesome. She has a great deal of difficulty in sleeping, sometimes difficulty in going to sleep, and oftentimes great difficulty in staying asleep. She complains of a feeling of weight on the top of her head, of an empty sensation in the head, of loss of ambition, of lack of interest in her family, and in things that previously absorbed her. Her weight is about ten pounds under normal, and there was a history of considerable polyuria.

Examination revealed a blood pressure of 160 with the Stanton apparatus, small, rather feeble pulse, thickened blood vessels,, accentuated second sound. The urine showed a specific gravity of 1,008, 2,000 cc. per diem, hyaline and a few granular casts. The diagnosis of arterial sclerosis was made and the patient put under the appropriate régime and medical treatment which she continued for some months with considerable benefit. Her family were apprised of the condition and the danger of apoplexy, but as soon as she improved in her most distressing symptoms, treatment ceased. About a year after I saw her I received a letter from her husband in which he said that the patient had a short time previously suffered a stroke of apoplexy. There were no symptoms previous to the attack. She appeared to be as well as usual when she came down to breakfast. Her daughter, who was breakfasting with her, went out for a few minutes and upon her return found her mother stooping over trying to lift the morning paper from the floor, which had fallen out of her hands. She did not loose consciousness, but her speech was indistinct for about an hour. The right arm was partially paralyzed, and the right leg almost wholly paralyzed. Many such cases could be cited if anything were to be gained.

In some instances the attack of apoplexy comes on abruptly and without any warning symptoms whatsoever even though the arteriosclerosis upon which the rupture of the vessel is dependent is most extensive and has renal complications. In illustration of this, I cite briefly the following case: A male negro, 46 years old, was brought into the hospital in an unconscious state. His wife stated that she had never heard him complain of illness, and that he worked steadily. He had gone out after supper to do an errand, was stricken in the street and soon became unconscious. Examination showed that the urine was heavy with albumin, that it contained granular and hyaline casts, that the heart was enlarged upward of a half inch beyond the nipple line, its action irregular, and that a double murmur was to be heard over the aortic area. The left half of the body was partly paralyzed. Blood pressure with the Riva Rocci apparatus was 185. The following day the patient was still unconscious, the left hemiplegia complete and he had incontinence of urine. The next day, in addition to these symptoms, he had the phenomena of collapse, the blood pressure fell, and the following day he died.

The autopsy showed in addition to the extensive generalized arterial sclerosis with the ordinary secondary changes in the heart, an extensive hemorrhage into the right lateral ventricle, which was the cause of the coma, hemiplegia, and death. The ac-

companying illustration, Fig. 3, shows the right lateral ventricle, the floor of which is lacerated from the hemorrhage which involved the corpus striatum and the optic thalamus.

The reason why it is so necessary to make the differential diagnosis between apoplexy produced by thrombosis and that produced by rupture of a blood vessel is that the appropriate treatment for the one is very much unlike that for the other. I know of nothing that will contribute more to a correct differential diagnosis than the use of the blood-pressure apparatus. This is an instrument which should be in quite as constant use as the stethoscope, and the clinical thermometer. It is inexpensive, portable, and requires no experience in order to use it effectively, and the result of its measurements can be relied upon. Notwithstanding our experience, all of us are often in error concerning the existence of increased blood pressure when we rely for its detection upon the sense of touch alone. Of course, I do not mean to say that the early diagnosis of cerebral arterial sclerosis and cerebral endarteritis hinges upon the readings of the blood-pressure apparatus, what I do mean to say is that the recognition of this

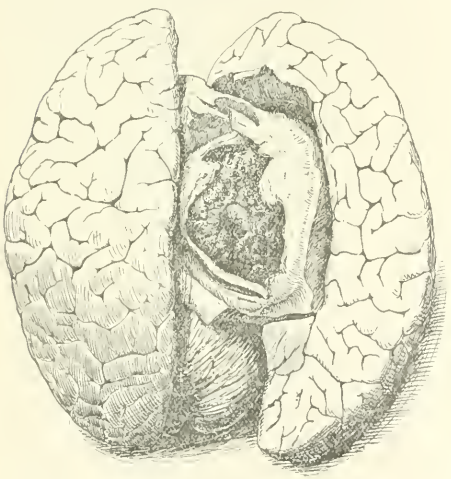

Fig. 3.—Hemorrhage into the lateral ventricle; viewed from above.

disease is tremendously facilitated by its intelligent use. When the attack comes that these diseases herald, then the differential diagnosis is difficult enough to permit us to reach out for any aid at hand. Amongst these the blood-pressure apparatus is one. When the apoplexy is dependent upon the rupture of a blood vessel, the blood pressure almost invariably falls, and this fall in the arterial pressure keeps up for a variable period from a few hours to one or two days, after which the blood pressure gradually increases until it measures, let us say, 200 on the Stanton apparatus, or 250 on the Riva-Rocci, until it reaches the degree that existed previous to the rupture of the blood vessel. On the other hand, in apoplexy due to cerebral thrombosis, the blood pressure does not fall during the apoplectic attack or soon after; it may, however, be fairly low for some days after the attack, and continue low for an indefinite period.

The most difficult task in my teaching in a graduate medical school, is to convince those to whom I demonstrate the diseases of the nervous system and the morbid pathology upon which they are dependent, that there is such a disease as acute parenchymatous inflammation of the cerebrum similar to acute tonsilitis, acute pneumonitis, acute pancreatitis, acute orchitis, or any other acute inflammation of a viscus, to which the name acute encephalitis is given. Particularly difficult do I find it to portray in a convincing manner to them that there is such a disease as acute nonsuppurative encephalitis, which is often confined to comparatively narrow parts of the cerebrum and especially of its cortex. From my intercourse with such graduates I venture to say that the diagnosis of acute nonsuppurative localized encephalitis is rarely or never made by the general practitioner. Still, it is not a very uncommon disease. It is much more common than sporadic meningitis for which it is often taken. If we exclude from the category of meningitis all the cases due to the intracellular diplococcus, the tubercle bacillus, and the toxin of syphilis, there will be very few cases of meningitis left. As a matter of fact, the cases that are considered to be meningitis, are, many of them, cases of encephalitis. For instance, I will cite the most recent case of encephalitis which I have seen. The mother states that when her child was 13 months old, and had already accomplished considerable in the way of walking and talking, it suddenly became ill, was nauseated, vomited, irritable, and restless. When the doctor came he said the child had a high fever. That night the child had general convulsions and after this was stuporous and unconscious for about two weeks, when it gradually regained consciousness, but went into a condition which the mother characterizes as one of being limp all over. Gradually it grew better, but as it grew stronger it was noticed that there was a slight paralysis on the right side of the body. The child was brought to the clinic because of an occasional epileptic fit which he has now at the age of 11 years, the first of these having shown itself when he was 7 years old.

It would not seem difficult to interpret the sequence of events as they developed in this child by assuming an acute infectious inflammation within the cranial cavity which rapidly confined itself to a limited space in the motor area of which the initial convulsions were the expression. The disturbances of the intracranial circulation, not only in the areas where the inflammatory exudation was, but throughout the entire intracranial contents caused the prolonged coma or unconsciousness, while the protracted prostration and general flaccidity resulted from an interruption of the transmission of sensory impulses to and motor impulses from the cortex. Finally, the slight hemiplegia and occasional epileptic attack, depended upon the destruction of certain neurons in the cortex of the hemisphere and upon the sclerosis or scar tissue, the sequela of the inflammation. Even though there had been such symptoms of meningitis present as stiffness of the neck or opisthotonus, transient strabismus, projectile vomiting, wiry pulse, and other phenomena which are put down in the books as very significant, the fact that the symptoms mentioned before existed, would still suggest and justify the diagnosis of encephalitis. The fact of the matter is that the diagnosis of meningitis is often to be made from a consideration of the clinical symptoms, but when there is any doubt about the diagnosis, the practitioner should call to his aid the information to be obtained from a lumbar puncture. There should be no more hesitancy about making a lumbar puncture than there is about putting a small exploratory needle into the pleural cavity, and probably no one hesitates to confirm or deny the suspicion of pleural exudate by thrusting a small needle between the ribs. Lumbar puncture has come to be an almost routine method of investigation in my hospital practice, and

I have never seen any untoward results from it. Before leaving the subject of meningitis, I wish to say a word about the most important objective symptom, Kernig's sign, the essential of which is a contracture of the flexor muscles of the lower extremity, especially the thigh, and which shows itself best when an attempt is made to straighten the leg at the knee on a semiflexed thigh. It is now more than twenty years since Kernig first called attention to this phenomenon, and stated that it was pathognomonic of meningitis. Perhaps it is because of our great familiarity with the various forms of meningitis due to its commoner occurrence that Kernig's sign has only recently had the attention it deserves, although it is not pathognomonic of meningitis, since it has been shown to be present in such disease conditions as sciatica, cerebral or cerebellar hemorrhage, hysteria, and in certain toxic conditions that simulate meningitis (meningismus) it has real diagnostic importance and occurring in conjunction with other symptoms of meningitis it tends to make certain the diagnosis.

The diagnosis of suppurative encephalitis, *i.e.* of brain abscess because almost invariably the suppurative inflammation is circumscribed, is a very difficult matter and in the majority of cases it can only be surmised, or based upon the existence of a previous suppurative inflammation of the middle ear and perhaps of mastoid involvement as well. It is the one intracranial disease which at the present time offers a sufficient inviting field for the surgeon to make him in any way enthusiastic about intracranial surgery, but unfortunately, the difficulties surrounding satisfactory localization of the brain abscess are so great that but few of them are successfully operated upon unless the abscess is situated in the motor region of the brain or unless it confines itself somewhat narrowly to the first temporal lobe of the left side. The reason for this is readily understood when we consider how remote and far-reaching the effects of a suppurative inflammation within any viscus may be, *i.e.* how easily it is for these sypmtoms to obscure those symptoms which are said to be pathognomonic of the disease itself. I have recently had a case in my hospital practice that illustrates the truth of this statement abundantly. A widow, 37 years of age, came into the hospital complaining of pain in the head and in the left side of the face. Three months before coming into the hospital she had an abscess on the right side of the face, *i.e.* an alveolar abscess involving the antrum. She had some teeth drawn at that time and the abscess was treated in another hospital. Before that she had had the headache of which she now complains. She does not remember just when they began. She says that a year before she used to have fainting spells and had pain in different parts of her body and felt stiff in the chest. In addition to the pain in her head and face she complained of vertigo, of occasional vomiting, of hot spells every few minutes in the head and the upper part of the trunk, and of exquisite tenderness on the top of her head, especially the right side. Aside from a tender spot in this location and tender spots on deep pressure in different parts of her body, there were absolutely no physical signs. The optic discs were normal, there was no paralysis or impairment of motility, no alteration of the tendon jerks, in fact, there was not a single objective sign. The temperature was normal, pulse 72, blood pressure 120. She grew steadily worse from day to day, complaining bitterly of pain in the left side of face and head, and moaning and groaning constantly. After about a week, a small puffy tumor was detected over the seat of tenderness on the scalp. A needle thrust into this revealed the presence of pus. It was then laid open and a search made for its origin without finding it however. The autopsy made one week later revealed a focus of suppurative periostitis, a small area of suppurative pachymeningitis, but no evidence of disease of the brain.

The fundaments of cerebral localization are essential to every practitioner. A knowledge of them can easily be acquired in ten minutes. If one learns to draw the relative positions which the fissure of Sylvius and the fissure of Rolando have in the hemispheres, he has no difficulty in acquiring the essential facts of cerebral localization. These facts are not only of the greatest importance in assisting in a satisfactory diagnosis of cases of brain tumor and abscess, but they permit of a satisfying interpretation of the ordinary case of aphasia. In order to put before you convincingly the results of the simple application of the rudiments of localization, I cannot do better than by quoting the following case:

A young man twenty-five years old came to the clinic to seek relief from epileptic attacks which he had had during the past two years. His history was that he had had syphilis when he was twenty one, for which he received some treatment, and he married when he was twenty-four. In addition to the attacks of epilepsy, which I shall describe in a moment, he complained that his head felt light and dizzy most of the time. He made no complain of headache but occasionally he said there was a pain over the left eye, nor was there any history of vomiting, disturbance of vision, or locomotion. His wife's description of the attacks which he has is as follows: "His eyes get large and wild looking, he jerks his shoulders and lifts his left hand up toward his heart, then he shakes like all over, but the left one shakes most when he is coming out of the attack. He is unconscious for about half an hour, sometimes longer. He drools, but he does not froth at the mouth. When he comes out of an attack he goes into a doze. At night when he is asleep he is always twitching and he often awakens and asks if he has had an attack. The first one he had was in his sleep. Sometimes I find his pillow wet in the morning even though he has not had an attack so far as I know." His own account of the attacks is that he suddenly, without warning, is conscious of a vile smell and this lasts for from one to ten minutes. Then suddenly everything gets dark around him and he loses consciousness; he never has an attack in his waking moments without the olfactory aura that I have just mentioned. The fact that the hippocampus and uncinate gyrus is the center for the sense of smell, that the young man had syphilis, and the fact that he had none of the somatic features of epilepsy, led me to diagnosticate a gumma of the uncinate gyrus and to urge him to go into a hospital for treatment. I urged this particularly upon him as an ophthalmoscopic examination showed beginning choked discs on both sides. To-day he is completely restored to health. He has no attacks of any sort nor has he had for upward of five months, and all his symptoms have disappeared. The treatment administered was large doses of bichloride of mercury hypodermically, and a drachm of iodide of potassium three times a day.

A working knowledge of the facts of brain localization consists in the recognition of the fact (1) that the motor area of the hemispheres is situated just in front of the fissure of Rolando, and extends from the top to the bottom of that fissure. The part of the motor area that is in front of the top of the fissure, presides over the movements of the trunk and leg; that in front of the middle one-third of the fissure presides over the upper extremity, viz., the shoulder,

elbow, wrist, and fingers, named in the order of their allotment from above downward, while to the part in front of the lower one-third of the fissure is alloted the centers for the face and its various components. Now, if a patient has an attack of convulsions in which the initial spasm or twitchings are confined to a definite part of the body, let us say the fingers, a knowledge of the fact that the area for the fingers is situated just in front of the fissure of Rolando at the junction of its middle lower third, will lead us to seek for the lesion at this spot and in the hemisphere on the opposite side of the body to which the convulsions are manifest. The nature of such a lesion, whether it is a tumor, abscess, fecal sclerosis, vascular lesion, etc., must be inferred from the history of the disease and from the general symptoms.

(2) The next most important point to remember about cortical localization, is that the part of the brain which interprets sensory perceptions is that immediately behind the fissure of Rolando. (It should be said here that many neurologists believe that the central convolution behind the fissure of Rolando also participates in the motor allotment, but the trend of opinion seems to be toward limiting the motor allotment to the ascending frontal convolution.) The limitations of sensory localization to the cortex of the brain have never been adequately worked out and the practitioner can expect but little information concerning the location of any lesion in the brain from a consideration of the sensory symptoms alone, unless it be from that sensory symptom which is known as astereognosis. Astereognosis or loss of the capacity to recognize objects from the various sensations which the object produces when it is placed in the hand, may be an important symptom of cerebral disease pointing to involvement of the parietal convolution just behind the fissure of Rolando. (3) It must needs be a matter of common knowledge that a large part of the surface of the brain is taken up with the allotment of centers which preside over the faculty of speech. At one time it was thought that the speech area was a small center situated at the base of the third frontal convolution, oftentimes spoken of as Broca's area because of the French physician who first called attention to the relationship between diseases of this area and disturbances of speech. For a long time, however, it has been well known that the speech centers occupy a large area on the lateral surface of the brain, and that in right handed individuals it is made up of the base of the left third frontal convolution, almost the entire first temporal convolution, and a very considerable part of the inferior parietal convolution; and that in left handed persons a similar area exists on the right side of the brain. In this area there are three distinct centers. The center for articulate memories, which is situated in the third frontal convolution, the center for auditory memories in the first temporal convolution, and the center for visual memories in the angular gyrus or posterior end of the inferior parietal region. It naturally follows that a person who has lost the memory of the articulation of words has a lesion at the foot of the third frontal convolution; one who is word deaf, has a lesion in the superior temporal convolution and one who is word blind, has a lesion in the angular gyrus. In addition to this it must be kept in mind that the posterior poles of the brain, the cunei, as the wedge-shaped ends of the occipital lobes are called, are the eyes of the cerebrum. They act as the mirrors to which the retina sends images, each cunei being the cerebral mirror, as it were, for a half of each eye. When a cuneus is therefore the seat of disease, there will be blindness of one half of each eye, and this blindness is called homonymous hemianopsia. If, in any given patient with symptoms of cerebral disease any of these gross objective symptoms are elicited, a comparatively small familiarity with the facts of cerebral localization will readily lead to the localization of the disease. It is not at all necessary to have a comprehensive understanding of the complex anatomical arrangement of the different components of the central nervous system. It is not necessary even to have a profound knowledge of the physiology of the brain in order to satisfactorily localize the commoner lesions of the cortex. When the disease affects the interior of the brain, or when it involves the basal ganglia and the numerous small but all-important structures at the base of the brain, then the topical diagnosis is oftentimes difficult and occasionally impossible.

In conclusion I wish to say that the diagnosis of nervous diseases is almost wholly dependent upon observation and interpretation. Some nervous diseases can be diagnosticated from a consideration of the patient's statements alone, but the physician who relies upon such data in order to make a diagnosis must very often err, no matter how great his experience or how profound his clinical acumen. If patients who suffer from nervous diseases are subjected to well-known methods of examination and the results of such examinations recorded and then thought given to their interpretation, particularly in the light of the time and way in which they occurred, there are scarcely any of the ordinary organic or functional diseases of the nervous system that will not readily be recognized. As was said in the beginning of this paper, the reason why nervous diseases are considered to be a strange country by the general practitioner, is (1) because there is an inherited conviction that such diseases are extremely obscure; (2) because there is an acquired conviction that in order to unravel the intricacies of such diseases, a comprehensive knowledge of the anatomy and physiology of the nervous system is required; and finally, because many physicians do not take the trouble to acquaint themselves with the simple methods of testing for the existence of nervous disease. Any medical man who will put himself outside of these three limitations or obsessions, will have no more difficulty in dealing satisfactorily with nervous diseases than he has with any other disease in the province of internal medicine.

37 West Fifty fourth Street.

## A CASE OF LARYNGEAL DIPHTHERIA, NECESSITATING INTUBATION, COMPLICATING CEREBROSPINAL MENINGITIS IN AN ADULT.*

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The object of reporting the following case is to demonstrate that cerebrospinal meningitis and true diphtheria may consist in the same patient and that the respective bacilli are not necessarily antagonistic one to the other. The importance of recognizing the fact of this coexistence comes with great force at the present time, since during the recent epidemic of cerebrospinal meningitis in and about New York the assertion gained some credence that the two diseases could not occur together, and—based upon this assumption—the treatment of cerebrospinal meningitis by injections of antidiphtheritic serum

* Read at the twenty-seventh annual meeting of the American Laryngological Association, June, 1905.

was extensively indulged in, with the hope that a true specific might be at hand. Unfortunately, the results of the treatment were such that at present it has been practically abandoned, with a consensus of opinion that it had no appreciable effect on the course of the disease.

Seemingly this should prove that the two diseases are separate entities, but a stronger proof is afforded, I think, when we can find the two diseases actually existing at the same time, as was stated in the outset of this paper, and which the history will sustain.

The patient was a married woman, aged twenty-seven years, first seen by me in consultation January 10, of this present year. She had been ill for twenty-two days, beginning with symptoms which finally terminated in a well-marked case of cerebrospinal meningitis, having all the classical phenomena, namely, eruption (which occurred December 30), hemorrhagic in certain areas, stiffness of neck, prostration, restlessness, photophobia, delirium, Kernig's sign, exaggerated reflexes, small feeble pulse, irregular and elevated temperature, and facies typical of meningeal involvement.

On January 9, the day previous to my first seeing her, and while she was still in the midst of her cerebrospinal symptoms, she complained of hoarseness, some croupy cough, and beginning laryngeal dyspnea. These symptoms steadily continued to increase, so that at the time of my first examination, January 10, they were pretty well advanced. On examining the larynx at this time I found the entire lumen filled with a distinct thick membrane, markedly impeding respiration, and peculiarly limited above by the arytenoid cartilages, there being no membrane at this time, or subsequently, in the pharynx.

The membrane had all the characteristics of being diphtheritic in nature, and I attempted to take a laryngeal culture, but owing to the increased dyspnea which the effort produced I was only partially successful and the culture proved to be negative. The laryngeal dyspnea continued in severity to that extent that within a few hours after my examination intubation became necessary. This was successfully performed and gave marked relief to the difficult breathing.

The following day and again subsequently large pieces of membrane were expelled through the tube, from which pure cultures of the Klebs-Loeffler bacilli were procured—thus confirming beyond question the diagnosis of laryngeal diphtheria. The tube was removed at the end of the fifth day, and during the time it was *in situ* there was complete relief from the dyspnea. Examination of the larynx after extubation showed some redness and swelling about the superior portions of the larynx. Hoarseness, cough, and some spasmodic breathing occurred during some days following extubation, but at no time was it considered at all necessary to reintubate, nor was there any subsequent appearance of membrane.

Immediately after the first laryngeal examination —January 10—antitoxin was administered by injection and was continued until January 19, 30,000 units being given within that period.

Inasmuch as this case occurred at the time when the treatment of cerebrospinal meningitis by the injection of antidiphtheria serum was being advanced, the effect of the administration of the serum on the cerebrospinal symptoms was most carefully watched and recorded, and without going into detail, which is not within the scope of this article, I may say that the opinion of those immediately in attendance was that there was no appreciable effect produced on the course of the cerebrospinal meningitis. On the contrary, it was during the administration of the serum, and also after it was stopped, that lumbar puncture was performed, in all, three times—January 13, 22, and 26, there being drawn off respectively two ounces, one ounce, and ten drachms. In each instance was found the characteristic meningococcus intracellularis. It is possible to suppose that if diphtheritic antitoxin was in any way antagonistic to cerebrospinal meningitis its administraton would show ts effects in the destruction of these characteristic cocci.

There were times after the onset of the diphtheria and during the administration of the antitoxin when some of the cerebrospinal symptoms seemed to modify, especially in the occasional mental clearness and stiffness of the neck, but these changes, together with marked irregularity of heart action, were no more than occur in uncomplicated cases of cerebrospinal meningitis. The subsequent progress of the case was marked by the continuance of irregularity of heart action, irregular and high temperature, and the development of pneumonia, death occurring on January 26, apparently of heart failure, being thirty-eight days from the beginning of her illness and seventeen days after the onset of the diphtheria.

No autopsy was held.

The importance of making a laryngeal examination in this case, and in all acute cerebral diseases, at the onset of laryngeal symptoms cannot be too strongly emphasized, for had not an examination been made in this instance at the very outset, the patient would surely have succumbed to acute laryngeal obstruction, and the death might have been attributed to pressure symptoms due to extension of the cerebral lesion. That the degree of the diphtheritic involvement was extensive is shown in the production of such marked stenosis, for we know that it is comparatively rare for diphtheria in the adult to produce sufficient laryngeal obstruction to require operative interference.

It was not my intention in the recital of this case to enter at all into its minute detailed history, but only to record the coexistence of the two diseases with such other data as would naturally be considered. A most complete bedside history is on file, which may be consulted.

I wish to acknowledge the kindness of Dr. John S. Thacher of New York, to whom I am indebted for being called in consultation, and through whose courtesy I am permitted to make this report; also to Dr. A. J. Brown of the Presbyterian Hospital, for his assistance in preparing the notes.

## GALL-BLADDER SURGERY.*

By T. C. KENNEDY, M.D.,

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This is certainly the age of surgery, and in calling your attention to the rapid advances that have been made in the surgery of the upper abdominal zone, I want to express the hope that we may not see the pendulum swing to that extreme that a few years ago was the case in appendicitis and diseases of the ovaries. The rage for doing appendectomies and ovariotomies went too far, and it is now feared by many that cholecystectomies and cholecystotomies may also be overdone. In many cases of disease of the gall-bladder we must resort to operative procedure, but we must be diligent in our search for those cases that will yield to internal medication and treat them rationally with complete relief to the patient. It has been advocated by some surgeons when doing an abdominal section that the appendix should always be removed, whether diseased or not, and before long

* Read before the Surgical Section of the Indiana State Medical Society, West Baden, Ind., June 8, 1905.

some enthusiast will advise us always to do a cholecystectomy when operating in that region. The first thing of importance is to get a complete history of the case, as the diagnosis must largely depend upon our knowledge of the number of attacks, the kind of pain, and the condition of the stomach and pancreas. A careful examination should be made of all the other organs, as we must differentiate between cholecystitis and appendicitis, renal colic, duodenal or gastric ulcer, and pancreatitis. Very frequently it is impossible to make a diagnosis of the exact condition, but we are called upon to decide whether it is a case that will yield to medicinal treatment or is one that can be cured only by an operation. An exploratory incision will reveal the character of the operation necessary, and the operator must be prepared to do a cholecystectomy or cholecystostomy if the indications call for it. Many cases of gall-bladder disease have been loosely diagnosed as gastritis, indigestion, dyspepsia, gastric catarrh, or neuralgia of the stomach, and after being treated by one physician and getting no relief from the suffering, the patient drifts to another physician, who calls the trouble by another name, but treats it with the same result. We must look to the general practitioner for a diagnosis in these cases, as the patients always go to him first, and if a careful study of the case is not then made, the true seat of the disease may be overlooked. A great many of these patients are permitted to drift along, and will only consent to an operation when they regard it as the last chance, and when they reach the operating table they are many times in an almost hopeless condition, and then have to endergo a much more severe operation than would have been necessary in an earlier stage of the disease. Kehr says: "The slight danger of an early operation stands in no sort of relation with the great danger of the disease itself."

Another thing the surgeon frequently has to contend with in these old, long-standing cases, is the morphine habit. These patients invariably do badly, and are the source of great concern; they have extreme nausea, take insufficient nourishment, have obstinate constipation, and oftentimes collapse suddenly. It is my invariable rule to refuse operation on a patient whom I know to be a confirmed user of morphine. In obtaining the history of these patients, it may be impossible to ascertain the true condition of affairs. While admitting that they take the drug to relieve the seizures of pain, they deny strenuously that they ever take it between the attacks. I want to impress upon the minds of the general practitioner the great importance of informing the surgeon of this habit if it exists. The mild cases of inflammation of the gall bladder are very difficult to differentiate; these are the cases that are diagnosed as stomach trouble, especially when there is vomiting, after which the patient feels better; then we have the cases that simulate appendicitis so closely that they may be mistaken for that disease, and still further to add to the confusion, we may find both diseases existing at the same time, as I did in a case which was referred to me recently. Ochsner and La Place have reported cases in which they found suppuration coexisting in the appendix and gall-bladder. In many cases it is difficult to differentiate between a cholecystitis and cholelithiasis, and Rolleston goes so far as to say that the distinction is an artificial one; while Mayo Robson contends that cholecystitis or chronic catarrh of the gall-bladder without jaundice forms a separate, distinct, and definite disease.

It is not my desire, however, to deal with the symptomatology or pathology of gall-bladder diseases, but to take up more particularly a few important points in the operative procedure. It is impossible to tell in any case what operation may be necessary, but fortunately for both the operator and patient a simple cholecystostomy is all that is necessary in the greater number of cases; however, it may be necessary to do a cholecystectomy or a choleystenterostomy, and the operator must be prepared for every emergency. I have adopted the incision of Bevan, the lower end of the vertical incision being carried outward and the upper end upwards and inwards. I have never found that the long incision complicates recovery, or tends to hernia, if proper care is taken in stitching the wound. The incision should be long enough to enable the operator to make a careful examination of the gall-bladder and the bile tract. I generally make an incision about three inches long and extend it as much as is deemed necessary. I saw Kehr operate upon one case in which the incision seemed to be at least ten inches long. I have never had a postoperative hernia in these gall-bladder cases. A fistula will not result if there is no occlusion of the ducts and we are careful to stitch the gall-bladder to the aponeurosis. The most important thing in gall-bladder surgery is thorough drainage; I believe better results will be obtained in all cases that are drained, and I now invariably keep up the drainage until the inflammatory process subsides. The operation of shoice is cholecystostomy; the tendency is more and more toward cholecystectomy in all cases, but I think this should be practised only when there are positive indications. Deaver says: "I believe the gall-bladder is an essential part of the hepatic apparatus, otherwise nature would not have made it, and being a great respecter of nature, I am very slow to oppose her; while on the other hand, I do believe that the cure obtained by the judicious application of the aseptic scalpel of the surgeon in many cases excels nature's cure. I entertain the same view in connection with the appendix, as that recently exploited by Sir William Macewen, who has given his opinion that the appendix has a valuable function as a part of the digestive apparatus. I have always thought it unwise, yes, I may say meddlesome, on the part of surgeons to remove the appendix in performing an abdominal operation for some other trouble simply because the appendix was so accessible, and I entertain the same view in connection with the gall-bladder."

It is now generally conceded that cholelithiasis is a surgical disease and the stones cannot be dissolved by medicines, although Richardson says: "It is evident, then, that by administering sodium glycocholate, it must be possible not only to prevent the formation of gallstones, but also to dissolve those that have formed." Brockbank says that "not one new remedy of any great value has been discovered in the past one hundred and fifty years." I want to give a short report of a few cases here:

Case I.—I was called to see Mrs. S. about midnight of August 26, 1904. She is 64 years old, the mother of eight children. I obtained the following history: In 1899 she had a severe attack of typhoid fever and was confined to her bed eleven weeks. In May, 1900, she was seized with severe pain in the stomach, which lasted for about one-half hour; the pain was followed by vomiting; these attacks occurred during that year three or four times; one attack was accompanied by a slight jaundice; the appetite was always bad for several days after these attacks. The attending physician pronounced it neuralgia of the stomach, and gave a hypodermic of morphine to relieve the suffering. She had these attacks at intervals of a few weeks; once she went for four months without an attack; when she congratulated herself that she was cured. At the time of my visit she was suffering excruciating pain in her

stomach and back; she had a temperature of 101°; the entire upper abdominal zone was tender on pressure, but the greatest tenderness was found over the gall-bladder. A diagnosis of gallstones was made, which she did not accept readily, as her case had always been pronounced neuralgia of the stomach. She refused operative procedure, which was advised, and I resorted to all the known remedies, such as olive oil, phosphate of sodium, salicylic acid, etc. After a trial of three months she finally consented to an operation, which was performed November 10, 1904. Upon making an incision through the upper rectus muscle, I found the gall-bladder somewhat contracted and greatly inflamed; upon incising the gall-bladder I removed 102 stones. No stones were found in the duct. A drainage tube was placed in the gall-bladder; the gall-bladder was stitched to the aponeurosis, and the abdominal wound was closed by through and through sutures. As my assistant remarked, she never had enough symptoms after the operation to make it interesting, and she made an uninterrupted recovery: the appetite has been good; the stools of normal color and no constipation; there has never been any return of the symptoms.

Case II.—Mrs. Y., age 32, mother of two children, had a severe attack of catarrhal jaundice about five years ago; since that time she has suffered a constant pain in the right hypochondrium opposite the ninth rib; she complained of a dragging sensation in the side with intense burning. Had indigestion, coated tongue, and constipation, losing strength and weight gradually. She was brought to my hospital February 2, 1905. I made the usual Bevan incision; there were adhesions with the stomach and duodenum which were separated. The gall-bladder was inflamed and thickened. I opened the gall-bladder, which contained about one-half ounce of thick, glairy fluid; a drainage tube was placed in the gall-bladder which remained eleven days. She remained in the hospital four weeks, at the end of which time she was discharged, and has had no returns of the symptoms; she has steadily gained in strength and weight.

Case III.—Mrs. C. of Marietta, Ind., aged 64 years, was referred to me by Dr. Walter C. McFadden. She has been suffering with a pain in right side for two years, but no distinct history of gallstone attacks; about one month prior to my first visit she became jaundiced and at the time she was suffering with cholemia; the itching was intense night and day, and she could get no relief; the stools were of a grayish color, there was entire loss of appetite, and she could get no sleep; she was taken to my hospital and operated upon April 1, 1905. The gall-bladder was distended, and from it I removed fourteen and one-half ounces of fluid. I also removed a stone about the size of a quail's egg from the cystic duct; it was not necessary to open the duct, as the stone had barely entered the mouth of the duct, and I was able to work it back into the gall-bladder. The head of the pancreas was slightly enlarged. At the time of operation, owing to her condition, it was deemed unwise to do an anastomosis of the gall-bladder and duodenum. A drainage tube was placed in the gall-bladder and the latter stitched to the aponeurosis. About the third day the jaundice began to disappear gradually, and with it the pruritus; appetite improved and strength returned; on the twelfth day she sat up for about one hour. At this time, about two months after the operation, the drainage continues; the head of the pancreas is constantly enlarging, and we have a well-marked case of cancer of the pancreas. Mayo Robson says that "all cases of distended gall-bladder accompanied by jaundice are not due to obstruction of common duct by stone, but is due to cancer of the pancreas or the common duct."

Case IV.—Since writing this paper, I operated upon Miss L. of Vincennes, Ind., who was referred to me by Dr. S. C. Beard. She was 35 years old; her mother died of cancer of the stomach; she had a severe attack of pain in July, 1901, which was referred to the stomach and radiated to the left side; she has repeated attacks which occur with increasing frequency, the attacks being followed by intense vomiting and retching; there is some pain under right shoulder blade. I operated upon her on June 3. Upon making an exploratory incision, I found evidence of gastroduodenitis; there were dense adhesions which were broken up with difficulty; the gall-bladder was inflamed; the pancreas was somewhat thickened; cholecystostomy was performed and the drainage is still in; she has done well since the operation; but what the result will be in this case, it is too early to determine.

On August 3 I received a letter from this patient's father, now two months after the operation, saying that she has not had any of her old "sick spells" since she came home, and is getting along nicely.

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## THE INFLUENCE OF PNEUMOCOCCI ON THE HEALING OF WOUNDS, WITH THE REPORTS OF A FEW CASES.

By J. WIRT ROBINSON, M.D.,

BOZEMAN, MONTANA.

The great difference in the appearance of wounds is constantly noticed by medical men. Wounds which are "clean" are a most pleasant sight, while those which are infected, especially if they are suppurating, are an eyesore to the surgeon. There is a great difference even in the appearance of suppurating wounds. This was noticed by the ancients, who used to speak of "pus laudabile et bonum," and "pus malignum."

There are a number of reasons for variations in appearance. Clinically, the better known causes are divided into: (1) The variations in the kind, number, or virulence of the infecting bacteria. (2) The variations in the resistance of the body. The variations in the resistance of the body are divided into general and local. General factors are: (1) The age of the patient; (2) the general condition, nourishment, amount of hemoglobin, etc.; (3) presence or absence of constitutional diseases, chronic poisoning, etc. Local factors are: (1) The tissue infected; (2) the amount of blood supply; (3) presence or absence of traumatism; (4) the treatment the wound has received. Scientifically, the differences are well explained by the beautiful side-chain theory of Ehrlich.

If sutures be present in a wound which is suppurating, great irritation and severe reaction usually occur. Redness and induration develops, then pus formation and more or less cutting of the sutures follow. In colon bacillus infection the irritation and cutting of sutures seem to be the worst. Next are those by staphylococci and those by streptococci. Naturally, however, there is a variation in the order; but in my experience infections due to pneumococci have been quite different. The following cases will illustrate this:

Mrs. T., German, married, and twenty years old, gave this history: One year ago she reached full term of pregnancy, and labor pains set in. A physician was called to attend her. However, he was unable to deliver the child, and, after several attempts with forceps, decided to have a consultation. The consultant discovered a tumor in the pelvis, which blocked the passage of the child's head. Owing to the poor condition of the mother and of the child,

cesarean section was not advisable; so an opening was made in the posterior cul-de-sac, and the tumor removed in sections. It proved to be a dermoid cyst. After removing the cyst the child was extracted, but did not live. The puerperium was not one free from worry, but in time the patient was able to get around again. She did not feel well, however, and later the symptoms became so severe that she applied for treatment. The diagnosis of a pelvic abscess was made. An exploratory laparotomy was performed. Before as many sponges as were necessary had been placed to protect the general peritoneal cavity, the abscess was accidentally ruptured, and pus flooded the peritoneum and edges of the incision. A rubber drainage tube was pushed through an opening in the posterior cul-de-sac. The peritoneum was cleaned as well as possible, and the abdominal wound closed. The next day evidences of peritonitis, extreme tenderness, meteorism, rapid, thready pulse, and facies hippocratica developed, and conditions did not look very hopeful for recovery; but after two more days these symptoms were almost entirely absent, and from then on she went on to good recovery. In spite of the fact that the abdominal incision was contaminated with pus, it healed by primary union. There was no redness nor induration around the sutures. Examination of the pus showed the pneumococcus in pure culture.

The following is another case of pneumococcus infection of the peritoneum: A. S., American, age twenty-four, had had several attacks of severe pains in the right iliac region, with fever and vomiting. During the last attacks he submitted to an operation. A large abscess was found and opened. The appendix appeared in the field of operation, and was removed. The incision was partially closed, but free drainage was secured. The course was favorable for two days; then pain developed in the right hypochondriac region, and slight jaundice appeared. Thirty-six hours later he had a chill; the temperature rose to one hundred and three degrees, the pulse to one hundred and sixty, and was very weak, and the respirations were as high as sixty per minute. Examination showed dullness over most of the lower left lobe of the lungs, the lower part of the upper left lobe, and areas scattered through the right side. This critical condition remained for five days, when improvement gradually occurred. The lungs were very slow in compensating for the infarcts, and several months later examination would reveal the lesions. From the first the abdominal wound did well; the discharge was not excessive and gradually grew less. The part of the wound that was sutured together healed by primary union; there was an absence of the red, angry look and induration so often present. In six weeks the patient was walking around a little. Examination of the pus showed a pure culture of the pneumococcus. It was fortunate that the infection was with a pure culture of this special organism, because I do not believe he would have recovered under any other conditions.

Mrs. M., Italian, aged thirty-three, and married, complained of pain in the left lumbar region. Previous history pointed somewhat to renal calculi, but the symptoms had not been present for two years. Examination showed a slight rise in temperature, pyuria, and tenderness of the left kidney. After the usual preparation, an incision was made and the kidney exposed. Upon opening the kidney a few drachms of pus flowed out. No calculi were found. The incisions were partially closed, leaving free drainage. Urotropin was given internally. The discharge of pus and urine was quite free for a few days, and then rapidly decreased; the pyuria also disappeared rapidly. In two weeks the discharge had entirely ceased. The part of the incision that was sutured healed by first intention, and even where the drainage tube was, little scar tissue formed. The pus contained a pure culture of pneumococcus. How different this case was from some other cases of pyelitis in which other bacteria were present.

In several cases of empyema due to the pneumococcus alone, and in which other infection was avoided, healing of the skin incision was rapid, and with little inflammatory reaction. Of course, where the tubes were, healing could not occur.

From these cases, although few in number, we may draw the following conclusions:

1. The pneumococci, if alone, cause little inflammatory reaction in the healing of wounds.

2. Possibly, in surgical diseases caused by pneumococci, some protective substance is formed that ameliorates the symptoms, as occurs in the crisis of a pneumonia.

3. In the treatment of a pus case care should be used to prevent a mixed infection, as healing is much more apt to be rapid and smooth if only one variety of bacteria is present.

## REPORT ON THE CONTROL OF TUBERCULOSIS IN THE PHILIPPINES.*

By D. M. APPEL, M.D.,

LIEUT. COLONEL, DEPUTY SURGEON-GENERAL, U. S. ARMY.

One would imagine that a paper on "The Control of Tuberculosis" read before a medical audience in the Philippines would of necessity treat largely of causes of the disease peculiar to the tropics, under the impression that the disease is there more widespread and that this is due to the existence of such causes.

The fact is, however, that though the disease ordinarily makes more rapid progress here, especially in transients, it is, generally speaking, more prevalent in colder climates. It is estimated that among the more civilized communities under improved social conditions the death rate from tuberculosis is still over 13 per cent. of the total mortality.

In Manila, which is certainly the most populous and congested part of these islands, about 10 per cent. of the total deaths among residents is due to tuberculosis, whereas among transients, those not included in the census returns as a part of the permanent population) 12 per cent. of the total mortality is due to this disease. This disparity is readily accounted for and is in reality greater than is shown by the statistics, as quite a few of the latter class return to their homes to die. A large majority of the transients are young male adults, so that we to a great extent eliminate the diseases of childhood in computing the percentages of death. Furthermore, as but comparatively few Americans and north Europeans are suitable for tropical climates, they become more susceptible to tuberculous infection from the debility so frequently resulting from the enervating effects of acclimation.

Most of the transients, on the other hand, are in good physical condition on their arrival, and the percentage of deaths from this disease, notwithstanding the increase from elimination of children's diseases and from climatic influences, is lower than is general in civilized communities.

Therefore, the conditions we have to contend with in controlling the disease in these islands do not differ materially from those existing elsewhere. Here, as everywhere the important influences on the spread of the disease are overcrowding, poverty, poor and insufficient food, and general neglect of children.

* A paper read at the second annual meeting of the Philippine Medical Association.

The most important factor in colder countries, overcrowding with resulting defective ventilation, is to a considerable extent eliminated here, especially among the poorer natives, for, excepting in a very few densely populated localities in this city, ventilation cannot be prevented in their napa shacks.

Tuberculosis is preeminently due to lessened tissue resistance and the predisposing causes are consequently more important than in any other infective disease. While without bacilli there is no tuberculosis, I as firmly believe that one in normal physical condition is not susceptible to infection under ordinary conditions.

Improved general hygienic conditions are therefore equally as important as the destruction of the bacilli-containing sputa in the control of the disease.

In the last published report of the Commissioner of Public Health, which is for the year ended September 1, 1903, the following remarks of Major Carter are universally applicable to the lower classes even in the most civilized communities. He says that "undoubtedly the greatest obstacle to improving the native is the native himself"; and again, "whatever has been done has only been accomplished by constant endeavor and the exercise of much tact in the face of general opposition on the part of the natives who are naturally slow to change the habits, customs, and ideas inherited from their forefathers, and who, being strongly imbued with superstitious beliefs and fatalistic ideas, cannot understand the utility of carrying out the proposed reforms."

Our efforts, therefore, for the suppression of the disease must be directed towards educating the public. We should teach it not only the source and nature of the infection and the ways in which it can be conveyed, but also the means to be employed to assure its destruction. It is, however, advisable in this connection, while insisting on the danger of infection, at the same time to make it clearly understood that the disease is not contagious, and thereby prevent the panicky dread of association with the affected so apt to become prevalent in communities living in localities to which the tuberculous resort.

The disease is not contagious, nor is any one in good health susceptible to infection. Only when the tissue resistance is lowered either locally or generally does the bacillus get in its deadly work, for we find surgical tuberculosis usually affecting parts that have been subjected to slight trauma reducing the resistance of the parts without destroying their vitality.

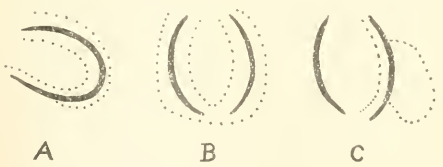
For an effectual campaign against tuberculosis it is necessary to adopt some system of notification and registration of all cases, to enable the health authorities properly to supervise them, to give detailed instructions in their management and in the measures to be employed for the prevention of infecting those in attendance, especially insisting upon the destruction of the bacilli in the sputa. Such cases as cannot be properly cared for in their homes should be segregated either in sanatoria or colonies, because the proper treatment of pulmonary tuberculosis involves not only great hardship for the patient but requires infinite care and patience on the part of the attendants.

## THE AORTIC REFLEXES.

By ALBERT ABRAMS A.M. M.D.,
SAN FRANCISCO, CAL.

THE writer has elsewhere (*American Medicine*, April 2, 1904) briefly referred to the aortic reflexes. Their importance in medical diagnosis is, in the opinion of the writer, so great, that he wishes once more to exploit their clinical value. To elicit the reflexes in question, I now employ no instrumental aid, contenting myself with the use of my hands after the following method: The palm of one hand is applied closely and firmly to the spinous processes to be concussed, while the other clenched hand is employed as a plexor, striking the dorsum of the first hand a series of sharp, vigorous blows. To elicit the aortic reflex of dilatation, one concusses after the manner cited, the spinous processes of the eighth, ninth, tenth, eleventh, and twelfth dorsal vertebræ. Immediately thereafter (for the reflex is of short duration—from one-half to one minute) percuss with a strong blow the region of the thoracic aorta, and the course of that vessel, even in the norm, may be defined. The course of the upper surface of the normal aorta in the adult of middle life may be projected on the chest by drawing a curved line, beginning at a point corresponding to the right sternal line in the middle of the first intercostal space, and ending at the point of insertion of the first rib to the sternum. The highest point of the aortic arch is distant about 5 cm., and the beginning 2 cm. from the anterior thoracic wall, hence a forcible percussion blow which is propagated to a depth of about 5 cm. cannot fail to elicit the dullness of the aortic arch if it is dilated. In the elicitation of the reflex in question, one must be chiefly guided by the sense of percussional resistance. Concussion of the spine of the seventh cervical vertebra after the same manner causes the aortic dullness to evanesce at once, as a result of the counter reflex of aortic contraction.

That alternate dilatation and contraction of the aorta follow the concussional maneuvers already mentioned, may be shown by the Röntgen rays. Many control investigations have demonstrated that the lung (lung reflexes of Abrams) is in no wise implicated in the percussion changes. The Röntgen rays pictures employed for control purposes fail to correspond in degree with the decided changes noted by percussion. The latter fact is in accord with reason, considering that, while percussion produces results varying with the approximation of the aorta to the thoracic wall, with the rays the sagittal diameter of the aorta is not taken into consideration. The same fact is pertinent in determining the relative shadow of an aneurysm by the *x*-rays and the area of dullness by percussion. More than two years experience with the aortic reflexes shows them to be fairly constant, but variable in duration. In an




accompanying illustration, A shows the areas of a thoracic aneurysm in a patient seen in consultation with Dr. J. B. Frankenheimer of this city. The aortic reflexes were specially pronounced, and this, despite the fact that theory would have dictated otherwise, considering the supposititious annihilation of the vessel's elasticity. The continuous line of A, represents the area of percussional dullness of the aneurysm, whereas the dotted lines within and without the continuous line represent respectively the reflexes of aortic contraction and dilatation. In B, practically the same results are noted in a case recently seen in consultation with Dr. A. J. Sanderson of this city. This case was specially interesting for the reason that we could control our concussional

results by means of the *x*-rays. C represents such results observing the patient with his back approximating the fluoroscope. The continuous line represents the shadow outline of the aneurysm, whereas the dotted lines within and without this line represent respectively the reflexes of aortic contraction and dilatation. Note that although B and C represent the same aneurysm the percussion results in B in no wise correspond with the skiascopic results in C, and for the reasons already adduced.

At my suggestion Dr. Sanderson will employ vibration treatment directed to the seventh cervical vertebra, for it is not unreasonable to assume that if concussion will secure contraction of the aneurysmal sac to the degree shown in the illustration (which is a reduced reproduction), the same maneuver may, if repeated often enough, be of remedial value.

*Postscript.*—It may prove interesting to note the results achieved by vibration applied to the seventh cervical vertebra in this patient. On July 7, 1905, treatment was commenced. The patient at this date complained of violent pains in the chest and dyspnea on the slightest exertion. On August 2, 1905, the *x*-ray shadow of aneurysm was denser, and the aortic reflexes could not be elicited. I attribute the latter to clot formation in the aneurysmal sac, which inhibited whatever elasticity remained in the aortic walls. At this date aneurysmal pulsation, formerly present, could no longer be seen with the rays. Percussion no longer yielded any dullness over the site where it was present. Tracheal tugging was barely perceptible. The thoracic pains had disappeared, and there was no longer any dyspnea on exertion. On September 1, 1905, Dr. Sanderson informs me that the only symptom which remained at the time of the discharge of the patient was slight tracheal tugging, and a letter received from the patient indicates that he is able to resume work and continues to feel perfectly well.

Van Ness and California Streets.

## ON THE ROLE OF TRICHOCEPHALUS IN THE ETIOLOGY OF TYPHOID FEVER.

By GIUSEPPE SPEZIA, M D.,

TURIN, ITALY.

At a meeting of the Académie de Médecine de Paris, held October 18, 1904, Professor Blanchard read a communication on this subject, presented by Dr. Gujart. In twelve cases of typhoid fever this observer had detected in the feces an average of two eggs of trichocephalus for each microscopical preparation. On the other hand, in the feces of persons affected with other diseases, there was none or only one in a great number of preparations. Dr. Gujart thinks that the intestinal parasite is an indirect cause of typhoid fever, for in attaching itself deeply to the intestinal mucosa by its tapering anterior extremity, it makes a wound through which the bacteria enter, causing the infection. The bacillus of Eberth is none the less specific.

I have made similar observations in nineteen cases of typhoid fever during the course of the present year. In the nineteen cases examined I found the eggs of trichocephalus in the feces in seventeen, an average of three eggs being noted in each microscopical preparation. Four preparations were made in each case, and the average number of eggs in each case was twelve. The presence of the eggs seemed to have no special relation to the day of the disease or to the physical character of the feces.

In other diseases, especially of the gastrointestinal tract, the eggs of trichocephalus are rarely seen. I found only one or two in a number of preparations. The only exception was in two cases of ankylostomiasis, in which there were a great number of eggs of trichocephalus in addition to the ankylostomata. In some cases of typhoid fever there were a great number of eggs of ascaris lumbricoides, to which perhaps one may attribute a rôle similar to that of trichocephalus.

In view of the results of my own observations I am led to agree with Dr. Gujart regarding the importance of the trichocephalus in typhoid fever. Among the many writers who have proved that wounds of the intestinal mucosa may be inflicted by trichocephalus, I would mention Wrisberg, Luckardt, Boas, and Askanazy. One might hazard the conjecture that the more abundant development of trichocephalus in the intestine is only a consequence, and not a predisposing cause, of typhoid infection, but I think this is disproved by the well-known fact that the period of development of the trichocephalus from the egg in the stomach (Davaine, Bouchard) to its adult stage covers a month and more; whereas, I have found the eggs of the parasite in typhoid stools in the first few days of the disease.

I think also that, given the enormous quantity of eggs of trichocephalus in the dejecta of typhoid patients, it is necessary to use disinfectants which will not only destroy the bacillus of Eberth, but which are able also to dissolve the resistant covering of the eggs of the trichocephalus (as for instance concentrated solutions of potassium or sodium salts) in order to prevent further infection of healthy persons with the eggs, these being known to develop directly in the stomach of the man without an intermediary host.

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**A Case of Curious Cardiac Action.**—Theodore Fisher recounts a case in which there were very unusual movements of the heart that could be both felt and seen. The patient had been treated for cardiac disease for a year and a half. Three weeks before admission she began to feel a peculiar double impulse, which was present at the time of examination. There was slight precordial bulging; the impulse was best in the fifth interspace, three and three-quarter inches to the left of the sternum. There were two distinct beats, the first being most marked at the apex, the second nearer the sternum. Over the whole heart area there was a reduplicated first sound, the interval between the two sounds being distinct. Over the second and third interspaces there was a reduplicated second sound. There was a widely distributed systolic murmur, and a diastolic rumbling heard at the base. The heart was beating slowly, 44 to 52 per minute. There was a visible pulsation in the right external jugular vein, occurring before the carotid pulse. After rest in bed the double impulse disappeared and there were the signs of a mitral regurgitation. Pulsation in the internal jugular may be due either to contraction of the right auricle or of the right ventricle. If the ventricles acted independently, and the impulse near the sternum was systolic contraction of the right ventricle, the pulsation in the veins would be synchronous with the impulse near the sternum, as in this case. —*Medical Chronicle.*

**Febris Enterica Sine Febre.**—Sir Dyce Duckworth reports this case. The patient was a boy sixteen and a half years old who was admitted to the hospital on January 9. The boy had vomited and had abdominal pain the day before admission; later he had headache and was drowsy. The temperature on admission was 102.4°. The spleen was enlarged and tender, and there was no eruption. On January 10 and 11, a slight Widal reaction was found. On the day after his admission the temperature fell to normal. On the fifth day the temperature fell below normal, where it remained until January 16, when it rose again to normal. Although the illness was decidedly marked by distinct symptoms and signs of enteric fever, it was of a mild character throughout. Such cases are not common. The writer cites several instances of this disease in which apyrexia has been noted. The prognosis of such cases from the histories which have been recorded would seem to be grave.—*The Practitioner.*

MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, September 16, 1905.

## THE PRELIMINARY REPORT OF THE PNEUMONIA COMMISSION.

In October, 1904, a commission composed of general practitioners, pathologists, and bacteriologists of this and other cities, was appointed at the suggestion of the Health Commissioner of New York, to investigate the subject of acute respiratory diseases. A report of some of the work of this commission, or rather of various investigations undertaken by laboratory workers at the suggestion of the commission, is now published in *The Journal of Experimental Medicine* under date of August 25, 1905.

The commission decided to concentrate attention first upon the bacteriological and clinical aspects of lobar pneumonia. As a preliminary to subsequent work of a seemingly more practical nature, it was thought necessary to determine, for the identification of the species, the character of the pneumococcus as found in cases of lobar pneumonia and also as found in the secretions in the mouths and throats of healthy individuals, including such a study of streptococci as would suffice to differentiate them from the pneumococcus. Among the studies bearing on these points which it was decided to pursue were the following: (1) A study of the occurrence and virulence of the pneumococcus and organisms related to or resembling this, in the human mouth in health and disease; (2) the evidence of variations in virulence of the pneumococcus; (3) the occurrence of the pneumococcus in children's hospitals, homes, and asylums, with a study of the bacteria of mouths before and after outbreaks of pneumonia; (4) the vitality of the pneumococcus under various conditions; (5) a study of mouth disinfection. The method adopted, as stated in the introductory note to these reports, was, first, to secure the cooperation of bacteriologists in various places, who should make independent studies along the lines suggested; and, second, to establish a central laboratory or "clearing house" to which ultimately cultures from various independent workers should be sent for comparative study under a single observer. It was hoped that by the establishment of this central laboratory with its large number of available cultures, light might be thrown upon atypical forms, variations, etc., and greater precision achieved in determining the characters relied upon for identification.

There are nine separate contributions to the report, most of them being the work of two or more investigators—twenty-one in all. We confess to a slight feeling of disappointment that the labors of so many skilled laboratory workers, extending over the greater part of a year, should have resulted in little more than a reaffirmation of what has long been known regarding the pneumococcus and its distribution. The various contributors found the pneumococcus frequently present in the secretions of the mouth and throat in apparently healthy persons, and determined that the organism taken from these parts was virulent for rabbits and mice, though Park and Williams found it seemingly somewhat less virulent than the organism obtained from a person with pneumonia. A larger proportion of atypical pneumococci was obtained from healthy persons than from those suffering from pneumonia. A rather interesting fact developed in this inquiry was that discovered by Norris and Pappenheimer, who found pneumococci present, not only in the secretions of the mouth and throat, but actually in the lungs in practically all autopsies—and this, whether the lungs were normal or were the seat of lesions of various kinds. But the significance of the discovery was considerably weakened by control experiments which made it probable that the organism was carried into the lungs in the fluids collecting in the mouth of the dying person and flowing down the air-passages during the transfer of the body from the hospital ward to the morgue.

In the course of a comparative study of pneumococci and streptococci, made by Longcope and Fox, attention was directed to Rosenow's statement that acid is formed in considerable amount in cultures of pneumococci in pneumonia serum, but not when serum from normal individuals is used. Longcope found that this phenomenon is dependent upon the appearance in the blood serum, under certain conditions, of a substance from which the pneumococcus is capable of forming large quantities of acid. This substance is almost constantly present in the serum during an attack of pneumonia, but disappears after the crisis; what it is and what occasions its presence in the blood during the pneumonic process Longcope was not able to determine satisfactorily. What the practical significance of its presence is in the blood is not yet clearly apparent, but it is probably protective in intention, since acid is inimical to the growth of the pneumococcus. The subject is one that invites to further investigation, and is perhaps the most important as well as novel of all those dealt with in this report.

Some experiments of F. C. Wood, made to determine the viability of the pneumococcus after drying were of interest as confirming what is known regarding the vulnerability of this organism. The diplococcus is tenacious of life when undisturbed in moist or dried sputum kept in the dark, but exposure to sunlight rapidly kills it; oxygen is also fatal to its prolonged existence, for it was found that the organism perished in from one to four hours in powdered sputum even when kept in the dark. In coughing, sneezing, or even talking, the subject of pneumonia, just as the tuberculous, expels many fine particles of saliva or sputum containing great numbers of the specific microorganisms, but the danger to others from this is minimized by the rapid death of the bacteria so expelled under the influence of fresh air and sunlight.

On the whole, we cannot see that the Pneumonia Commission has made much progress as yet toward the discovery of means for the prevention and cure

of pneumonia, which we believe was the object of its composition. The reports of the laboratory workers are of much scientific interest, and we would not deny their value or the necessity of laboratory work in an investigation of this nature, but one must admit that there is not to be found here much promise of a speedy reduction of the shameful mortality from pneumonia in New York and Chicago and some other of our northern cities. Perhaps an unprejudiced study of the methods of the many humble medical practitioners, who do not write much, and who have comparatively little bacteriological wisdom, but whose patients do not usually die from pneumonia, would help the commission toward at least a partial attainment of their object.

## THE BACTERIOLOGY OF THE BLOOD IN TYPHOID FEVER.

In the recently issued Medical and Surgical Report of Bellevue and Allied Hospitals there is an interesting statistical paper by Drs. Warren Coleman and E. H. Buxton (originally read before the New York Pathological Society in February, 1904), containing the results of bacteriological examinations of the blood in 604 cases of typhoid fever, 60 cases of their own and 544 collected from the literature. Only those cases in which large quantities of blood were taken were included. The authors took 10 c.c. of blood from a vein at the elbow, and distributed it among four flasks each containing 100 c.c. of broth. The bacilli recovered were identified both by cultural and agglutination tests. Some bacilli when first isolated were found to react less readily to immune serum than they did after growth on artificial media. This characteristic may persist for several months. The blood contained bacilli in 75 per cent. of the 604 cases. The examinations were made at all stages of the disease. The authors consider this percentage lower than may be expected in future investigations because of the improvements which have been made in technique. Analyzed by week of disease, it was found that of 85 examinations made in the first week the bacillus was present in the blood in 93 per cent. The earliest recorded positive result was obtained on the third day. Of 198 examinations in the second week, the bacillus was present in 76 per cent. Of 115 examinations in the third week, the bacillus was present in 56 per cent. The bacillus usually disappears from the blood by the twentieth to the twenty-first day, but apparently persists for a longer period in more protracted cases. In fact, unusual duration of the disease seems coincident with persistence of bacilli in the blood. The bacillus is not present during convalescence.

It is apparent from these facts, the authors conclude, that typhoid fever is a bacillemia. Therefore attempts to abort or control the disease by the administration of intestinal antiseptics must prove futile. In all but 3 of 21 cases of relapse examined, the bacillus was found in the blood. Relapses therefore seem due to reinfection of the blood.

In 73 of the 604 cases the bacillus was recovered from the blood before the serum reaction could be obtained, but this relation is not mentioned in the majority of cases. The authors believe on *a priori* grounds that bacilli are always present in the blood before the serum reaction occurs. Typhoid bacilli do not form soluble toxins in any quantity—the toxins are liberated from the bodies of dead bacilli—therefore bacilli must be destroyed in the body before agglutinins develop. Again, the serum reaction cannot be obtained before the end of the first week, often in the second and sometimes later, yet the blood contains bacilli in 93 per cent of the cases in the first week.

The authors are rather pessimistic regarding the practical value of the bacteriological diagrams of typhoid fever, for they hold that it can never come into general use, since it requires complete laboratory facilities, and the services of an experienced bacteriologist. This must of necessity render it ordinarily inapplicable in practice outside of the larger cities. But after all the bacteriological diagnosis of typhoid fever is rather a refinement than a necessity in most cases. The general symptoms of the disease are usually clear enough, and confusion with paratyphoid fever (the existence of which as a clinical entity, is denied by many) is practically unimportant, since the treatment of the true affection is the same.

The authors also consider the question whether *Bacillus coli communis* can cause a primary systemic infection with symptoms resembling typhoid fever. They found this bacillus in pure culture in two cases pursuing a mild typhoidal course, but do not feel justified in drawing positive conclusions from such a small number of cases.

## THE SURGERY OF GASTRIC CANCER.

Since Péan performed the first resection of the stomach in 1879, gastric surgery has been widely extended and developed, and although differences of opinion still exist among the internists as to the advisability of operation for dilatation, atony, and displacement, few will deny the advantages extended by operative interference in the presence of malignant neoplasms. The records obtained from operations in cases of carcinoma of the stomach have now accumulated to a sufficient extent to permit of a fairly definite judgment as to the value of the procedure. The publication of isolated cases cannot, however, lead to any satisfactory estimate; this can only be gained from a continuous series done by a single operator or under his immediate supervision. Such a series is available from the records of Prof. Kocher's work in this field, and during the years from 1881 to 1904, about 100 resections of the stomach were performed in his service. Gastroenterostomies are not included in this record, and it seems, moreover, that this palliative operation has been gradually abandoned in favor of the more radical procedure as indications for the latter have been extended. Thus, it appears that as many resections have been done during the last six, as during the previous eighteen years, and, in contrast to this, the number of gastroenterostomies has correspondingly declined. Those cases which have not been previously reported are now collected and commented on by Matti of Prof. Kocher's clinic, in the *Deutsche Zeitschrift für Chirurgie*, Vol. 77, No. 1. The procedure known by the latter's name was usually employed; it consists of a pylorectomy, followed by closure of the stomach and gastroduodenostomy.

In seventy-one operations done by this method out of a total of ninety-seven, there was a mortality of twelve, or 16.9 per cent. Although the latter

figures include a majority of deaths from pulmonary or cardiac complications in greatly emaciated subjects, they compare very favorably with the results reported by other surgeons, and seem to show that resection of the stomach, when carried out under the most careful aseptic technique and by the hand of a skilled operator, is a much less dangerous operation than formerly, and if done early in a patient who is in a good general condition, may be said to be almost without danger. Of seventy-one patients discharged as cured, 28.2 per cent. were living at the time of the report. The average duration of life in those who died from recurrences was about eighteen months, although some lived as long as six years. It was found, however, that the gastric functions were fulfilled almost up to the last in all the patients operated upon.

Matti's paper is of extreme interest and value and will repay more detailed study by those immediately interested. The author's conclusion that gastric carcinoma can be cured by operative means, and that the Kocher method is the more favorable because it restores more closely the normal physiological conditions, will, let us hope, be supported by the results obtained by other operators.

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### The Naval Medical School.

The demands made upon the medical officers of the navy are of such a nature that a special training in this field would seem to be a matter of necessity. But very few organized attempts to supply this want have been made, as those most interested in providing it found themselves hampered by lack of funds as well as lack of interest. After several unsuccessful beginnings, the Surgeon-General of the Navy finally succeeded in establishing the present Naval Medical School in Washington on a firm basis in 1902, and although at present it offers only a six months' course to those who have been examined and commissioned in the regular naval medical corps, it may later on also be opened to members of the naval militia. The president of the faculty, Medical Director R. A. Marmion, in a recent article (*Journal of the Association of Military Surgeons*, July, 1905) states that the basic principles underlying the scheme of instruction constitute the answer to the question, what are the special requirements of service in the medical corps of the U. S. Navy which the graduates of the lay medical schools do not meet? Experience has shown that there are many who are deficient in hygiene, military surgery, ophthalmology, practical chemistry, bacteriology, and military and tropical diseases. In addition, the naval medical officer has other duties to perform than those of an exclusively medical nature, being an essential component of a military fighting body, and the candidates are therefore given thorough instruction in drills, signaling, physical exercises, tactics, and navigation. The equipment at present employed seems to fill all requirements, and the completion of the new naval hospital connected with the school will also afford opportunity for the much desired clinical instruction. Medical officers on shipboard, especially those of the junior grade, unfortunately in the past did not receive the respect and attention due their position, and consequently there were formerly numerous vacancies in the service. The reorganization of the staff which has lately taken place has rendered more attractive for recent graduates a service in which the opportunities compare very favorably with those in civil practice.

## News of the Week.

**The Cholera in Germany** is apparently under control by the sanitary authorities. The chief danger is from the Russian emigrants, most of whom come to this country by way of Hamburg. Dr. McLaughlin of the U. S. Public Health and Marine Hospital Service has been sent to Hamburg to inspect the emigrants detained there, and Dr. J. F. Donnelly of the Holland-America Line sailed this week with five volunteer physicians, who will examine the Russian and Polish emigrants coming to this country through other ports. The medical men will examine the emigrants both at the frontier and at the ports of embarkation. Upon his arrival Dr. Donnelly will consult with Dr. McLaughlin as to the best measures for warding off the disease. On the Holland-American Line there will be three surgeons on every ship, one each for the first, second, and third-class passengers.

**Yellow Fever in New Orleans.**—The end of the epidemic in New Orleans seems to be in sight. The daily number of new cases is in the thirties, and on Monday of this week not a single death was reported. This was the first day without a death since the fever was officially recognized seven weeks ago. Anxiety is felt more now regarding the country round New Orleans than the city itself. The total number of cases reported up to Wednesday of this week was 2,370, and of deaths 319.

**Yellow Fever at Panama.**—On September 1 there was reported to be but one case of yellow fever under treatment on the Isthmus, and the official figures relative to yellow fever in the Panama Canal Zone continue to show a gradual improvement. During the month of August there were sixteen cases of fever among the entire force, with two deaths. There were fourteen cases of fever among persons resident on the Isthmus other than employees, five of which resulted fatally, making the total number of cases thirty and the total deaths seven. During June there were seventy-two cases and seventeen deaths, of which forty-six cases and ten deaths were among employees; during July twenty-nine cases and eleven deaths, of which twenty-two cases and nine deaths were among the employees. Seventeen of the passengers and crew of the *Mexico*, in from Colon on Monday, were detained at Quarantine, being found to have a high temperature. Most of those returning from the Isthmus with a fever are found to be suffering from malaria, which disease, and not yellow fever, is the real enemy of the canal worker. Fortunately both diseases are fought with the same weapon.

**Militia Officers Admitted to the Army Medical School.**—Gen. Bates, Acting Secretary of War, has recently issued regulations to govern the Army Medical School in Washington providing for the admission of medical officers of the State militia. A surgeon in a militia regiment, in order to be eligible for the course of instruction must not be less than twenty-two nor more than thirty-five years of age. He must be of sound health, good moral character, and a citizen of the United States. He must have been a member of the organized militia at least one year, and must have such preliminary educational qualifications as will enable him to participate profitably in the course of instruction. Militia officers desiring to attend the school must be nominated to the Secretary of War by the governors of their respective States, and the nomination must in each case be accompanied by an affidavit of the nominee, stating his age, citizenship, and length of service in the organized militia, and by a certificate

from the colonel of his regiment or other satisfactory person as to his good moral character. Such militia officers as have complied with the above and who may be selected by the Secretary of War as candidates will be ordered to proceed to posts in the vicinity of their homes for preliminary examination. If the physical examination is satisfactory the candidates will then be examined in the following subjects: Anatomy and physiology; practice of medicine, including therapeutics; surgery; hygiene, general and military. Militia officers, before their admission to the school, must sign an agreement to attend and pursue the course of study and to be bound by and conform to the rules and discipline imposed by its regulations. The expense to the government on account of militia officers attending the school is limited strictly to travel allowances, commutation of quarters, and subsistence. The travel allowances consist of the mileage or transportation allowed by law. Commutation of quarters will be the same as provided by law for officers of the corresponding grade in the army. Militia officers cannot be furnished with quarters in kind. For subsistence each militia officer will be paid $1 per day while in actual attendance at the school. Each militia officer must provide himself, at his own expense, with the proper uniforms of his own State or Territory, and with the required textbooks. The course will require the entire time of the student, so that no outside occupation during the school term will be practicable. When a militia officer graduates from the school the fact of his graduation will be reported to the governor of his State or Territory, who will also be notified in regard to the positions in the medical service of the militia for which the officer is specially qualified. The names of militia graduates will be entered in the register at the War Department as qualified for such duties as the staff of the school may recommend. The course of instruction will be both theoretical and practical and will embrace a period of eight months, commencing on October 1. The course of instruction will embrace the following subjects: Duties of medical officers, medical department administration and customs of the service, military hygiene, clinical microscopy, military surgery, tropical medicine, sanitary chemistry, hospital corps drill, operative surgery, ophthalmology and optometry, military medicine, *x*-ray work, equitation. A satisfactory examination in any subject shall be understood to be the attainment of 80 per cent. of the maximum in both the examination paper and practical work in that subject.

**The Wisconsin Tuberculosis Sanatorium.**—There is considerable rivalry between several towns in northern Wisconsin regarding the location of a State sanatorium. The rather novel spectacle is presented of communities actually asking for the establishment among them of a tuberculosis sanatorium, instead of, as in this part of the world is usual, seeking to prevent it. It is believed that the institution will be established at Cable, Bayfield County, which occupies the highest point of land in the State.

**Adulterated Milk.**—Five grocers in Cincinnati were arrested during the past week for adulteration of milk. Two of those arrested the week before were fined $50 and costs.

**Dispensary for the St. Louis City Hospital.**—The Board of Health of St. Louis has recommended the establishment of a dispensary at the City Hospital. A bill will be prepared and introduced into the municipal assembly providing for the dispensary. A contract has been let for the building of a hospital and dispensary as an annex to the city jail.

**An Organization of English-Speaking Physicians in Mexico** was effected at a meeting held at Torreon on August 20. The meeting was called by Drs. W. R. Jamieson and R. D. Robinson of Torreon, W. J. Lawrence of Mapimi, and W. H. Lloyd of Descubridora.

**The Tri-State Medical Society of Alabama, Georgia and Tennessee** will hold its seventeenth annual meeting in Chattanooga, Tuesday, Wednesday, and Thursday, September 26, 27, and 28, 1905, under the presidency of Dr. H. L. Appleton of Gadsden, Ala. The secretary is Dr. Raymond Wallace, Chattanooga, Tennessee.

**A New Research Laboratory.**—Dr. Morris Herzstein of San Francisco, has purchased land at Pacific Beach for the purpose of erecting a research laboratory for the use of the Department of Physiology of the University of California. It is said to be his intention to deed the property, when complete, to the University.

**California Delegates to the Tuberculosis Congress.**—Dr. F. M. Pottenger of Los Angeles, and George H. Evans of San Francisco, have been appointed delegates from the California State Medical Society to the Industrial Congress of Tuberculosis to be held in Paris the first week in October.

**Action of Copper Sulphate on Animal Life.**—The water of Jamaica Pond in Boston was recently soaked with sulphate of copper in order to destroy an offensive growth of algæ. It destroyed the algæ and also most of the fish in the pond, which have died by thousands and been removed by cartloads for use as fertilizer.

**Dr. S. Susuki,** Surgeon-General of the Imperial Japanese Navy, has arrived in this country to attend the meeting of the Association of Military Surgeons of the United States in Detroit on September 26, 27, and 28. Dr. Susuki was surgeon-in-chief of Admiral Togo's combined fleets from the beginning of the war until after the battle of the Japan Sea, his ship being the *Mikasa,* which has just been destroyed by fire. He comes as official delegate of the Japanese navy.

**Dr. James Francis Donnelly** has been honored by the Queen of Holland with a royal decree entitling him to practise medicine in Holland or in the colonies. Dr. Donnelly, an American by birth, and a graduate in medicine in this city, served as surgeon in the U. S. Army during the war with Spain, and was one of a medical commission of five sent by the government to observe the Boer War. He has been for a number of years surgeon to the Holland-America Line.

**A New and Effective Culicicide** is reported to have been discovered by Dr. Mims, chemist of the New Orleans Board of Health. It is said to be composed of equal parts of camphor and carbolic acid. Dr. White of the Marine Hospital Service, in charge of the fight against yellow fever in New Orleans, has ordered its use by the disinfectors of the mosquito brigade, but advises against its popular employment until further experiments have been made.

**An Act Prescribing the Duties of Physicians and Others Relative to Infectious Diseases.**—The Health Department of Milwaukee, Wis., recently issued a circular letter in which attention was called to the fact that after August 1, 1905, Chapter 102 of the laws of Wisconsin, entitled "An Act Prescribing the Duties of Physicians and Others Relative to Infectious Diseases," will be strictly enforced. Practically all of the communicable diseases are hereafter to be reported to the local health boards. The new list embraces typhoid fever, tuberculosis, erysipelas, chickenpox, whooping-cough, plague, yellow fever, and cerebrospinal meningitis, all diseases which were heretofore not included.

**Hospital for Tuberculosis at Montreal.**—A meeting was recently held in the City Hall, Montreal, to discuss the steps necessary to establish a hospital for the treatment of tuberculosis. It was suggested that an old building, already the property of the city, near Fletcher's Field, be taken for the purpose, but others favored the erection of a new building.

**Medical Inspection of Schools.**—It is proposed to have the schools of Chicago visited by competent medical inspectors, with a view to ascertaining from the schoolchildren the cases of illness in their homes. When such information is obtained the household in which any member is afflicted will be visited, and efforts made to prevent the spread of the disease, and also to improve the sanitary condition. The public schoolteachers will be requested to report all cases of illness to the bureau, and also the addresses of all houses which they have reason to know are not sanitary. The same plan is under consideration in Kalamazoo, where some years ago a medical inspection of the schools was tried, and during its continuance over two hundred cases of infectious diseases, such as scarlet fever, diphtheria, whooping-cough, and so on, were discovered in homes of schoolchildren. The work was abandoned for some cause after a few months' trial, but it is believed that it was the proper policy, and the promoters of the new plan are anxious to have the work, or something like it, begun again.

**Proposed Sanatorium for Milwaukee.**—Plans for the establishment of a sanatorium in Milwaukee county for the care and treatment of tuberculosis are being rapidly perfected. It is proposed to follow the plan of the Wayne Sanatorium, near Detroit. This consists of two tent pavilions, arranged in such a manner that they may be supplied with heat and light from the hospital for the insane. The tents are capable of accommodating about thirty patients in all.

**Street-car Injuries Influence the Mortality Rate.**—Accidents have become so numerous in Los Angeles that they have become an important item in the mortality rate. In a little more than a year and a half 43 persons have been killed and 314 injured.

**Tetanus following Vaccination.**—A death from tetanus following vaccination is reported from the Children's Hospital, San Francisco. This is the second death from this cause and in this vicinity within the past year. The health authorities ought to announce, it seems, the source of the virus, particularly if it was obtained from the same source in both cases. It would be of interest also to know whether the manufacturers of it are also makers of antitetanic serum.

**Rules of Health at Stanford University.**—Stanford University of California has established a commendable rule for the prevention of disease among the students. Beginning with the opening of the fall session this year, each applicant for admission to the freshman class must undergo the usual examination conducted by the physical director of the institution. He must also submit a certificate from the landlord with whom he intends to reside. His physical condition must conform to a standard, and he must reside at a place that has been examined and approved by the Board of Health.

**Football a Science.**—Dr. Benjamin Ide Wheeler, President of the University of California, in an address before the student body at the opening of the fall session, if quoted correctly, said that "football is an advanced science." Probably the species of football to which he referred is indigenous to California.

**Hospital Bequests.**—Mr. W. W. Franklin of Columbus, O., has left $50,000 each to the Children's Hospital and the Home for the Aged of that city, as well as the residue after settling a $700,000 estate. It is thought that each institution will receive about $150,000.

**The North Kentucky Medical Society** held its annual outing at Walton, Ky., August 10. Addresses were made by Rev. Mr. Rodgers of Walton and Dr. J. H. Brown of Crittenden. The ladies of the town provided lunch. Dr. Edwin Ricketts of Cincinnati was toastmaster and toasts were responded to by Dr. C. D. O'Hara of Williamstown, Dr. C. W. McCollum of Erlanger, Dr. J. H. Buckner of Cincinnati, Dr. C. E. O'Hara of Williamstown, Rev. Lafe Johnson of Walton, and Mr. R. H. Elliston of Williamstown.

**Typhoid Fever in Philadelphia.**—There was a steady decline for three weeks in the number of cases of typhoid fever reported to the Philadelphia Bureau of Health. For the week ended September 2 there were but sixty-two cases as compared with eighty-two for the preceding week and 125 for the week before that. An increase occurred, however, during the first week in September, the number of new cases being 152, an excess of 90 over the preceding week. As the increase is chiefly in the parts of the city supplied with filtered water, it is ascribed to the return to town of persons infected while absent on vacation.

**A Tuberculosis Fête.**—A lawn fête was held August 12 at "Rough Point," the residence of Frederick W. Vanderbilt, for the benefit of the Newport Association for the Relief and Prevention of Tuberculosis. The total amount received from all the booths and from individual donations was $16,432.16.

**The Central Wisconsin Medical Association** held its annual meeting at Madison on August 29, under the presidency of Dr. T. Nuzum of Brodhead. The following officers were elected for the ensuing year: *President*, Dr. S. R. Moyer, Monroe; *Vice-Presidents*, Drs. A. C. Helm, Beloit, W. W. Washburn, Milwaukee, John Binnie, Poynette, and W. W. Gill, Madison; *Secretary-Treasurer*, Dr. C. S. Sheldon, Madison.

**New York and New England Association of Railway Surgeons.**—The fifteenth annual meeting of this association will be held at the Academy of Medicine, New York City, November 17 and 18, 1905, under the presidency of Dr. G. P. Conn of Concord, N. H. One-half-day of the meeting will be devoted to a symposium on "Injuries to the Head and Spine." A cordial invitation is extended to the profession. The secretary is Dr. George Chaffee, 338 Forty-seventh street, Brooklyn, N. Y.

**The Summer Meeting** of the Berkshire Medical Society was held September 1 at the residence of Dr. J. Gardner Smith of this city on Pontoosuc Lake, Pittsfield, Mass. About thirty members were present. Dr. William Gilman Thompson read a paper on "An Infection, Following an Attack of Typhoid Fever," and Dr. Charles H. Richardson one on "The Surgical Treatment of Intestinal Perforations in Typhoid Fever."

**The New Orleans Health Association** was organized at a meeting of citizens held on the last day of August, the officers being: *President*, Charles Janvier; *First Vice-Presidents*, Gustave Lehmann, Sr., and Louis P. Rice; *Treasurer*, Wm. Adler; *Secretary*, H. M. Mayo. Dr. Beverley Warner was also made a member of the governing board. The aim and purposes of the association, as set forth in the preamble to the plan of organization, are "to assist in all

measures affecting the health and sanitation of this city; to secure such laws or changes in our present laws, national, state, and city, as will place our sanitary legislation in line with the most recent discoveries in science; strengthen the hands of the health authorities; better enable them to keep out epidemic diseases; to deal efficiently and successfully with such diseases should they break through our lines of defense, and to minimize the panic and business injury resulting therefrom."

**The Orangeburg County (S .C.) Medical Association** was organized at a meeting of about twenty-five physicians on September 5. The organization was effected with the following officers: *President*, Dr. W. L. Pou, St. Matthew's; *Vice-Presidents*, Drs. M. J. D. Dantzler, Elloree, and M. S. Gressett, Branchville; *Secretary* and *Treasurer*, Dr. Lin C. Sheeut, Orangeburg; *Chaplain*, Dr. J. A. Clifton; *Solicitor*, Dr. L. K. Sturkie.

**Dr. D. E. Salmon**, chief of the Bureau of Animal Industry of the Department of Agriculture, resigned on September 6. He has been connected with the department for twenty-one years. Dr. Melvin of Illinois, assistant chief of the bureau, will be promoted to fill the vacancy.

**A Hazardous Occupation.**—Two insurance companies recently refused to give a lawyer of Breathitt County, Ky., a life insurance policy because he was attorney for two noted feud leaders of Breathitt County, and was believed to be in danger as assassination. The agent for the company wrote the application, and the lawyer passed the medical examination, but the officials would take no chances because of the applicant's connection with the feud troubles.

**A New Hospital for Los Angeles.**—The Trustees of the University of Southern California are interested in the suggestion to raise funds by subscription for the establishment of a large hospital, to be conducted in connection with the school of medicine. The idea will be discussed and plans laid at a conference, September 27.

**Obituary Notes.**—Dr. Joseph R. Smith of Birmingham, Ala., died August 30 at the age of eighty-seven years. He was born on his father's homestead, where now stands the town of Bessemer, and was graduated from the Transylvania Medical College at Lexington, Ky., in 1841. He began the practice of medicine in 1843, but retired in 1870 to engage in real estate transactions, in which he amassed a fortune.

Dr. John H. Rhodes of Jackson, Miss., died suddenly on August 30 at the age of forty-five years. He was a graduate of the Louisville, Ky., Medical College in the class of 1882. He was City Physician and a member of the State Board of Health.

Dr. John G. Park of Worcester, Mass., died August 29, following an operation for gallstones, at the age of sixty-seven years. He was born in Groton, and was graduated from Harvard Medical School. During the Civil War he served in the medical service of the navy, and at its conclusion settled in Worcester. He was superintendent of the State Lunatic Asylum for five years, and of the Worcester Insane Hospital for eleven years.

Dr. J. Franklin Ford of Omro, Wis., died on August 28 at the age of fifty years. He was a graduate of the Rush Medical College, Chicago, in 1887.

Dr. William R. Owen of Sublette, Ill., died in Minneapolis on August 27. He was a graduate of the College of Physicians and Surgeons, Chicago, in the class of 1889. He retired from active practice about four years ago.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

ASYLUMS BOARD'S TREATMENT OF DOCTORS—CHAIR FOR PROTOZOOLOGY — STERILIZED WATER FOR TROOPS — LEICESTER MUSEUM OF PATHOLOGY—MIDWIVES' ACT—AMAZING CLAIM FOR COMPENSATION—DRUG HABIT.

London, August 5, 1905.

The Metropolitan Asylums Board has done many foolish things and has in various ways become offensive to medical men. This week the 2d, 3d, and 4th assistant medical officers at the Darenth Asylum have resigned their positions rather than permit non-medical persons to modify their directions as to things exclusively medical. It appears that under the Board, assistant medical officers are ranked as subordinate officers, while the chaplain, steward, matron, and head schoolmistress are principal officers. It is not necessary to consider whether such a classing of officials is a proper one. It suffices to say that none of these principal officials should be permitted to revise the medical directions of the qualified medical men, and yet it is said the intrusion of these lay persons into medical matters is a frequent source of complaint. Such intrusion undoubtedly constitutes a danger to the patients. This week's resignations should bring home to the Asylums Board the absurdity of the position and induce members who retain a sense of propriety or responsibility to insist on immediate change and an apology to the gentlemen who have thus been driven to resign.

The Senate of the University of London, has accepted an offer from the Colonial Secretaries of £700 a year for 5 years to institute a chair of protozoology. The Senate has decided to devote the whole amount to the salary of the professor, and to add to it £200 a year for assistance and laboratory expenses.

The Army Medical Department recently arranged a demonstration of the inventions for supplying troops on the field with sterilized water. Chemical and mechanical methods were shown, but the most attractive plan seemed to be sterilization by heat. There were several inventions for this purpose on show, including one by Dr. Griffiths, and another, perhaps better known, by Dr. Leigh-Canney, who has devoted much attention to the subject.

A good deal of satisfaction has been expressed as to the arrangements of the Pathological Museum at the Leicester meeting. The committee on this occasion seem to have gone about their work with determination to make this year a record one. They gave every help to readers of papers and even to those who took part in any of the discussions, to say nothing of those who examined the specimens as displayed, during the time they could take from sectional work and entertainments. I mentioned in a previous letter that demonstrations were also arranged for. Groups of specimens illustrating pathological conditions of certain organs under different conditions have been much praised. The catalogue of the whole collection is a pamphlet of 75 8vo pages. It is impossible, therefore, to give notes of all the sections, but I have asked some observers to give me something on two or three sections, and transcribe what they say. The gynecological collection is on all sides said to be the best—so first of it.

This exceptionally fine collection contained specimens of three diseased conditions, particularly well illustrated, these were: Extrauterine gestation, cancer of uterus, degenerations of uterine fibroids. Among individual specimens the following appeared to the writer as particularly worthy of notice: An ovarian cyst developing in the stump after ovariotomy from the Royal Free Hospital, London. Section of ovary showing corpus luteum with lutein cells invading the central blood clot. Cervical fibroid and pregnancy, the pregnancy had advanced to about two months. The fibroid was the size of a uterus in the third month of pregnancy, and would have presented an insuperable obstacle to delivery. These were from the Museum of St. Bartholomew's Hospital. Hematometra of life-long standing from a woman aged 42, from St. George's Hospital Museum. Elephantiasis vermucosa of vulva. A mass the size of a cocoanut removed from a girl aged 19, and of congenital origin, from Dr. Maclean, Cardiff. Among the specimens illustrating cancer were those from fourteen consecutive cases of cancer of the uterus, removed by abdominal section; this series was very well mounted, and illustrated all forms of the disease. It came from the New Hospital for Women, London. Another series of seventeen cases treated by vaginal hysterectomy was from Dr. Cuthbert Lockyer, London. One hundred and six was a specimen of adenocarcinoma affecting both ovaries with a metastatic growth in the breast. The tumors of both ovaries and of the breast were shown; they were all removed at the same time. There were some interesting specimens from the Royal Free Hospital, London, showing the relationship of hydatidi-

form mole with lutem cysts of the ovaries, also several specimens of chorion epithelioma. Among the specimens illustrating extrauterine gestation were two of complete decidual casts expelled from the uterus during the course of the pregnancy, and four of the upruptured tubes removed by operation. Among the specimens of fibroid was a particularly good one showing cystic degeneration, from the London Hospital, and several showing the deep red color of necrobiosis or red necrosis. There were some very good specimens of adenomyoma of the body of the uterus, one from the Birmingham University Museum, sent by Dr. Thomas Wilson, in which there was an associated sarcoma of the ovary, and another by Dr. Tate, London, in which the uterus was of the size of one at the third month of pregnancy.

The medicine portion of the exhibits in the pathological museum were well arranged, and both interesting and instructive. They included drawings in color, photographs, radiographs, and jar specimens, illustrating clinical medicine. Especially noticeable were photographs of the different stages of the smallpox eruption, microphotographs of the micrococcus catarrhalis, radiographs of calculi, vesical, biliary, and renal, and of new growths, chiefly of bone, some pictures of skin disease painted in water colors, and several jar specimens of aneurysm of the ventricles of the heart. There were also photographs of leprosy occurring in Arab patients.

The surgical section contained many specimens of interest and importance; amongst these are some excellent skiagrams, notably those shown by Mr. E. Henry Fenwick, of stones in the uterus, and a series of false shadows simulating them, with indications for differentiating between the true and false shadows. A number of prostates removed by Mr. P. J. Freyer, and of diseased thyroids removed by Mr. James Berny, are well worth noticing. Mr. C. J. Bond shows numerous specimens of surgical interest, including, as they do, both photographs and radiographs, whilst a considerable number of specimens have been sent from Cambridge University by Dr. Roderick.

The first prosecution under the Midwives' Act was brought by the County Council on the 13th inst. The defendant had on her brass plate "registered midwife," but she had been refused registration, apparently because she did not apply within the legal period. An appeal on account of poverty was made for her, and it was said she had been in practice 20 years. "What am I to do if my living is taken away," she exclaimed? She could have registered when the act passed on proving she had been in practice one year, and she can continue her practice until 1910, but must not call herself a registered midwife.

A claim for compensation was lately put forward by a Scotch ex-official, which excited no little astonishment. The gentleman asked his town council for £2,320, being £80 per annum since 1875, on account of blindness, which he asserted was caused by malpractice by a doctor who was at the time the chief magistrate of the town.

At a police court the other day, a woman was asked if she was in the habit of taking drugs and replied: "Oh, no." The solicitor said: "But a thousand empty chloroform bottles were found in the house after you left?" and was answered, "Well, I don't see what that has to do with the case."

## OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

ROENTGEN RAYS IN THE TREATMENT OF LEPROSY—MALARIA CLOSES SCHOOLS—SERUM PROPHYLAXIS OF RINDERPEST—IMPORTANCE OF DRAFT ANIMALS TO THE DEVELOPMENT OF THE PHILIPPINES—CHOLERA IN HONG KONG—FREEDOM FROM PLAGUE.

MANILA, July 28, 1905.

IN a letter to the MEDICAL RECORD under the date of October 15, 1904, which was published in the issue of December 3 of that year, mention was made of an interesting experiment that was being conducted at the San Lazaro Leper Hospital, in the treatment of a certain number of lepers with the *x*-ray. Particular mention was made of a case in a male adult who had a leprous infiltration of the left ear, which enlarged it to the extent that its long axis measured four inches, while the ear on the right side, which was normal, measured only about two inches. A few weeks of treatment with the *x*-ray reduced it to normal size, and at the same time other leprous symptoms began to disappear. The subsequent history of the case, was as follows:

The *x*-ray treatment was continued for about one month longer, with the result that the outward physical evidences of the disease disappeared entirely. The change in the affected ear was truly remarkable, in fact, it would have been impossible for the casual observer to see any marked difference in the two ears. The man, however, soon afterward showed evidence of chronic illness. He began to lose weight, and he would voluntarily spend a good portion of his time in bed. During April he began to decline rapidly, and in the early part of July he died.

A very careful post-mortem examination was made, which showed that he had marked atrophy of the liver, and death was in all probability due to that cause. Many sections of tissue were taken from various parts of the body and stained for leprosy bacilli, but so far none have been found. The diagnosis of leprosy, upon his entrance into the hospital, was confirmed by at least three different physicians, and two independent observers found leprosy bacilli in scrapings taken from lesions on the head and face.

From the foregoing, it would appear that there can be but little ground upon which to question the original diagnosis. Further experiments are being made with the *x*-ray in other cases, and the result is awaited with a great deal of interest.

During the week it was reported that some disease was so prevalent in Nueva Caceres and adjoining towns in the province of Camerines, that many of the schools had to close. The Board of Health made an investigation of this matter, and found that the disease was malarial fever. Large quantities of quinine have been forwarded, and the local board of health, as well as the American school teachers in the affected district, are busily engaged in administering the drug.

The real value of serum inoculation, as a prophylactic measure against rinderpest, has received considerable attention of late. The parties on the one side of the controversy claim that the inoculation of antirinderpest serum not only confers an absolute immunity for a period of about six months, but also that it will cure over 60 per cent. of the animals which already have the disease. The parties on the other side of the controversy claim that while it may be true that an immunity is conferred for a period of six months, it would be more economical to segregate the sick animals, and thus prevent the spread of the disease, and to reimburse the owners for all animals that die.

The simultaneous method seems to be the only one which has any real permanent value. This consists of injecting a definite quantity of virulent rinderpest blood into the shoulder of an animal, and at the same time, a fixed amount of antirinderpest serum in the other shoulder. The object of this method is to produce a mild form of rinderpest in the animal, and thereby make it entirely immune against this disease for the rest of its life. In the treatment of the animals of the government laboratories, by this method, the loss on account of the injection was less than 2 per cent. Unfortunately, the use of that method in the provinces is said to have caused a mortality of 50 per cent. in the inoculation of some of the herds. It is claimed that this high mortality was caused by a number of impostors who traveled about the country and represented themselves as Government employees. They charged a fee for their services, and, for a time, are said to have collected a considerable amount of money. They did not practise the rules of asepsis, however, and in many instances other infections were introduced, which caused the death of the animals.

If, in practice, the mortality as the result of the injection can be reduced to 2 per cent., the chances of eradicating the disease from the islands are very favorable. The logical course would seem to be to establish a quarantine station, and to forbid the importation of animals except at one port. In this way, they could all pass through the station, be inoculated, and then they would be ready to be distributed to such places as might be desired. The present method of inoculating all the animals in the vicinity in which the outbreak occurs seems to control the disease for the time being, but this is only a temporary expedient, and accomplishes very little toward stamping out the disease. The money used for this latter purpose would no doubt be better invested in a method that offered more permanent results.

The importance of having healthy animals will be appreciated, when it is remembered that the prosperity of the Philippines depends upon its crops, and in view of the fact that the islands are practically dependent upon either oxen, carabaos, or horses, for transportation, it is obvious that serious consequences must ensue when they are not available in large numbers. Disease among draft animals has probably done more to retard the development of the Philippines than any other one factor.

Last week, a case of cholera made its appearance in Hong Kong. It appears that a Frenchman walked into the hospital one evening, and before any history could be obtained he became unconscious, and soon after died of cholera. The quarantine authorities in the Philippine Islands immediately ordered the discontinuance of shipments of fresh vegetables from the port of Hong Kong. So far, no further cases have been reported, and if this favorable condition of affairs continues, the embargo on vegetables will be lifted at the end of two weeks.

Manila still continues to remain free from plague. The

number of cases for the fiscal year ended June 30, 1905, shows that there has been about one-half as many cases this year, as last. For the year 1904 there were 101 cases, while for the year 1905 there were 51 cases. The following is very encouraging when it is remembered that plague has been occurring in epidemic form in India and other nearby countries.

## OUR BERLIN LETTER.

(From Our Special Correspondent.)

TREATMENT OF PUERPERAL SEPSIS—SUBCUTANEOUS ADMINISTRATION OF IRON—A CASE OF MIKULICZ'S DISEASE—A SEA SANATORIUM—NEW YORK'S PREEMINENCE IN THE FIGHT AGAINST CONTAGIOUS DISEASES—INCREASE OF QUACKERY IN GERMANY.

BERLIN, August 8, 1905.

GREATER activity is manifest in the gynecological section of the Charité. Bumm, its new director, spoke, on July 3, in the Berlin Medical Society, on the surgical treatment of puerperal sepsis. He believes that curettage, extirpation of the uterus, and operations on the tubes and ovaries have proved of no advantage to the patient. But the method of ligating the affected veins in thrombophlebitis and peritonitis has given him good results. In four cases of acute and one of chronic pyemia, he has ligated the spermatic and hypogastric veins, and has cured the patients. The operation should be performed only through the peritoneal cavity, because the view of the field of operation is better in this than in any other method.

Senator recently read a paper on the subcutaneous injections of iron in anemia, after the manner recommended by Italian writers. He said that ferrum ammoniatum used in these injections, produces less pain than the other iron preparations used subcutaneously. Its employment, however, gives no real advantage over the use of iron by the mouth in simple anemia and chlorosis. In the first place, it has been proved that iron is absorbed by way of the intestines, and gastritis excited by iron is very rare; the gastritis is usually the result of the anemia, and is cured with it; in the second place, we do not need to have rapid absorption of iron in an essentially chronic condition like anemia, but we must fear the absorption of poison, and iron acts as a poison to the body when used in this way. The old objection to the taste of iron is no longer valid, in view of the modern preparations with their pleasant taste. From this point of view the subcutaneous use of iron should be reserved for cases in which there is gastric ulcer, in pernicious anemia, leukemia, and pseudoleukemia, and in cases where the stomach rejects all remedies. In thirty cases treated with arseniate of iron no benefit was received, and considerable pain was unavoidable.

At the time when the premature and tragic death of the eminent surgeon Mikulicz has caused deep regret to all medical men, a paper by Buschke, read at the Medizinische Gessellschaft, reminds us that this author was the discoverer of a new disease, which received his name, the swelling of the lacrymal glands. The case presented was that of a man of twenty years, till then quite well, who suffered from an ulceration of the mucosa of both cheeks. Swellings of both temples followed. At the end of five months, on the inside of the left cheek was a flat ulceration, with a whitish surface. Over both temples were to be seen large, solid tumors, not movable, and not sharply defined. Histological examination showed them to be composed of lymphoid tissue. Under the use of arsenic the left tumor disappeared, and the right was much reduced in size. The diagnosis seemed doubtful.

In the Verein für innere Medizin, Hans Leyden read a paper on the seagoing sanatorium. He sketched such a hospital thus: An auxiliary steamship is to be preferred to a sailing vessel. It should have a speed of from twelve to fifteen knots an hour. In such a boat there is better lighting and ventilation; it has a more even motion, and can escape more easily from a contrary sea. The sanatorium should be arranged for not more than 150 inmates, so as to secure the best treatment and the most harmonious life among the patients, and the greatest economy in the arrangements of the ship. There should be two large windows on the cross at give light to the cabins. Each person should have fifteen cubic feet of air space. The [illegible] should be easily disinfected. The berths should be arranged lengthwise of the ship and freshness should enter at one end and be drawn out at the other. There should be a complete operating room, a hall for gymnastics and massage, apparatus for electric and all other kinds of baths, etc. There should be dining, music, and smoking rooms, and all should be connected by wide promenade passages and stairs. There should be reclining chairs for those that cannot walk. To prevent tediousness there should be lectures on zoology, astronomy, the use of the sextant, and arrangements for photography, fishing, and other amusements. Two physicians should have all the superintendence, and a voyage of six weeks is the best length for treatment. The best regions are the northeast portions of the Atlantic, the Mediterranean Sea, and the West Indies. The only objection made during the animated discussion that followed which need be mentioned is that such a comfortable ship sanatorium could be of value only to millionaires. The North German Lloyd line has calculated the expense of living on such a ship, and has found that it will be much less than that of a voyage on the excursion yacht the *Victoria-Louisa*, of that line.

In a paper read before the Berlin Medical Society a short time ago, Wassermann asserted that New York leads all other cities in the fight against infectious diseases. We must know, at the end of an infectious disease, whether the cause of the infection has been removed; to this end, expensive and tedious bacteriological examinations must be made, for which the general practitioner has not time. New York City has a municipal laboratory for such work. The lecturer was seconded by the opinion of all present, when he said that New York should be, in this respect, an example for other cities. A less commendable imitation by the Germans of alleged American practices is in the large number of quacks, which increases daily. According to a report published by the ministry, there are 5,178 quacks in Prussia, against 4,100 of the previous year. In Berlin were recorded 2,875 regular physicians and surgeons, and 1,013 quacks. These numbers speak for themselves without comment.

## Progress of Medical Science.

*Boston Medical and Surgical Journal, September 7, 1905.*

**Applied Anatomy of the Frontal Sinus.**—A careful study of this sinus has been made by H. P. Mosher, who speaks of its size, the characteristics of its mucous lining, and vascular nervous supply. He finds that the prolongations of this cavity are very variable, but that the imperforate septum between them is practically constant, there being but one exception in one hundred skulls examined. In addition to this median septum, partial septa often exists in each cavity. Each wall, anterior, posterior, floor, orbital, and nasal portions, is fully described. Concerning catheterization of the sinus, the author declares that it is almost always necessary to remove the anterior end of the middle turbinate. The catheter should be bent at an angle a little over or under 90 degrees and introduced between the anterior end of the middle turbinate and the ethmoid bulla. It is then brought forward and rotated outward until it engages in the groove of the uniciform. The handle is then depressed, and if the front nasal duct is continuous with the groove of the unciform, as is the case once in four instances, the catheter glides into the sinus, but if the groove of the unciform ends blindly the catheter brings up in this pocket or in an anterior ethmoid cell. In the majority of cases the catheter breaks through the base of this ethmoid cell and thus enters the sinus.

**Causes of Disability After Fractures of the Lower Leg and Ankle.**—F. J. Colton believes that avoidable *disabilities* are nearly all due to one or more of three causes: (*a*) failure to maintain or restore the general long axis of the leg, whether local deformity is much or little; (*b*) mechanical damage to the ankle joint or change in its plane, and (*c*) loss of joint motion from rigidity of muscles and tendons. In the series of special cases studied by him the following conditions were variously found, viz., displacement of the bone ends, change of the leg axis, damage to joints interfering with their bony mechanism, arthritis (traumatic), static flat foot, not from deformity but following over-use of traumatic muscles, and contractures. These various causes are taken up in detail, some simple diagrams illustrating the author's various propositions. In regard to the prevention of the unfavorable results frequently occurring, he notes that in the first place the tendency to malposition must be guarded against, first, by careful study of lesions and by careful reduction; secondly, by careful review (checked if may be by *x*-rays) of the result of reduction and of the present condition—a review to be made after not over two or three weeks, when swelling and spasm are gone yet while correction of mistakes is still easy. Later, operations are the only resort;—undesirable, yet they are often of great service. The purely static troubles independent of malposition are usually readily relieved by careful plate-support. The contractures are, Colton believes, avoidable in all cases unless there is long continued tendency to recurrence of deformity or delayed union, or extreme trauma affecting soft parts as well as bone. They call for treatment directed toward preserving flexibility and nutrition of the muscles, instituted before fixation has rendered the early spastic changes permanent.

*New York Medical Journal, September 9, 1905.*

**Notes on the Death Rate of Infants in the Summer Months.**—The figures and deductions of F. L. Wachenheim are based on studies of the New York Health Department tables for the boroughs of Manhattan and the Bronx during the months of July, August, and September of the last fourteen years. Allowance is made for temperature variations which are reduced to a true mean. The figures show a mortality reduction of from 84 to 56 per cent. of infants under one year. The decline has been most noticeable in recent years but has been most irregular in its progress. The high mortality for certain years is not easy of explanation. Since 1901 the reduction of mortality has not been maintained. The unusually cool summer of 1903 did not give as good a record as might have been expected, while the results of 1904 are far from flattering. The author acknowledges the good work of the Health Department, though he suggests that the bad showing of one special year, that of 1898, was due perhaps to the dismissal of a great part of an experienced staff as one of the mutations of city politics, and the substitution for these trained men of inexperienced physicians. The corrected statistics show that hot weather alone does not play the chief rôle in producing a high infant mortality, but they also prove, however, that with proper prophylactic measures our worst summers may be rendered comparatively innocuous.

**The Hot Air Treatment of Acutely Inflamed Joints.**—The paper of W. R. Thomson is a plea for the more common use of dry hot air in joint affections in the acute stage, and he has found that "baking" affords very prompt relief in this class of maladies. The patient does not find the heat uncomfortable, but on the contrary the relief is so marked that he frequently obtains his first sleep while undergoing the treatment. The author declares that a case of articular rheumatism seen during the first three days will almost invariably be cured after three bakings. A case seen after six weeks of various plans of treatment may require fifteen or more bakings before recovery is in sight. He does not include chronic arthritis and joint adhesions in his category. His method of applying the oven is thus described: If the patient is in bed, he is generally propped up if a shoulder is the affected point, otherwise he is allowed to lie down or sit up as best suits him. If a hood is to be used, one thickness of bath toweling is sufficient, but if the part is to be placed directly in the oven he generally uses three layers of toweling and a thick pad under the most dependent part. Instead of swinging the limb in a hammock made of canvas he prefers one of strong fish net. Every portion of the body exposed to the heat must be in close contact with bath toweling, care being taken that there are no tight bands and that the pad on which the arm or the heel rests is very loose and soft. Séances generally last one hour, during which the patient sips water slowly. After baking the parts should have a red and white mottled appearance. The parts are then bathed in warm grain alcohol, or camphor spirits, and carefully dried. Possible dangers are burning and collapse, but the author has never met them. Illustrative cases are summarized.

**The Relative Frequency of a Protruding Lateral Sinus and Its Bearing on the Choice of Method for the Total Opening of the Middle Ear Cavities; With Demonstrations of Anatomical Specimens.**—The question is discussed by E. Amberg, who exhibits photographs of specimens and gives measurements and a diagram to illustrate his various propositions. The results of his investigations lead him to believe that a lateral sinus can be regarded as displaced forward if it approaches the suprameatal spine more than ten and six-tenths mm. He suggests also that disturbances often arising after the packing of a protruding lateral sinus may find their explanation in the local anatomical conditions. His diagram and description thereof must be consulted in the original paper by those interested.

*Medical News, September 9, 1905.*

**The Recognition and Treatment of Pancreatic Inflammation.**—Carl Beck believes that pancreatic inflammation is more common than is generally supposed. He describes the anatomical relations of this organ, but declares that our knowledge of the symptomatology of its various affections is still very imperfect. The deep situation of the gland and its close environment to neighboring organs render exact diagnosis very difficult. Physiology helps us some, for we may make a diagnosis of pancreatic trouble from the cessations of its functions, as shown by fatty diarrhea and diabetes. If, while biliary disturbances are absent much fat is found in the feces, pancreatic disease may be suspected. Sugar in the urine corroborates the diagnosis if other symptoms point to this organ as the one at fault, but the absence of sugar under similar conditions proves nothing against the tentative diagnosis. Pain and cachexia are too indefinite symptoms to afford us much assistance. Chronic jaundice complicated with considerable enlargement of the gall-bladder and without colicky attacks in the biliary sphere should lead to a suspicion of diseased pancreatic head. In thin individuals palpation may give us a clue to the seat of the malady. The present status of abdominal surgery suggests the opening of the belly in these doubtful cases. Cures have been reported in patients whose inflamed pancreatic glands were exposed by laparotomy and left untouched. The author has had three cases of the acute form of inflammation. Of these one recovered. In none could an accurate diagnosis be made before abdominal incision.

**The Pneumococcus as a Factor in Hemoptysis.**—This topic is considered by L. F. Flick, M. P. Ravenel and J. W. Irwin. They note the absence of any assigned reason for the epidemicity of hemorrhage in tuberculosis. Theoretically they were led to believe that if any germ had to do with it the pneumococcus would be the most probable one, and they have therefore studied the ejected blood of a number of cases in which the pneumococcus was found. The streptococcus was also present in most of the cases. They do not feel justified in drawing any conclusions from so few cases, but declare that if it shall be proven that the pneumococcus is responsible for hemorrhages in tuberculosis, we shall have to change our views about the etiology and treatment of this special symptom and shall probably be able to prevent its occurrence to a much greater degree than formerly. As between the relative importance of the pneumococcus and the streptococcus in their findings, they say that the former has been vastly the predominating organism in every instance except one.

*American Medicine, September 9, 1905.*

**Difficulties in Abdominal Diagnosis.**—E. E. Montgomery recounts the history of six cases, illustrating some of the difficulties, which may be divided into those in which the solution has to do with the existence or nonexistence of pregnancy; those in which ovarian tumors may be in question; those in which doubt occurs as to the presence of a myoma, and those in which there is uncertainty as to the existence of other growths.

**Deformities of the Lower Extremity.**—Gwilym G. Davis says the main characteristics of these deformities is weakness. This may be either a weakness affecting the constitution and tissues of the body generally, or it may be a local weakness, or it may be both combined. For purposes of discussion he divides them into three classes: (1) Those due to rickets; (2) to paralyses; and (3) to deformities of the feet. In these three groups are included most of the deformities of the lower extremities; their diagnosis, prognosis, and treatment being considered in detail.

**Therapeutic Value of the Digestive Ferments.**—Henry Wald Bettman reviews the existing beliefs regarding the therapeutic value of the digestive ferments. The exact physiological value to the system of gastric digestion has never been made clear. It is now known that the quantity of pepsin in the stomach does not run a parallel course with the quantity of HCl. Pepsin is more resistant to disease than the other gastric secretions. In many disorders, however, the quantity of pepsin is below the normal, or pepsin may be entirely absent. In these cases the administration of pepsin would seem theoretically indicated. In practice, the administration of pepsin rarely does good in chronic cases. Some patients are temporarily benefited. In France many favorable reports have been published regarding the administration of dog's gastric juice. It is highly probable that animal gastric juice acts merely like a corresponding solution of HCl and pepsin, and that equally good results could be obtained by giving HCl in corresponding doses.

**Iron Precipitates in the Blood, Spleen, and Marrow.**—Edward T. Williams in discussing this subject says that Quincke in a series of articles on Pernicious Anemia found granular precipitates of iron sulphid in the liver, spleen, and bone marrow, and sometimes in the kidneys and pancreas of persons who had died of this disease, by treating sections of these organs with solutions of ammonium sulphid. On treating similar preparations with potassium ferrocyanide, dark blue precipitates of iron ferrocyanide (Prussian blue) were obtained. Dr. Williams found the same precipitates in healthy spleens, marrow, and healthy blood. Ammonium sulphide, which throws down persalts and protosalts of iron, always gives the most abundant precipitates. Potassium ferrocyanide, which throws down only the persalts, gives less numerous precipitates. Potassium ferrocyanide, which acts only on the protosalts, gives the smallest precipitates of all; which shows that the iron exists in both forms, though chiefly as persalt. Dr. Williams believes the gastric juices extract this iron from the food in the form of a chloride, which combines with the peptones in the stomach to form a peptonoid. Thence it passes into the portal vessels and spreads through the system. A large amount of it is plainly deposited in the spleen and marrow, where it is intended to serve as a pabulum for the young red blood corpuscles.

**Advantages of the Sanatorium Treatment of Tuberculosis.**—F. M. Pottenger believes patients can be treated best in a sanatorium because (1) they are under the immediate and constant guidance and control of the physician, who can see that they do the things which are necessary to help bring about a cure, and prevent them from doing things which tend to lower vitality and retard progress. (2) They are furnished with apartments suitably lighted and ventilated, and with food adapted to their needs and properly prepared. (3) They can be given the advantages of all scientific measures which have proved of value in treatment. Good food, fresh air, and careful guidance are the basis of treatment, but the tuberculous individual is not receiving the best that can be had until we give him the benefit of all scientific aids, and of these especially to be recommended are: hydrotherapy, the chemical rays, culture products, and direct medication of the upper air tract.

*Journal of the American Medical Association, September 9, 1905.*

**The Principles of Life.**—M. L. Price, after criticising Metchnikoff's well-known theory of senility, finds only three theories that will properly account for the condition: First, that the failure of the cells is due to successive and repeated inflammations, causing the replacement of the proper cell substance by scar tissue incapable of assuming its functions. Second, that the failure of the cell is a nutritive one, the cell becoming unable, with the advance of time, to keep up the metabolic processes needed in its special functions. Third, that the cell failure is due to the loss of properties enabling it successfully to resist the constant activities of pathogenic organisms and toxins. There are objections to the first of these; senile changes occur evidently without reference to prior inflammatory conditions, and it does not satisfactorily account for the loss of the power of reproduction and regeneration. There is, however, a failure both of nutrition and resistance in senility, and the author offers the theory that the cell is endowed very early in its existence with a specific substance, the presence of which is essential to its functions, that this substance becomes progressively exhausted during the life of the organism, and that it alone, of all the materials of the cell, is not renewed after a certain early stage of its existence. This hypothetical substance he calls bioplasmine, and he represents the probable constitution of its molecule by a graphic formula. He discusses at length the properties and action of this substance in growth, heredity, etc., and speculates on the possibility of its isolation and the possible practical results. The first advance to be made in prolonging life would, he thinks, be in stimulating the activities of the bioplasmine in giving off the substances necessary for metabolism when this can no longer be accomplished by the physiological stimulus. It is not likely, he says, that the bioplasmine molecule is ever so much reduced during life that there is not a considerable amount of these substances in combination. It is to the physiological chemist, he states, that we must look for the clearing up of the problem of the prolongation of life, and it is not too much to expect that our descendants [illegible] hence may realize or exceed the ages of the patriarchs of the Mosaic chronicles.

**The Metabolism of Atrophic Children.**—A. H. Wentworth gives the results of his study of the metabolism of atrophic infants which was awarded the Dalton Prize by the Massachusetts General Hospital. After pointing out the possible sources of error, avoidable and unavoidable, in such research, he reports the details of his [illegible] methods of analysis and controls, which were very careful and complete. The study included two observations of four days each, on each of two children; in one case a post-mortem was obtained several months after the last study, but says that while metabolism observations have established a number of important facts, such as failure of absorption of certain kinds of food, they do not explain the causes of this failure. What has been done shows that the cause or causes of infantile atrophy is not to be discovered by metabolism investigations, and that this must be left to other lines of research.

**The Pathological Effects of Alcohol on Rabbits.**—J. Friedenwald publishes the results of a study of the effects of alcohol on rabbits. One hundred and twenty rabbits were utilized, and the observations extended over a period of several years. The smallest weekly dose was 20 c.c., the largest 50 c.c. The animal that lived longest consumed over 10 liters of absolute alcohol, another consumed over 18 liters of whiskey. There was a marked difference in the susceptibility of different animals, some dying after a few doses, others surviving for years. Young and small rabbits and pregnant females seemed most susceptible. The animals usually gained somewhat in weight at first; this was followed by a stationary period, and then a rapid fall preceding death. During intoxication, the temperature fell 1 to 1.5 degrees. The blood examinations showed a fall to half the normal in the percentage of hemoglobin, but no marked change in blood cells till just before death. The gastric free hydrochloric acid decreased under the influence of the alcohol, and in some cases albumin and casts were found in the urine; in some cases in which these were not found the autopsy revealed kidney lesions. Alcohol evidently has a marked tendency to produce abortion in rabbits. Out of a series of thirty-eight pregnant rabbits, twenty died of septicemia following abortion, and the organism of rabbit septicemia was found in all, though they had been thoroughly isolated from one another. Of the rest, nine had constant abortions, none coming to full term. Three had normal deliveries, but the young all died a few days after birth. Complete autopsies were made in all cases. The lesions found were fatty degeneration of the heart muscle, which was lacking in animals killed after cessation of the use of alcohol, showing that it was not a permanent condition; fatty lesions of the liver and kidneys were also observed in some cases, and occasionally liver cell necrosis, singly or in groups. The experiments failed to produce satisfactory genuine hepatic cirrhosis, though the liver was found more or less cirrhotic in a few instances. Fatty degeneration of the kidney tubules, thickening of the vessels, and atrophy of the glomeruli were noted in a number of cases; in others no changes were observed. Evidences of gastric ulcerative processes were seen in a few instances, congestion was more common. The intestines were usually normal. The testicles frequently showed a diffuse fine deposition of fatty granules in the epithelium of the tubes and interstitial cells. The most notable changes in the brain, as reported by Dr. Berkley, were atrophy of the cortical cells, which was apparently quite marked.

**Pulmonary Streptothricosis.**—T. G. Ashton and G. W. Norris report two cases of streptothricosis of the lungs, and review the literature of the condition. They remark that one reason that this condition is not more often recognized is because it is not readily demonstrable by the ordinary carbolfuchsin method of sputum examination. The microorganism has been found in many cases only after the Gram method has been employed, hence, in suspected tuberculosis, when the tubercle bacillus is lacking, recourse should be had to this method. Of course the mere presence of the streptothrix in the sputum or tissues does not necessarily prove it to be the primary infection. It may be secondary, but there are cases in which this has been shown to be the main and probably the sole agency. The tendency to metastasis, especially in the acute bronchopneumonic type is remarked, the skin and brain being the most frequent localities, but other tissues and organs have also been involved. Clinically, streptothricosis of the lungs appears in two forms, the acute bronchopneumonic form, pyemic in its later stages, and the chronic form, first described by Flexner, which is clinically almost identical with pulmonary tuberculosis. In both cases reported, the patients were treated by stimulation and nourishing diet, and one decidedly improved, and left the hospital. The other, under the same treatment became progressively worse, the infection being apparently more virulent. A tabulated statement and analysis of the published cases is given. The article is illustrated.

*Berliner klinische Wochenschrift, August 21, 1905.*

**The Relation of Hypoleucocytosis to the Bone Marrow.**—Gütig records a case of marked leucocytosis in a girl of eighteen years, associated with tuberculosis of the lymph nodes and of the spleen. In the bone marrow and nodes a high degree of lymphoid hyperplasia was present, in the former the lymphoid tissue occupying both epiphysis and diaphysis. The blood picture showed a relative as well as an absolute decrease in the number of polynuclear neutrophiles that were the only leucocytes in the blood containing granules. Twenty-four hours before death these also entirely disappeared from the circulation, the small lymphocytes constituting 99 per cent. of the leucocytes. The erythrocytes and hemoglobin were both reduced to one-quarter of the normal amount. Clinically, the symptoms were anemia, diarrhea, and increasing weakness, a splenic and an hepatic tumor, and slight enlargement of the cervical lymph-nodes. Death occurred from inanition. Preparations made from the marrow of the ribs and femur showed normoblasts and normocytes, but the preponderating form was a cell with basophilic homogeneous protoplasm in which no nucleus could be demonstrated. Transition forms to typical lymphocytes in one direction, and to a large mononuclear cell with lightly staining, basophilic, homogeneous protoplasm in the other were also present. A few cells of this type contained eosinophile, less often neutrophile, granules. No myelocytes were found. Gütig believes two factors to have been active in producing this symptom-complex. In tuberculosis a hypoleucocytosis is common, the bone marrow contains fewer granular cells, the myelocytes being especially diminished in number. Whether this is the result of the inhibitive action of the bacteria or of their toxins upon the marrow, the seat of elaboration of the granules of the

leucocytes, has not yet been definitely determined. Secondly, the centers in which these granules are formed may have been replaced by the lymphoid hyperplasia, as in pseudoleukemia and chronic lymphatic leukemia, in both of which there is, as in Gütig's case, a relative lymphocytosis at the expense of the granular cells.

**The Early Determination of Bacilli in Pulmonary Tuberculosis.**—Blume finds a rapid decrease in the advanced cases of phthisis in Denmark, with a corresponding increase in incipient apical affections. In the latter group sputum is usually either absent or too scanty for satisfactory examination. Under these conditions Blume orders the patient to cough on eight to ten successive mornings against an ordinary microscope slide held in a wire frame. At the end of this period the slide is examined in the usual way. The writer has thus been able to demonstrate tubercle bacilli when the clinical symptoms were in themselves insufficient for the establishment of a positive diagnosis. Only typical forms may be considered diagnostic.

*Münchener medizinische Wochenschrift, August 22,* 1905.

**The Occurrence of Spirochætæ in Syphilis.**—Rille and Vockerodt have succeeded in demonstrating *Spirochæta pallida* not alone in primary lesions of the genitals, flat condylomata, and inguinal nodes, but also, and for the first time, in extragenital primary lesions, in papules between the toes, in lenticular syphilides of the trunk, in dry scaly syphilides of the scalp, neck and arm, in psoriasis palmaris, and in the mucous plaques of the tonsil. They assume from analogy to the typhoid roseola, that the spirochetes must also be present in the primary roseola, but in this, as well as in the blood and cutaneous eruption of syphilis in the newborn, and in an osteoperiostitis gummosa of the bones of the skull, no organisms were found. In lesions of the lips and vulva in a case of seven to nine years' standing atypical forms of *S. pallida* were found, the first recorded case of their presence in tertiary lesions. To secure thin spreads free from obscuring tissue particles the authors recommended forcible removing of the surface of the ulcer. An abundant exudation of clear serum follows. Giemsa's stain (1:10) yields the clearest pictures. The preparation is to be fixed for ten minutes in absolute alcohol, stained in the Giemsa solution from four hours to overnight, washed thoroughly in water, dried, and mounted. In searching for the organisms fields containing red blood cells are to be selected, as the spirochetes are most often found in contact with or lying upon these cells. Only a spiral organism with six to eight turns may be regarded as *S. pallida*. Disinfection of the wound surface before the examination, as well as local treatment with mercury, does not influence the form of the organisms, but makes the examination easier through the destruction of other bacteria.

**The Action of Radium Upon Pathogenic Bacteria and Infected Wounds.**—Werner exposed cultures of strepto- and staphylococci, bacterium coli, and bacillus tuberculosis to the action of radium bromide. The effect varied with the intensity and duration of the exposure. Fresh streak cultures were far more readily hindered in their development than those in which growth had already begun. Irrespective of their virulence an exposure of thirty-six hours or longer was required to kill the organisms. Such dead cultures injected into rabbits produced both antitoxic and bacteriolytic sera, although their toxins and endotoxins were so weakened that the lethal dose was increased two- or threefold following the exposure. Upon fresh bleeding wounds or upon granulating wounds into which bacteria were rubbed so vigorously as to cause bleeding, radium exerted no disinfectant action. Granulating surfaces are normally resistant to bacterial infection. There is a latent period in the development of organisms in such wounds during which exposure to radium may result in their destruction and in the prevention of infection. The writer concludes that radium is impracticable as a disinfectant both because bacteria are more resistant to its action than the body cells, and because it possesses feeble powers of penetration. Werner further finds that tissue, become necrotic through exposure to radium, exerts a bactericidal action. This is not alone dependent upon the destruction of lymph and blood channels preventing absorption, but also upon the direct action of the necrotic cells upon the organisms. The most important rôle is played by lipoid substances liberated by the dead cells, especially lecithin that is decomposed into its constituents, cholin and glycerinophosphoric acid, both of which are bactericides. The leucocytes in the necrotic area and other substances, some of which are probably ferments, aid in this process of self-sterilization. Autolysis of necrotic tissue in vitro is not attended with the destruction of bacteria, unless the tissue is exposed to radium. The attempt to prepare extracts with antiseptic properties from tissues that had been exposed to radium was unsuccessful.

**The Treatment of Hyperidrosis Plantaris in the Army.**—Villaret urgently opposes the use of formalin in this condition. The application of even a dilute solution of this drug causes destruction of the epithelium in the ducts of the sweat glands with damming back of their secretion. Repeated applications dehydrate the skin, destroy the sweat glands, and leave the skin of the foot abnormally dry, hard, and cool. Not the sweat itself, but the constituents into which it is decomposed when evaporation is prevented, cause the excoriation of the skin. Particularly is this true of the organic acids. A rational therapy must be based upon the prevention of this decomposition, and this object is satisfactorily obtained by the use of salicylic acid that is a non-toxic disinfectant. Villaret suggests the possibility of a vicarious action on the part of the sweat glands in cases of renal insufficiency. This would, if substantiated, constitute a further argument against the employment of any substance tending to destroy the sudoriferous glands.

*Deutsche medizinische Wochenschrift, August* 24, 1905.

**The Abnormal Growth of Epithelium in Wounds and Traumatic Epithelial Cysts.**—Pels-Leusden believes that not alone the superficial epithelium of the skin, but also that of the sweat and sebaceous glands as well as of the hair follicles form a matrix for the proliferation of epithelium in the skinning over of wounds. The epithelial lining often found in tuberculous sinuses is probably a prolongation of the skin epithelium, but the writer has found a similar lining in superficial tubercular abscesses that had not yet formed a communication with the surface of the body. That the denuded cutis may receive a new epithelial covering from these appendages of the skin has already been shown (Rosenblaht). In the closed tubercular abscesses above mentioned, Pels-Leusden again derives the epithelial lining from the epithelium of the cutaneous glands. It seems probable that the sudoriferous glands play the most important rôle, since their convoluted extremities lie deeply imbedded in the fat of the cutis. The author rejects the theory that traumatic epithelial cysts arise from the healing of the skin over an area of epithelium and cutis depressed beneath the surface by the traumatism. In the palm of the hand, where these cysts most commonly occur, the skin is particularly dense and resistant. He ascribes these cystic tumors to a proliferation of the epithelium of the glandular appendages of the skin, due to the irritative influence of a foreign body. Such a foreign body may be absorbed or overlooked at operation. It is possible that the fatty acids may act as such, or a blood clot following a traumatism, especially when the continued use of the hand prevents the union of the edges of the wound. Experimentally the writer reproduced these tumors by inserting plates of magnesium into the cutis of rabbits' ears. The plates were gradually absorbed, leaving behind cysts that in the earlier stages showed a partial epithelial lining, and in the later stages were completely lined by an epithelium in which all the strata of the normal structure were reproduced.

**Spirochæta Pallida in Hereditary Syphilis.**—Reischauer was able to demonstrate this organism in spreads from the liver, lungs, and spleen of the stillborn child of a luetic mother. The spirilla were most numerous in the liver, in which the pathological lesions were more advanced than in the other organs. Neither the kidneys nor the blood contained spirochetes, nor were any found in sections made from the various organs. Giemsa's stain gave the best results in the preparations. Reischauer recommends this stain for the demonstration of bacteria of all kinds, whether in spreads or in sections. In the latter clearer pictures, especially of Gram negative organisms, were obtained with Giemsa's stain than with Loeffler's methylene blue.

*American Journal of the Medical Sciences, August,* 1905

**Notes on Otic Epilepsy.**—B. Alex. Randall considers that many of the epileptiform seizures attributed to ear troubles are of an hysterical nature. On the other hand, some cases seem to be relieved by ear treatment alone. The author reports the case of a boy of eight years of age, who had a drum ruptured and an inflammation of the middle ear set up by a sudden douche in the ear from a hose. He had epileptiform attacks as often as three or four times daily. They consisted of winking, rigidity of the back and limbs, with some twitching of the limbs, and apparent unconsciousness for a few seconds, after which he would go on playing as if nothing had happened. He had a polypus in the left auditory canal, caries of the ossicles, and later mastoid involvement. The ossicles were removed, and the mastoid drained. When the ear was healed the attacks decreased much in frequency and severity. At last report the child seemed to be entirely cured.

**An Unusual Case of Edema of the Glottis.**—Emil Mayer reports the following case: The patient had a history of chronic cough, with mucopurulent expectoration, never bloody; no night sweats or dyspnea; had never had syphilis; voice had always been clear. His illness commenced suddenly with pain in the neck and dyspnea, which went on rapidly to extreme dyspnea and cyanosis, respiration four-

teen per minute, heart rapid and forcible, profuse mucous discharge from mouth and throat, and fetid breath. Laryngoscopical examination showed a large, glistening mass at the base of the tongue, on the right side, filling the entire pyriform sinus, and extending over the epiglottis, so as to leave little space for breathing. A deep incision into the mass set free a quantity of thick, bloody, ill-smelling fluid, and a spray of adrenalin, 1:5,000, was then applied. Distress was promptly relieved, and all inspiratory difficulty ceased on the second day. There was then a large, whitish slough where the edematous mass had been. Examination of a portion of this mass showed staphylococcus albus and streptococcus. A solid mass of new growth took the place of the slough, lying in the pyriform sinus, covering three-fourths of the epiglottis, but not interfering with breathing or swallowing. A portion removed showed nothing but connective tissue. More than half of the epiglottis had sloughed away; the remaining portion of it stood straight up and was adherent by two bands to the lateral pharyngeal wall. The author believes that this was a case of edema of the glottis engrafted on a case of hereditary syphilis of the epiglottis, which had never produced any symptoms but that of cough.

**The Lymphatic Drainage of the Faucial Tonsils.**—George Wood Bacon tells us that of the germs that enter the system by way of the tonsil, those whose vitality is sufficiently great penetrate the epithelium and pass into the interfollicular tissue. Most of those that get into the crypts are destroyed by the polymorphonuclear leucocytes. The absorption of foreign bodies by the tonsils depends on the action of the throat muscles, and the presence of the lymph current in the tonsil. There is a constant production of lymphoid cells in the follicles. They may be looked upon as being in constant motion, passing from the follicles in the direction of least resistance. If the epithelium has been weakened the lymphoid cell breaks through and passes into the crypt, but usually they pass into the lymph spaces of the tonsil and into the efferent lymphatics. A foreign body having entered the tonsil is carried along with the lymphoid cells. Microorganisms, if motile, may enter of themselves, or they may enter by their growth. The last is the usual way for pathogenic organisms. The author, by injecting the tonsil, endeavors to show how these substances are carried by the drainage of the tonsil. The cervical lymphatic glands are superficial, or collecting glands, and deep or terminal glands. The superficial form a collar around the upper part of the neck; they are the suboccipital, mastoid, parotid and subparotid, submixallary, submental, and retropharyngeal. The terminal glands form a perpendicular chain beneath the sternomastoid, and several subsidiary chains. The efferents of all the collecting glands empty into the deep chain. The external chain is continuous with the glands occupying the supraclavicular triangle. The internal chain is along the internal jugular vein. There are many anastomoses between the two chains. The external glands receive the afferents from back and top of the head and neck; the internal group receive the afferents from the front of the head and neck, mouth, pharynx, larynx, and thyroid. The tonsils were injected with a blue fluid, into the lymph spaces, passing through the lymph radicles into the lymph vessels. These preparations showed that the course of the tonsillar lymph is fairly constant. The vessels pass from the external portion of the tonsil through the peritonsillar connective tissue, the pharyngeal aponeurosis, and the superior constrictor of the pharynx, and as two or more fine vessels, run obliquely downward, backward, and outward, passing below the facial artery, between the internal jugular vein and the stylohyoid muscle, to the superior surface of a large gland, just beneath the anterial border of the sternomastoid. The efferent vessels of this gland are generally two, passing into the internal jugular group of glands, and the jugular lymph trunk. In none of the preparations did the fluid pass into any of the superficial glands. The gland affected in tonsillitis is external and slightly anterior to the internal jugular vein. Enlargement dislocates it outward and forward, so that it appears to be superficial. Enlargement of the submaxillary glands from carious teeth is found along the edge of the jaw, and cannot be displaced backward or downward.

**Certain Hypertensive Crises in Arteriosclerotic Subjects.**—John Bradford Briggs eliminates all cases of general arteriosclerosis, all gross cardiac lesions, and manifest interstitial nephritis, and finds outside of these a group of patients presenting various symptoms, but only the physical sign of high tension pulse. They are all near or have passed the climacteric; whether their years be many or few, they are all physically old. The high tension is the sign of physiological old age. One of the important symptoms may be a permanent trace of albumin in the urine, with a few tube casts. There is an intimate relation between pathological states of high blood pressure and renal permeability to albumin. If hypertension is not the inevitable forerunner of albuminuria, it is its constant companion. In most patients whose albuminuria is a cause for anxiety, the rise of blood pressure is an early danger signal. Entirely aside from transient febrile and cyclical albuminurias, there are cases in which we can detect traces of albumin in the prenephritic stage, when irreparable kidney changes have not as yet taken place. Such a sign is of value in suggesting treatment for the patient which shall prevent the onset of nephritis. These cases have nervous symptoms, such as headache, clonic spasms, stupor, and irregular respiration, combined with high blood pressure. There will be a trace of albumin and a few casts, with low specific gravity. Another type has diarrhea, and slight vertigo, with the same urinary and blood symptoms. There may be peculiar sensations in the hands, with clonic spasm of one extremity. The treatment for all these cases consists of remedies to favor elimination and reduce blood pressure. The author gives the following conclusions: (1) Albuminuria in the subjects of generalized arteriosclerosis, when there is no other cause, is always accompanied by high blood pressure. (2) Intermittent attacks of hypertension of the pulse and albuminuria, separated by longer or shorter intervals, may be the only clinical expression of a generalized arteriosclerosis. (3) Therapeutic treatment for such hypertension, if not carried too far, will relieve the pathological condition of the urine. In some cases we may hope to postpone the onset of chronic renal changes.

**Tinea Versicolor in an Institution.**—Henry J. Nichols takes up the history of tinea versicolor, which has been mistaken for various other discolorations on the skin. There is still uncertainty as to the classification of the parasite and the means of cultivation. From a clinical standpoint, in regard to the predisposing causes of the infection, the question of contagion, and the age limits there is difference of poinion. It has come to be generally recognized that the disease is the result of a microorganism. The parasite is the microsporon furfur; spores and threads have been found in scrapings from the skin. Inoculation has been accomplished, but the questions of classification and culture are still unanswered. It is still doubtful whether a pure culture has been obtained. The author observed forty-two cases out of a population of 700 men, in an institution, in 1904, and gives us the results of his observations. Of the entire number 5.92 per cent. were infected. The disease has been found by different observers to be fairly frequent: 1.6 to 6.25 per cent., and among prostitutes, in Hamburg, as high as 20 per cent. Civilians, who are in large part segregated, are infected to a greater degree than soldiers. The largest number of cases are among old persons; average age was forty-seven. It is found in the sternal hair of old men, as coarse white or yellowish scales. Microscopical examination shows spores, but not mycelia. The spores lie in almost solid sheets. It is probable that in old cultures, as in old age, a resting stage is reached. Organic disease, such as consumption, does not seem to be a cause. The disease is fairly frequent among the chronic insane. Attempts at cultivation isolated a fungus which liquified gelatin and showed other so-called characteristics of the germ; but its variable morphological properties have made any conclusions impossible. Sulphurous acid proved most rapid and effective in its action to destroy the parasite. Sodium hyposulphite was applied to the scales, and then tartaric acid added, developing the sulphurous acid.

**The Negative Value of Kernig's Sign.**—Robert N. Wilson discusses the flexion-contracture symptom, known as Kernig's sign, in meningitis, with a view to prove its negative value. The sign is usually, though not invariably, present in undoubted cases of meningitis. This sign may not appear until late in the disease, may be unilateral, and may be transient or entirely absent throughout the disease. Kernig's sign was observed in three cases of pneumococcus meningitis throughout the disease, and continuing after complete recovery. Two intelligent patients stated that it was present before the illness. The author studied the patients in the medical wards of the Philadelphia Hospital, who showed no symptoms of meningitis. He believes that most healthy persons are unable to avoid a slight angle of flexion when this test is made. He examined one hundred and twenty cases, seventy-three adults, and forty-seven children under ten years of age. In the adults Kernig's sign was present in twenty-nine cases; in children, in three cases. Of the total number, the sign was present in thirty-two cases, in the absence of any clinical signs of meningitis. None of these had Argyll-Robertson pupils. Patellar reflexes were absent in seventeen cases without evidences of nervous disease. The anthor believes that Kernig's sign is an exaggeration of the normal tendency to contract on the part of the flexor tendons, due to irritation or disease of the brain. We must conclude that Kernig's sign is by no means a positive indication of meningeal, or brain, or cord disease, but that when present with other signs of meningitis, it is confirmatory in a high degree. It persists

into convalescence, and is one of the last signs to disappear.

**Diminutive Spleen.**—W. J. Calvert reports a case of a Filipino woman who came to autopsy for leprosy. The spleen was found to be very small, and incased in a mass of fat. It was 32 millimeters long and 10 wide, with 9 millimeters of thickness, and weighed 2 1-10 grains. The color was deep, the capsule smooth, and the blood-vessels degenerated. The arteries were found to be thickened, and their endotheleine degenerated, with deposits of lime. The pulp was much diminished, and only one Malpighian corpuscle was observed, which was mainly composed of connective tissue. It in no way suggested any inflammatory process. Rudimentary development of the spleen is frequent. Twelve cases of absent spleen have been reported. The condition of spleen in the author's case would indicate arrest of development early in embryonic life. In cases of this kind the space that would be occupied by the spleen is filled by a mass of fat. This is irregular, not the shape of the spleen. The posterior border is further from the vertebral column than normal; the relative splenic dullness in the lower border of the lung is absent or moved anteriorly. The size and shape of the fat mass is fairly constant. These are all the points present to aid in the diagnosis of absent or small spleen.

**Torsion of the Great Omentum.**—H. Irving Pinches and Edred M. Corner have devoted some time to the consideration of torsion of the omentum, which is fairly frequent. Torsion of the bowel in strangulated, obstructed, or painful and irreducible hernia is far from uncommon. It is removed after the reduction of the hernia by the pressure of the gas in the intestine. The testes and cord are also frequently twisted in the hernia, and we may expect that the omentum has undergone a similar process. All cases recorded, up to the end of 1904, have been collected, and four new ones are published, making the number fifty-three in all. The cases fall into three groups: abdominal, six examples, hernial, the torsion occurring solely within the sac, six cases; hernial and abdominal, forty-one cases. The condition is more frequent in males and in middle life. A hernia was present in 90 per cent. of the cases, but in none was there femoral hernia. Previous crises, or attacks of pain in these cases are of importance, and are probably due to increase of the tension, as ten or more twists have been found. The clinical symptoms are pain in the abdomen, and in some cases in the hernia itself. In eleven cases it was at McBurney's point. Vomiting is not a constant symptom. The bowels may be inactive, or diarrhea may be present, or flatus only passed. The pulse is accelerated, the temperature slightly raised. A tumor may generally be felt, both in the hernia and in the abdomen. All of the patients, except eight, recovered; hence the prognosis is good. Instances of abdominal torsion, without any hernia, are 10 to 12 per cent. of all cases of omental torsion. The condition requires immediate operation. Torsion accompanied by a hernia shows all the symptoms of a hernia, which is usually irreducible, incarcerated, or strangulated, and demands operation. In some cases the hernia has been reduced without relief to the symptoms.

*Annals of Surgery, August,* 1905.

**Final Results in the X-Ray Treatment of Cancer, Including Sarcoma.**—Since February, 1902, William B. Coley has made an earnest endeavor to determine the value of the *x*-ray in the treatment of malignant tumors, and he arrives at the following conclusions: (1) That the *x*-ray exerts a powerful influence upon cancer cells of all varieties, but most marked in cases of cutaneous cancer. (2) In some cases, chiefly in superficial epithelioma, the entire tumor may disappear, probably by reason of fatty degeneration of the tumor cells with subsequent absorption. (3) In a much smaller number of cases of deep-seated tumors, chiefly cancer of the breast and glandular sarcoma, tumors have disappeared under prolonged *x*-ray treatment. In nearly every one of these cases, however, that has been carefully traced to final result, there has been a local or general return of the disease within a few months to two years. (4) In view of this practically constant tendency to early recurrence, furthermore, in the absence of any reported cases well beyond three years, the method should never be used except in inoperable cases, or as a prophylactic after operation, as a possible, though not yet proven, means of avoiding recurrence. (5) The use of the *x*-ray as a preoperative measure in other than cutaneous cancer is contraindicated. (*a*) because the agent has not yet been proven to be curative; (*b*) because of serious risks of an extension of the disease to inaccessible glands or to other regions by metastases during the period required for a trial of the *x*-ray.

**Hypertrophic Pyloric Stenosis in the Infant.**—The following case reported by J. M'Gregor Robertson affords material for a critical consideration of points of significance in the evolution of the clinical history of pyloric stenosis in infants. A plump, healthy looking male was nursed by the mother, and for the first six weeks thrived exceedingly, when he began to put up a little now and again after a drink. The vomit was suddenly projected *en masse* with force, and day after day this tendency to put up, after a drink, a portion or all of the meal increased. There was a suggestion of three nerve phenomena: (1) A sluggishness of pupils; (2) a faint rigidity of the muscles of the neck; (3) a tendency to turn the eyes downward. These symptoms later became quite distinct. From the sixteenth day of illness to the thirtieth day the chief facts had been, (1) the vomiting of more or less food, sometimes little, sometimes much, occurring from one to three or four times in the twenty-four hours, always with much explosive force; (2) the erratic temperature; (3) elusive suggestions of nerve symptoms. The rectum was very irritable, as well as the pharynx. The first and only time that gastric peristalsis was visible was on the thirtieth day. On the thirty-third day he first detected on palpation a thickening in the region of the pylorus, and an operation was advised and consented to, the child bearing the operation well, but dying fourteen hours later. The whole gastric wall was found to be uniformly hypertrophied, though dilatation was not marked, and the extreme pyloric thickening made clear the nature of the disease. A gastroenterostomy was performed with great difficulty, the duodenal wall being extremely thin and the lumen small. When a glass tube was tied into the cardiac end and the stomach filled with water, there was not a single leak at the pylorus. There was an extremely narrow channel through the pylorus left patent by the hypertrophy, and this was occluded by the rugæ and the dense secretion.

**Combined Volvulus and Hernia Through a Recent Mesenteric Slit.**—This case with a resection of five and one-half feet of intestine, death occurring on the ninth day, is reported by H. C. Curl, and was of special interest because of the comparatively slight reaction on the first day, and the unusual combination of a volvulus and a large mass of intestine strangulated through a mesenteric rent, evidently of recent origin, and occurring without a history of any strain or trauma to cause it.

**Punctured Wounds of the Bladder.**—A report of one case, with a review of the literature, is presented by Edward Evans and Harry Atwood Fowler. Statistics were given which served to emphasize two points, that wounds of the bladder were extremely uncommon, and that they occurred most frequently in the experience of military surgeons. The case reported occurred in the practice of Dr. Evans and presented the following interesting features: (1) The circumstances surrounding the injury were most fortunate, allowing immediate laparotomy and suture of the intraperitoneal wound of the bladder. (2) The wound of the perineum, rectum, and trigone was so extensive as to necessitate surgical interference for the restoration of function. So far as they were able to discover this was the only case on record requiring an operation for the repair and closure of a perineal wound of the bladder. (3) The restoration of function was complete despite the severe injury to the trigone and to the seminal vesicles and ducts.

**Dislocation Forward of the Atlas, with Fracture of the Odontoid Process of the Axis.**—This case is reported by James A. Kelly, *x*-ray photographs are shown, and the following conclusions are drawn: The diagnosis of dislocation forward of the atlas upon the axis with fracture of the odontoid process of the latter is based upon the following: (1) The history of injury and the clinical symptoms demonstrated the conditions. (2) The *x*-ray photograph demonstrated the dislocation. (3) The absence of pressure symptoms proves conclusively that a fracture of the odontoid process must have been present in combination with the dislocation. (4) The anatomical preparations show that pressure upon the cord would have occurred unless the odontoid process had been fracture.

**Fracture of the Carpal Scaphoid.**—This injury, formerly thought to be very rare, is reported by Leonard W. Ely. Since the introduction of röntgenography it has been found to be of fairly frequent occurrence.

**Transmesenteric Hernia of the Appendix Vermiformis.**—This case is reported by Alfred C. Wood. Although some of the features were unusual, the condition was thought to be appendicitis, with an abscess. The peritoneal cavity was opened by an incision over the mass which occupied the normal position of the ascending colon and had the general shape and size of this structure. It was firm to the touch and had a very deep red color. At three or four points areas of softening were seen, suggesting the breaking down of the mass. The mass was thought to be colon, altered by inflammatory action and lymph formation. As the appendix could not be found, it was supposed to be in this mass, but a careful search failed to disclose a trace of it. The areas of softening were found to be suppurating,

epiploic appendages. When the survey was extended the cecum was recognized firmly fixed in position. The longitudinal bands could be seen. The anterior band led backward and upward, and seemed to be lost beneath the mesentery. On inspecting the opposite surface of the latter, after displacing a portion of adherent omentum, a small, rounded structure was seen projecting from it. The condition at once became clear; the appendix had slipped through a hole in the mesentery and had become strangulated. It was reduced with some difficulty; as soon as the appendix was liberated the unusual fixation of the cecum was relieved. The illustration shows the appendix to be strangulated at its base, the organ having doubled upon itself and slipped into a hole in the mesentery. It had ruptured at the point of constriction. The mesoappendix was unusually large and fleshy.

*French and Italian Journals.*

**Survival After Interscapulothoracic Amputation for Malignant Tumors.**—E. Jeanbrau and V. Riche have collected 125 cases of interscapulo-thoracic amputation of the upper extremity, from various operators, with a view to ascertain the mortality and the length of survival after this operation in cases of malignant tumor. These cases were collected from the personal records furnished by surgeons of good standing of all countries, so that the statistics obtained are of much more value than ordinary hospital statistics. The author gives us these conclusions: The mortality of the operation is 7.84 per cent. since 1887, against 26.16 per cent. previous to the introduction of the technique of Berger-Farabeuf. If we do not take into account the cases in which outside causes operated to produce death, the mortality has fallen to 5 per cent. The average life of patients after operation has been three years. This is an excellent result when we consider that the patient accepts this serious operation only when he has reached a very advanced stage of disease, and when the general health has become very much impaired. Cure is possible, since there are found twenty-four cases of cure in the last five years. Among these are patients who have lived thirteen, fifteen, and twenty-six years after operation.—*Revue de Chirurgie*, August, 1905.

**Inflammatory Tuberculosis.**—Ch. Vinay considers many of the manifestations of tuberculosis as inflammatory in their nature. The bacilli do not themselves become localized and produce tubercle, but the life-products act as poison in the tissues and cause localized inflammations. The virulence of the organisms seems to become attenuated by the resistance of the patient, or the quantity of toxin is less. The action of the bacillus is arrested by the reactionary phenomena of the patient. These lesions cannot be differentiated from similar processes produced by other infectious agents by their anatomical characteristics. Only their etiology is specific. These lesions are congestive, exudative, or serous at the beginning; later they become sclerotic, and after a long time cicatricial. There may be all stages for a slight congestion to an ankylosis of the joints, or a progressive cirrhosis. These processes attack all sorts of tissues: they include lesions of the articulations, tendinous serous membranes, peritoneum, pleura, pericardium, vessels, nervous system, skin, ears, and ocular structures. There is neither formation of milliary tubercles, nor caseation. The digestive tube is attacked in this way, hypertrophy and ulceration being produced, and stenosis following. In the nervous system we have peripheral nervous troubles, myelitis, and meningoencephalitis. We have arteriosclerosis and interstitial nephritis, and cirrhosis of the liver. The prognosis in these lesions is less grave for life than in the granular infection. Treatment is general, but altitude is of less value than in pulmonary tuberculosis.—*Revue de Médecine*, August 10, 1905.

**Defense of the Parasitic Theory of Cancer.**—L. Bertrand has collected various facts in support of the parasitic theory of cancer, some of which are the result of very recent experiments on animals. Jensen has caused the transmission of cancer from one mouse to another in twenty-three cases, and this has succeeded only when the cells transmitted from one animal have been perfect and living. He tried to inoculate a rabbit with cancer from a mouse. In this he did not succeed, but he developed in the serum of the rabbit an antitoxic substance, which when injected into the mouse caused the disappearance of cancer. He thus demonstrated incontestably the existence of a cancerous toxin. The proliferation of cancer epithelium is not an exceptional occurrence. In one cage of mice where cancer existed, Borral found twenty other cases occurring within two years. There had been no outside source of infection. In cages of mice where there were no cases of cancer generations of hundreds of mice have been raised without the occurrence of one case of cancer, and cancer does not occur among wild mice at all. This cancer among mice is a true epithelioma, which starts from the glandular culs-de-sac, and appears on the border of the tube, anus, and in the axilla, or abdomen. Metastases occurring are always intravascular, or intravenous. Haarland inoculated animals with a cancerous virus which had been filtered through a Berkfeld filter. He succeeded in producing an adenocarcinoma of the mammary gland. He did not succeed in other cases because all the mice died. This seems to show that the virus was in the filtered material.—*Société Médico-Chirurgicale d'Anvers*, June-July, 1905.

**Diagnostic, Prognostic, and Therapeutic Value of Lumbar Puncture in the New-Born.**—Louis Devraigne believes that lumbar puncture can be of great use to the accoucheur as a means of diagnosis, and from the standpoint of prognosis and treatment in cases of submeningeal hemorrhage in newborn children. Whenever this hemorrhage is beneath the membranes it establishes the diagnosis if puncture is made before the child is moribund, and after the cerebrospinal fluid has had time to become tinged with the blood of the hemorrhage. If the hemorrhage is between the membranes and the skull the fluid will remain clear. In true intradural hemorrhage there will be convulsions, cyanosis, and coma, contractures, and rise of temperature. Soon after the puncture the condition of the child should improve, and the prognosis will become less grave. After one or two punctures the child may recover entirely. The operation is very easy in the new-born. It is absolutely without danger.—*La Presse Médicale*, August 16, 1905.

**Etiology of Putrid Pleurisy in Children.**—Gaetano Melli made careful bacteriological examinations of the exudate in two cases of empyema in which there was an odor of decomposition to the discharge, in order to ascertain what bacteria were present. The germs that are generally found in such cases are the pneumococcus, staphylococcus, tetragonus, bacillus coli, proteus vulgaris, leptothrix, bacillus of diphtheria, etc. One of his cases was secondary to typhoid fever. In this case there were present in the exudate the streptococcus and the bacillus of Eberth, and the bacillus fusiformis of Vincent. This is the first time that the bacillus of typhoid has been reported in empyema. In this case it was found in large numbers in the gangrenous foci and in the tissue about them. It was demonstrated to be virulent to animals. This germ when associated with the streptococcus acquires added virulence. In the second case also he found the streptococcus associated with the bacillus fusiformis of Vincent. This microorganism is found habitually in gangrenous foci of ulceration of the mouth, and it is now thought to be specific in this disease. Putrid pleurisy is usually associated with gangrenous foci in the lungs, which was the case in these two examples, one from the pneumonitis of typhoid, the other from an infection with the spillum of Vincent from an ulceration in the mouth.—*Rivista di Clinica Pediatrica*, August, 1905.

**The Effect of Endovenous Injections of Sublimate in Puerperal Infections.**—Pende has used this treatment with some success in several severe cases of puerperal infection. Eliminating cases that yield easily to intrauterine douches and aseptic treatment, and those in which there is a secondary localization of the poison with pelvic peritonitis, inflammation of the adnexa, and phlebitis, he selected cases of true puerperal septicemia, in which for several days there had been general symptoms not modified by disinfection of the uterus. He gave for three successive days an injection daily of 2 to 3 milligrammes of corrosive sublimate. The fever fell rapidly and in a truly marvelous way the patient entered on a permanent apyrexia. The author thinks these results so encouraging that this method of treatment should be used sufficiently to test its efficiency thoroughly.—*La Riforma Medica*, August 12, 1905.

**Effect of Röntgen Rays on Non-Suppurative Tuberculous Adenitis.**—I. Valobra has treated three cases of non-suppurative adenitis by the Röntgen-ray, using a hard tube, at a distance of 30-40 centimeters from the region to be treated, protecting the surrounding skin by an aluminum shield. He found that after each sitting there was a marked reaction, characterized by fever, swelling of the affected glands, and general symptoms, lasting some days. These symptoms were immediately followed by a rapid absorption and decrease in the size of the glands. The result of ten to twenty treatments was a marked decrease in the size of the glands, and reduction of the deformity caused by them. In *x* ray treatments the skin reactions do not appear until some time after the applications, but in treatment for cancer of the internal organs, and for leukemia, these phenomena of severe reaction are observed, accompanied by rapid diminution in the size of the growth. The author questions whether such action will be followed by a generalization of the tuberculous infection. Sufficient time has not elapsed to decide this question. The Röntgen-ray in bearable strength does not kill the bacilli of Koch. The author thinks that in undoubtedly tuberculous glands it is well to avoid a violent reaction, giving short sittings, and mild treatment, so as to avoid the chance of causing generalization of the infection.—*Giornale della Regia Accademia di Medicina di Torino*, Vol. XI, 5 and 6.

# Book Reviews.

Diseases of the Skin. Their Description, Pathology, Diagnosis, and Treatment, with Special Reference to the Skin Eruptions of Children, and an Analysis of Fifteen Thousand Cases of Skin Disease. By H. Radcliffe-Crocker, M.D. (Lond.), F.R.C.P., Physician for Diseases of the Skin in University College Hospital; Honorary Member of the American Dermatological Society; Membre Correspondant Etranger de la Société Française de Dermatologie; Correspondierendes Mitglied der Berliner dermatologischen Gesellschaft; Socio Onorario della Società Italiana de Dermatologia e Sifilografia; Late Physician to the East London Hospital for Children; Examiner in Medicine, Apothecaries' Hall, London. Third edition, revised and enlarged. Philadelphia: P. Blakiston's Son & Co., 1905.

This third edition of Radcliffe-Crocker's classical treatise on dermatology is announced as a special illustrated edition, this designation being based upon the presence of one hundred and twelve illustrations in the text and seventy-six well-executed inset plates. This edition differs quite materially from the preceding in some respects, though the body of the work, dealing with affections of common occurrence and definite history, in which changes of doctrine are slow and slight, remains practically the same. Among the most important additions are chapters or sections on x-ray dermatitis, bronzed diabetes, erysipeloid, sarcoid, blastomycosis, Veld sore, Mortimer's malady, and antitoxic serum eruptions. Some of the articles have been rewritten and to others more or less extensive additions have been made. This illustrated edition is in two volumes containing nearly fifteen hundred pages, and constitutes in its present form one of the best works on diseases of the skin in our language.

Medical Philology. Gathered by L. M. Griffiths, M.R.C.S., Eng. Part I, A.-El. Bristol, England: J. W. Arrowsmith, 1905.

This is a reprint of the interesting medicophilological notes which used to appear from time to time during a period of about ten years in the *Bristol Medico-Chirurgical Journal*. Unfortunately the contributions were brief and appeared only at intervals of several months, and consequently the notes include only the early part of the alphabet, ending with "Elfe." The foundation of the collection consists of the words possessing a medical significance found in the "Promptorium Parvulorum" and "Catholicon Anglicum," two English-Latin dictionaries dating from the fifteenth century or earlier. Dr. Griffiths quotes freely from the annotations of Way and Herrage and adds numerous interesting comments of his own, and cites instances of the uses of the words by Shakespeare and others. We hope he will be able to complete the work on the lines followed in this fragment.

Psychological Medicine. A Manual on Mental Diseases for Practitioners and Students. By Maurice Craig, M.A., M.D., Cantab, M.R.C.P., Lond., Physician for and Lecturer on Mental Diseases, Guy's Hospital; Clinical Teacher of Psychological Medicine, Royal Army Medical College, London; Senior Assistant Physician, Bethlem Royal Hospital, London. Philadelphia: P. Blakiston's Sons & Co., 1905.

In this work the author addresses especially the general practitioner and the student of medicine, rather than the professional alienist, and the book throughout bears evidence that the thought of such an audience was ever present with him. He endeavors in every way repeatedly to impress upon his readers the very real fact, which tradition and superstition even now often obscure, that the term, "mental disease," has the accent on the second word; in other words, that the insane are not possessed of the devil or inspired by the Lord, but are simply and solely ill, just as ill as if their malady were tabes dorsalis or pulmonary tuberculosis.

The work begins with a short chapter on normal psychology in which the non-specialist is put in possession of the essential facts of normal mental processes, as necessary for the student of mental disease as a knowledge of physiology is for the student of diseases of the body. A chapter is devoted to sleeplessness, this distressing condition being so prominent a symptom in, and especially so often a cause of psychic disturbance. There is also a chapter on the legal relation of insanity, but as this has to do necessarily with English law solely, it is not so useful to American readers as the other portions of the work. Dr. Craig possesses the faculty of clear expression in simple language, his work is free from useless verbiage, and he avoids the use of newly coined words and of those with newly specialized meanings to which writers on psychology, normal or pathological, seem to be particularly given. The work is one that can be commended.

Psychiatry. A Textbook for Students and Physicians. By Stewart Paton, M.D., Associate in Psychiatry, the Johns Hopkins University, Baltimore; Director of the Laboratory, the Sheppard and Enoch Pratt Hospital, Towson, Maryland. Philadelphia and London: J. B. Lippincott Co., 1905.

The author of this work insists upon the recognition of the fact that insanity is but a symptom of disease, that anomalies in thought, action, volition, and emotion are merely "the expression of a disordered functioning of the central nervous system," and the chief duty of the psychiatrist is to prevent the conditions which lead to this abnormal functioning. The study of alienation is a branch of general medicine, and the diagnosis and early treatment of mental disorders lie, or should lie, within the province of the general practitioner who, of necessity, sees the patient and treats him before the alienist is consulted. It is at this time, as is the case in all disease, that treatment is most effectual; in the case of mental disorders, indeed, it is practically the only time when treatment offers much hope of success.

The causes of insanity, its nature, its general symptoms, and the broad principles of treatment are discussed in separate chapters, as well as in the section treating of individual forms of alienation. In the other chapters are discussed the psychoses resulting from automtoxication, from chronic intoxication, or from imperfect functioning of the thyroid gland, and those associated with organic disease of the central nervous system; the diseases embraced in various groups—the manic-depressive, the dementia-præcox, the dementia-paralytica, the epilepsy, the hysteria, the paranoiac, and the senile; the neurasthenic and psychasthenic states; and mental anomalies due to defective development of the central nervous system. The book is well illustrated, as regards quality rather than quantity; there are twenty excellent plates and a number of illustrations (specimens of handwriting, temperature charts, etc.), in the text.

Dr. Paton has given us a very useful book and one that cannot fail to be of service to the general practitioner and student. Its object is largely the prevention of insanity and the bettering of the brain power of the race—a betterment which will be needed more and more as the world advances in civilization.

Health and Disease in Relation to Marriage and the Married State. A Manual contributed to by Drs. G. Abelsdorf, L. Blumreich, R. Eberstadt, A. Eulenburg, C. A. Ewald, P. Fürbringer, M. Gruber, W. Havelburg, A. Hoffa, R. Kossmann, F. Kraus, R. Ledekman, A. Leppmann, E. v. Leyden, E. Mendel, A. Moll, A. Neiser, J. Orth, S. Placzek, C. Posner, P. F. Richter, H. Rosin, W. Wolff. Edited by Prof. Dr. H. Senator and Dr. S. Kaminer. The only authorized Translation from the German into the English language, by J. Dulberg, M.D., of Manchester, England. Vol. II. New York: Rebman Company; London, Rebman, Ltd., 1905.

The first half of this work appeared about a year ago and was noticed in the Medical Record of December 10, 1904. The present volume completes the work, and consists of chapters on Gonorrheal Diseases in Relation to Marriage; Syphilis in Relation to Marriage; Diseases of the Skin in Relation to Marriage; Diseases of the Organs of Locomotion; Diseases of the Eyes, with Especial Regard to Heredity; Diseases of the Lower Urogenital Organs, and Physical Impotence; Diseases of Women, including Sterility; Diseases of the Nervous System; Insanity in Relation to Marriage; Perverse Sexual Sensations and Psychical Impotence; Alcoholism and Morphinism in Relation to Marriage; Occupational Injuries in Relation to Marriage; Medico-Professional Secrecy in Relation to Marriage; The Economic Importance of Sanitary Conditions. In both of these volumes there is an entire absence of histories; and the completed work is an encyclopedia of all that appertains to medicine and marriage. The work is intended for the general practitioner, and the reader will find here all the information that he can possibly want on the subject. The work includes a bibliography, essentially German, and an index.

Handbook of Anatomy. Being a Complete Compend of Anatomy, Including the Anatomy of the Viscera and Numerous Tables. By James K. Young, M.D., Professor of Orthopedic Surgery, Philadelphia Polyclinic; Clinical Professor of Orthopedic Surgery, Woman's Medical College of Pennsylvania; Instructor in Orthopedic Surgery, University of Pennsylvania; Fellow of the College of Physicians of Philadelphia; Fellow of the Philadelphia Academy of Surgery; Fellow of the American Orthopedic Association; Member of the American Medical Association, etc. Second edition, revised and enlarged. Philadelphia: F. A. Davis Company, 1905.

This is the most recent anatomy compend on the market; it is larger than most of its competitors, but otherwise does not differ from them in any notable feature.

# Society Reports.

## AMERICAN PROCTOLOGIC SOCIETY.

*Seventh Annual Meeting, Held in Pittsburg, May 5 and 6. 1905.*

THE PRESIDENT, DR. J. R. PENNINGTON OF CHICAGO, IN THE CHAIR.

**President's Address.**—Dr. J. R. PENNINGTON, in this address, referred to the adverse criticism which the organization and continued prosperity of this Society had provoked in certain quarters. He then proceeded to show that its existence was a logical and necessary step of progress. Special societies arise by a process of natural differentiation. This differentiation, which is unavoidable, by organization of the resulting groups makes possible a greater definiteness of structure and function of the medical profession. Special organizations had multiplied more rapidly in the past thirty years than during any previous period, and likewise the advancement in the science of medicine had been greater during the same period. But the subject of proctology had been neglected in the past until the charlatan claimed it as his special field and the profession seemed still be doing its utmost to support the claim. Of the sixty-six institutions belonging to the Association of American Medical Colleges only eight made any provision for teaching proctology. The Association had adopted a uniform curriculum consisting of twenty-seven subjects. This extensive course provided for thirty hours to be given each to medical jurisprudence, dietetics, hygiene, and public health, sixty hours each to nose and throat, and genito-urinary diseases, and 160 hours to gynecology. No reference whatever was made to the subject of rectal diseases. "In view of the fact that the greatest breach in the science of medicine to-day is, and always has been, at this very point," he said, "and that it is proverbially true that because of this breach the charlatan is more securely intrenched in this than in any of the other departments, I fail to see the equity in such a curriculum. It may be claimed by the Association of Colleges and by those schools that do not include proctology in their curricula, that the chairs of general surgery devote a certain number of hours to these diseases. If so, why are there so many physicians in this country who have never heard a lecture on rectal diseases nor witnessed an anorectal examination or operation?" The speaker concluded that there was a distinct work for this Society, viz., the reclamation of this specialty for ethical medicine, and that the Society would exist, prosper, and grow in influence in proportion as it met this need.

**Malignant Disease of the Rectum and Its Treatment.**—Dr. G. B. EVANS of Dayton, O., read this paper. He prefaced his remarks with a plea for thorough examination of all patients complaining of rectal symptoms. Many cases of uterine cancer had been termed "change of life," and very many cases of rectal cancer "piles," because of neglect of this precaution. It was the consensus of opinion that cancer was at first purely local and that early recognition and thorough extirpation would cure a large proportion of all cases. Formerly the author was an advocate of colostomy in these cases, but now believed that this procedure should be reserved for those cases only which had advanced so far as to render the radical operation hopeless. The only contraindication he would recognize as absolute was fixation of the rectum by extension of the growth to adjacent structures. The perineal and combined abdominal and perineal routes were recommended.

**The Ambulant Treatment of Internal Hemorrhoids.**—Dr. C. F. MARTIN of Philadelphia presented a paper on this subject, in which he strongly defended the injection method. His technique consisted in the injection of 7 to 10 minims of a 50 per cent. solution of phenol into each pile tumor at intervals of from two to seven days, depending on the effect produced. As a preliminary to beginning the injection the author recommended divulsion of the sphincters under nitrous oxide anesthesia, much of his success with the method being attributed to this procedure. He concluded that there were not more than 15 per cent. of recurrences and that accidents and complications were by no means so frequent as after the ligature and clamp and cautery operations. In addition the method was practically painless and the patient was not detained from business.

**Cases of Fecal Impaction of the Rectum.**—Dr. T. C. MARTIN of Cleveland, O., reported these cases. After giving the symptoms usually complained of by these patients, he emphasized the value of the proctoscope in treatment as well as diagnosis. One of the cases reported was of special interest in that the cause was found to have been a ventral fixation of the uterus in which the rectum, by means of the uterosacral ligaments, had been anchored so immovably that the patient could no longer bear down effectually.

**Urethrorectal Fistula.**—Dr. W. M. BEACH of Pittsburg, Pa., read a paper with this title. After citing a number of cases and describing his method of treatment the author drew the following conclusions: (1) Urethrorectal fistula is comparatively rare and very easily overlooked. When in doubt, use the permanganate test. (2) It generally follows prostatic abscess of gonorrheal origin. (3) It may result from traumatism—faulty use of sound, lithotomy, etc. (4) This is one type of fistula which demands suturing. The suture material should be No. 3 forty-day catgut. (5) The care of the wound should never be left to an assistant; no one can possibly know as much about it as he who made it. (6) A certain number of cases of recent urethral origin will heal spontaneously when the stricture is relieved.

**Pruritus Ani.**—Dr. LEWIS H. ADLER of Philadelphia presented a paper entitled "A Further Contribution to the Study of Pruritus Ani, with Special Reference to Its Local Treatment." In the author's experience the male sex had been affected in about 95 per cent. of cases. In nearly all the cases the patients were more or less neurotic, and in the major portion, of a decidedly bilious temperament. These cases demanded the removal of all exciting causes, and regulation of the patient's habits of life should precede and attend local treatment. The latter consisted in the daily injection into the cavity of the rectum of from 1 to 2½ drachms of a mixture of fluid extract of hamamelis, 1 fluid ounce; fluid extracts of ergot and hydrastic and compound tincture of benzoin, each 2 drachms. Upon the first visit if the perianal skin was dry and tough the entire surface should be painted with a concentrated solution of silver nitrate (960 grains to the ounce). This might require repetition several times at intervals of a few days to restore the skin to its normal condition. After this was accomplished citrine ointment in full strength was to be applied and renewed daily for the first two or three weeks, and thereafter on alternate days or twice a week. This method of treatment might extend over a period of six months or even longer, but in the author's hands it had proved uniformly successful.

**The Operative Treatment of Tuberculous Rectal Fistula in the Tuberculous.**—Dr. J. COLES BRICK of Philadelphia presented this communication. The frequent association of rectal fistula and phthisis had long been recognized. Some authors claimed that 5 per cent. of consumptives developed fistula, and Hartman found that of forty-eight patients with fistula twenty-three were positively tuberculous. In the author's opinion the irritating effects of the other were often responsible for the onset of pulmonary symptoms. For this reason he employed nitrous oxide and oxygen when a general anesthetic was demanded. All raw surfaces were seared with the hot iron. When the case was extensive it was better to perform the operation in stages, so as to minimize the period of confinement to bed. Special stress was laid on the after management of these cases. The patient should be kept in bed as little time as possible, but no active exercise allowed until weight had returned to normal. Forced feeding and out-door air were recommended, and daily sponging with tepid water, or if the

patient's vitality was sufficient, with cold water, was of great value. A weekly gain of weight was the one standard of favorable progress. In conclusion the author advised that all fistula patients be carefully examined for local and pulmonary tuberculosis, and, even though the examinations were negative, that every case be treated as though tuberculosis were likely to be developed.

**Personal Experience in the Employment of Mechanical Vibration in the Treatment of Rectal Diseases.**—Dr. W. L. Dickinson of Saginaw, Mich., read this paper, in which he concluded that this was a valuable method of treatment and deserving of more general use by the proctologist. A number of instances were recounted in which it had been successfully used for the relief of fissure and to accomplish dilatation of the sphincters. But the author thought that its greatest field of usefulness was in the treatment of chronic constipation, and gave the technique of its application in such cases.

**The Office Treatment of Rectal Diseases and Its Limitations.**—Dr. Jas. P. Tuttle of New York read this paper. He said that the trend of practice in rectal diseases at the present day was threefold: (1) Toward a more general resort to operative measures; (2) toward a wider application of local anesthesia; and (3) toward a great increase in office treatment. These tendencies were due to the following facts: First, the public as well as the profession had learned that nonoperative measures could not be relied upon for permanent cures. Second, dread of general anesthesia had greatly diminished, due chiefly to improved methods in the use of ethyl chloride and nitrous oxide, alone or as adjuvants to ether. Third, dissemination of the knowledge that most of the minor rectal operations can be done under cocaine or other local anesthetic with as little pain and almost as little detention from business as was occasioned by the nonoperative measures which gave only temporary and uncertain relief. Fourth, local anesthesia was being more generally adopted because it was safer, could be more quickly applied, simplified the work, and at the same time, if properly used, permitted of as thorough work as general anesthesia. A 1 per cent. solution of cocaine, eucaine, or stovaine was as strong as it was ever necessary to use, and usually ¼ per cent. was sufficient. Stretching of the sphincter had heretofore been the most difficult thing to accomplish under local anesthesia; but the author referred to a method he had devised by which this could be done, thus making it possible to operate painlessly on hemorrhoids, fissures, small fistulæ, ulcerations, tumors low down, and even low strictures. But while these things were possible the author considered certain conditions requisite: (1) Asepsis; (2) careful selection of cases; (3) complicated and plastic operations should not be undertaken; (4) when general anesthesia was necessary it was better to have the patient at home or in the hospital, even though it might be possible to do the work in the office.

**A Contribution to the Pathology of External Piles.**—Dr. Louis J. Krouse of Cincinnati presented this paper. Limiting his remarks to the sanguineous or thrombotic variety, after a review of the literature of the subject and of the anatomy of the parts, the author drew the following conclusions: (1) The walls of the hemorrhoidal veins must undergo some pathological change before a thrombotic hemorrhoid can develop; (2) these changes being present, any undue pressure may cause an aneurysmal dilatation of the veins; (3) when the internal coat of the vessel is altered, there is more tendency for coagulation to occur; (4) sexual activity increases intravenous pressure and thus favors the condition; it is therefore a disease of adult life; (5) the clot is always found in the diseased vessel and never in the perivenous connective tissue.

**A Summary of Twenty-five Radical Operations Upon the Rectum Under Local (Sterile-Water) Anesthesia.**—Dr. A. B. Cooke of Nashville read this communication. The twenty-five operations consisted of: Internal hemorrhoids, 15; prolapsus ani, 2; anal fissure, 2; external hemorrhoids, 6. From this series of cases the author drew the following conclusions: (1) The method is simple, safe, and effective; (2) pain at the time of operation is exceptional; (3) postoperative pain is far less than after the old methods; (4) the time of detention from business is reduced more than half; (5) it offers a reliable means of extending the benefits of surgery to a large class of cases which would otherwise be unsuitable for operation; (6) it robs these operations of their terrors. Summing up his personal experience with the method, the author stated that it had been satisfactory beyond his fondest hopes and, if the promise of the method were realized in future, he would have need for general anesthesia in rectal surgery only in the exceptional case.

Papers by Drs. Wm. Bodenhamer, Leon Straus, and A. Tierlinck, in the absence of the authors were read by title.

**Officers.**—The following officers were elected for the ensuing year: *President,* Dr. Lewis H. Adler, Jr., of Philadelphia; *Vice-President,* Dr. Geo. B. Evans of Dayton, Ohio; *Secretary-Treasurer,* Dr. A. B. Cooke of Nashville; *Executive Council:* Drs. J. R. Pennington of Chicago, Chairman, T. C. Martin of Cleveland, and Wm. M. Beach of Pittsburg.

Time and place of meeting for 1906 to be determined by the Council.

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## THE BRITISH MEDICAL ASSOCIATION.

*Seventy-third Annual Meeting, Held at Leicester, July 25, 26, 27, and 28, 1905.*

(Special Report to the Medical Record.)

(*Concluded from page 414.*)

### SECTION OF TROPICAL MEDICINE.

*Third Day—Friday, July 28.*

**Tropical Sprue.**—Dr. James Cantlie, Lecturer to the London School of Tropical Medicine, opened the discussion on sprue. He said that there had been no appreciable advance in our knowledge of sprue since the discussion on the subject held five years ago. Many observers had patiently sought for an intestinal organism in the stools of sprue patients, but so far without any positive result. He had lately seen a case of true sprue develop in a man aged sixty, who had lived in England for seven years continuously after leaving China. He thought such a long period of incubation unfavorable to the parasitic theory. He was inclined to regard liability to sprue to arise primarily from a physiological atrophy of certain of the digestive organs due to the prolonged residence in a hot climate. The organ which clinically showed the greatest alteration was the liver. In all sprue patients the liver was markedly reduced in bulk. Owing to the loss of functional activity in the liver, the contents of the bowel were imperfectly digested, numerous organisms developed, and diarrhea followed. The frothy, bulky stools clearly indicated a fermentation, and their pale color pointed to the absence of bile. Stomatitis was very common among adults, especially women, in China; an attack lasted about three weeks, and there might be as many as three or four attacks in a year. Sprue did not necessarily follow upon these attacks, but they preceded the disease, and were a warning that the disease might supervene. He was inclined to ascribe stomatitis to indigestion caused by the use of coarse native oils instead of butter or fat in cooking food. He met with sprue in Europeans only in South China.

In regard to treatment, he condemned the milk treatment. The milk in its passage through the alimentary canal became separated into curd and whey; the whey was absorbed, but the curd was excreted, and gave the apparently solid motion which had neither the appearance nor the smell of feces, and was merely a cheesy mass—fecal cheese, in fact. He advocated the meat treatment of sprue. At first, when the patient was weak, meat juice raw or warmed every five or ten minutes. After a day or so the intervals

of feeding should be increased, and beef jelly, calves'-foot jelly, or plain jelly added. In some four or five days beef (three to five ounces), pounded and lightly cooked, could be given thrice daily in addition to the meat juice and jelly. Tea—China tea—was the best drink; rice tea was also an agreeable and suitable drink; wet packs (warm at first) applied to the abdomen for two hours twice daily were beneficial, accompanied by rest in bed. The meat treatment took as many days to cure the disease as the milk took months. He had lately treated successfully by the meat treatment two patients over sixty years of age. Strawberries (three to four pounds daily), combined with meat, were perhaps more efficient than meat alone. Other fruits would, no douht, be found to take the place of strawberries in the treatment of sprue, but at present none were known No doubt sprue was scorbutic in its nature, and fresh meats, fresh fruits, and fresh vegetables were potent agents in the cure of the disease.

**Hill Diarrhea.**—Dr. ANDREW DUNCAN of London read a paper on this subject. He said that until comparatively recently the disease was held to be one peculiar to the hills, a height of six thousand feet being necessary for its evolution. But it had been reported at Penang Hill, two thousand feet high only, and Dr. Nightingale had reported a case occurring in the plains. As regards the time of its appearance in the hills, it broke out on the onset of the monsoon, ceasing also with the cessation of the rains. The late Surgeon-General Moore of Bombay attributed hill diarrhea to chill. Colonel Crombie held that it was due to some microorganism which invaded the digestive tract, devoured the coloring matter of the bile and perhaps other constituents, and so allowed of rapid fermentative changes in the intestinal contents. But the daily fluctuation of the symptoms, the restriction of the diarrhea and the symptoms to the early morning and forenoon were difficult to explain on this hypothesis, as given the presence of a microorganism as the cause, surely its effects should not be limited to one period of the day. A more satisfactory view, should the facts on which he based his conclusions be verified, was that of Lieutenant-Colonel Dyson, who attributed the disease to the presence of mica in the water. Dyson pointed out that hill diarrhea occurred in those hill resorts where the geological formation contained schist. In hill stations resting on sandstone he said the disease did not occur. Poona was at some elevation, on sandstone, but had no diarrhea. There was very little of the disease at Murree, and there was very little mica there. There was a large amount of mica at Darjeeling, and this station suffered enormously from hill diarrhea. There was no mica at Chungha Galli, and no hill diarrhea. Dyson stated that after Pasteur filters were installed at Darjeeling, through which the mica could not pass, the hill diarrhea no longer troubled the station. Again during the cutting of the Panama Canal, mica dust got down the throats of the workers there, and diarrhea attacked them. Mica lodged in the follicles of the alimentary canal and diarrhea resulted. If there elevation caused the diarrhea, why was it not present in Switzerland? The treatment was by corrosive sublimate. Mica caused irritation which the intestinal germs till further increased; corrosive sublimate killed the germs. With regard to the relation of hill diarrhea to sprue, some authorities held that they were the same diseases. But he had never seen in any case of hill diarrhea the mouth symptoms of sprue; neither had he ever observed the restriction of the liver dullness of sprue in hill diarrhea. He had never succeeded in curing any case of sprue with corrosive sublimate. Colonel Crombie stated that opium and ordinary astringents were without the slightest effect. The absence of bile in the disease caused fermentation of the intestinal contents, hence we must supply the ferments to the intestine.

**Long Periods of Latency in Parasitic Diseases.**—Dr. LOUIS W. SAMBON, Lecturer to the London School of Tropical Medicine, said the long incubation period which at times precedes the manifestation of sprue was a remarkable though by no means unique case of prolonged latency in parasitic diseases. Blackwater fever might likewise manifest itself for the first time in Europe several months after its endemic stations had been left. Sleeping sickness had manifested itself in negroes transported to the Antilles so long as three, five, and even seven years after removal from the tsetse-fly belts of the Congo. The morbid manifestations of hydrophobia appeared at times twelve or eighteen months after infection by the bite of a rabid dog. There were certain rare instances in which the period of incubation lasted two, three, and even four years. In an interview which he had been granted recently by the King of Italy, His Majesty, who took the keenest and most intelligent interest in scientific questions, related to him the case of one of his own gamekeepers in whom the incubation period of rabies had lasted three years. A very long period of latency was frequently noticed in leprosy. Hallopeau had published a case in which the first symptoms of leprosy had appeared thirty-two years after return from a country where this disease was endemic. In people harboring trematodes or nematodes there might be no signs of the presence of these parasites, or the morbid manifestations might appear only after several months or years. Such was the case with calculosis as a manifestation of *Schistosoma hæmatobium*, anemia as a symptom of uncinariasis, elephantiasis as an indication of infection with *Filaria bancrofti*, and the excursions of *Filaria loa* which might take place either at an early or late period in the development of this long-lived parasite. The length of the period of latency might be due to very different causes. It might depend on the numerical strength, virulence or location of the parasite, or on the resisting power of the host. Sometimes it might depend on the migration of the parasite from one region or organ to another. With some parasites the migration occurred at more or less definite periods, corresponding to certain stages of development; with others it took place in consequence of conditions as yet undetermined. Perhaps the most important factor was that of association with other pathogenic or nonpathogenic organisms, the asosciated organism rendering the tissues more or less vulnerable, or even conveying the quiescent parasite to a territory more favorable to its pathogenic activity. In the last few years we had discovered that ectoparasites played a very important rôle in the transmission of pathogenic microorganisms from without into the system through the skin. It was quite likely that some internal parasites within the alimentary canal or within the blood vessels might perform a similar rôle by conveying more minute organisms from one anatomical region to another. Possibly Castellani's trypanasome might be the means of the streptococcic invasion of the nervous centres which brought about the terminal symptoms of sleeping sickness. *Filaria bancrofti* paved the way for the microorganism which caused lymphangitis, and both together gave rise to elephantiasis. In conclusion, he wished to say that the long period of latency was not against the parasitic nature of prue, of which he was absolutely convinced.

Dr DAVID J. GALLOWAY of Singapore said he quite agreed with Dr. Sambon as to the parasitic nature of sprue. He could instance cases in which several inmates of a house infected each other with sprue. He had frequently seen the disease pass from husband to wife, or from wife to husband. He objected to the term "sore tongue" because the tongue was frequently affected without pain. One symptom seemed to have escaped notice, and that was the intense anemia which developed in cases of sprue. The red blood corpuscle count might be as low as 1,500,000 at times, while the hemoglobin remained high. With regard to treatment, he advocated the milk cure. With milk alone one soon got custard stools without any fermentation, and recovery was rapid. Intestinal antiseptics might be useful.

Dr. A. J. CHALMERS of Ceylon considered that cases of sprue were relatively few in Ceylon. Difference of opinion was very much a matter of diagnosis. His cases were

chiefly among Europeans. It was useless to discuss the nature of the disease without a knowledge of its pathology. He considered the liver to be the organ essentially at fault. He had obtained remarkable improvement from the administration of liver soup. This was no new remedy, but an old native method of treatment. He believed in the usefulness of intestinal antiseptics, but the liver soup treatment alone had given excellent results.

Dr. JOHN CAMPBELL GRAHAM of Deli, Sumatra, stated that sprue was very rare in Sumatra. There were other forms of stomatitis, but nothing like Indian sprue. The natives, however, gave the name of sprue to these cases. Dr. Graham read an abstract from a paper on sprue by Dr. A. Van der Scheer, who held that there was a causal relationship between appendicitis and sprue, and proposed the removal of the appendix.

Dr. F. O. STEDMAN of Hong Kong said he had been in practice in Hong Kong for some years. He did not agree with Cantlie as to the milk treatment of sprue. He was favorable to the administration of intestinal antiseptics, especially beta-naphtol. The white stools were not pathognomonic only of sprue; in Hong Kong similar white motions were also found in another disease. In Hong Kong diarrhea is frequent after the rains, and the water at that time becomes quite opalescent. He thought that these numerous cases of diarrhea in summer soon after the rains might be due to a micaceous deposit in water.

Lieutenant-Colonel ANDREW DUNCAN said that he could not agree with Cantlie as to the milk treatment, because he had found it beneficial in sprue; but he had found the meat treatment efficacious in cases which milk did not cure.

Dr. C. F. HARFORD of Livingston College, London, said that diarrhea was the cause of a great amount of invaliding in tropical countries. Some five hundred missionaries, returning home after an absence of variable periods in the tropics, all agreed that diarrhea was the most frequent and the most serious cause of ill-health in tropical and subtropical regions. The pathology of intestinal tropical diseases was but little understood, and required to be scientifically dealt with in the immediate future if we hoped to reduce the enormous amount of invaliding which occurs amongst Europeans in warm countries.

Dr. J. H. EBELL of Colombo, Ceylon, said that in Ceylon the native liver soup treatment had now become practically a routine treatment, and he could testify to its efficacy. The natives administer, besides the liver soup, a kind of curry made with the leaves of a certain plant and the fermented juice of the cocoanut palm.

Dr. W. L. STRAIN of San Paulo, Brazil, said that sprue was not a disease of West South America. During twenty years' residence in Brazil he had never seen a case of the disease. Of course, there was diarrhea, and, indeed, every newcomer to the city of San Paulo was attacked by this diarrhea. Although San Paulo was inland and 2,700 feet above sea level, he had never attributed the diarrhea to elevation *per se*. He thought it was caused by dietetic errors. The Italian physicians, some of whom were very able men, cured the disease by means of pills containing ox bile.

Dr. J. HUTSON of Barbadoes said that sprue was known in Barbadoes under the name of thrush. In recent years pellagra had become very prevalent in the West Indies, and had greatly obscured the diagnosis of sprue. In many tropical regions the meat treatment was no easy matter. Fresh meat was difficult to get, and was usually of inferior quality. He had obtained most beneficial results from a pure banana diet continued for three or four weeks. Corrosive sublimate in very small doses was frequently efficacious.

**Diarrhea From Flagellates.**—Dr. ALDO CASTELLANI of Ceylon contributed a paper with this title, in which he described two cases of diarrhea with semiliquid, brownish stools in which he had found enormous numbers of flagellates. The patients had no fever, no griping pains, and their motions did not contain blood or pus. The flagellates were of various kinds *Trichomonas hominis, Cercomonas, Lamblia intestinalis,* and *Entamœba undulans* (probably a developmental stage of *Trichomonas hominis*). Believing the diarrhea to be due to the flagellates, Dr. Castellani stopped all astringents and instead ordered a large intestinal irrigation of a 1-2,000 solution of methylene blue (three pints) to be used twice daily. Improvement was striking, and it was very interesting to notice how rapidly the flagellates had decreased and how many of them had completely or almost completely lost their motility and become globular in shape. Within two days the diarrhea ceased. Several authors had described cases of diarrhea probably due to flagellates, but by the great majority of authors the intestinal flagellates were considered harmless, an opinion based chiefly on the fact that these parasites had been found in healthy people. This was the same argument that had been used to deny the relation of amœbæ to a form of dysentery. He certainly admitted that flagellates had been observed in normal people, but he believed that the intestinal flagellates, though harmless when few, must have some pathogenic action when present in enormous numbers, as in his two cases.

**Beriberi.**—Dr. TERTIUS CLARKE read a paper on this subject, discussing the various theories concerning its etiology. He said the arsenical theory was based on the similarity of symptoms, and on the finding of arsenic in the hair and toenails of some patients; but the herpes, the pigmentation, and the painful feet of arsenical neuritis were not seen in beriberi. In addition to this the neuritis of beriberi was chiefly parenchymatous, while that of arsenic was chiefly interstitial. The rice theory had its main support in the almost complete immunity of Tamils from the disease in a country where beriberi was one of the three chief causes of death. These Tamils subjected their rice before husking to a preliminary boiling, while the other races husked their rice raw, and so it could become contaminated by the poison which was in the husk. This was not the only difference between the Chinese and the Tamils, for the former rarely took hot things with their rice, whereas the Tamils always took a quantity of pungent things containing essential oils, which it would be reasonable to regard as preventives. The place theory supposed that the virus existed in certain places or gangs, some considering that the organism, others that only the toxin, produced by the organism gained entrance to the system Only conjectures could be made as to how the organism or toxin entered the system. The theory of Hamilton Wright was that beriberi was "an acute infectious disease having a definite primary lesion" in the stomach and small intestine, and that the causal organisms might be ingested in any food and drink accidentally contaminated and might "multiply and produce a toxin both in the contents and walls of the affected stomach and in the small intestine." The chief support of this theory was the finding of gastroduodenitis in all cases in which death had occurred in the early stages of the disease. Bearing on the rice theory, Dr. Clarke related an experience of his own. He was in charge of a hospital and of an Asylum for Decrepit Vagrants in Lower Perak. The hospital had been in use for several years; the asylum, though an old building, had for some time been empty. The hospital and asylum were about three hundred yards apart; the soil, air, and water supply were the same. The hospital had cement floors and very well ventilated wards; the asylum had raised wooden floors and very badly ventilated wards There were about sixty Chinamen in the asylum, and about thirty in the hospital daily. The food in the two institutions was similar in quantity and quality, and was supplied by the same contractor. The conditions at the hospital were, on the whole, far better than they were at the asylum except for the one fact that the clothing, bedding, and utensils at the hospital had been in use for some time, whereas all these things at the asylum were absolutely new. Beriberi cases were admitted into both institutions, but of thirty cases in the hospital between the middle of

November, 1903, and the end of the year, six originated in the hospital in men admitted for other diseases, and twenty-nine of the thirty patients died, showing an extraordinary virulence. During the same period at the asylum no beriberi patients died and no new cases occurred among the inmates. After very thorough disinfection of the hospital which included boiling all clothes, perchloriding the bed-boards, floors, and walls, and changing the patients around so that the Tamils occupied the Chinese ward and the Chinese the Tamil ward, no more cases arose. No change was made in the diet. No Tamils acquired the disease, though their rice was the same and actually cooked in the same vessel with that for the Chinese. It might be noted, however, that they had hot curry-stuffs and no pork.

Dr. Clarke said it was quite the exception for dressers, or even for ward attendants, who might sleep every night in beriberi wards, to acquire the disease. He had known a Chinaman who had been a ward attendant for nine years (and who must have slept many hundred times in a ward containing thirty or forty beriberi patients) leave in order to go tin mining, and come back into hospital in a few months with beriberi. These attendants slept and worked in the beriberi wards, and their diet was the same as that of the patients; the chief difference in the conditions being that the attendants had their own bed-boards, blankets, and mosquito curtains, which were not changed for those of the patients, while these things were interchangeable among patients. If the infection was within a hospital ward, it should be looked for in the bed-board, clothing, or bedding. It was not easy to see how it could lie in cement floors, in lime-washed brick pillars, or in walls made of "bertam," which allowed the air to percolate freely through. The bedbug was a most difficult thing to keep out of hospital bed-boards; and though the infrequency of the disease in towns, as compared with the mines, and the rarity of the disease in Tamils, might suggest that this insect was not the cause, yet it seemed to him that the so-called "place" will probably come down to the bed-board, clothing, or bedding, and that a not uncommon inhabitant of these things might have somethnig to do with it. A few experiments to obtain infection of monkeys by the bite of bedbugs from the bed-boards of beriberi patients proved negative.

Dr. R. Tanner Hewlett of London mentioned two patients with beriberi admitted into the Seamen's Hospital, Greenwich, who rapidly improved when treated by subcutaneous injections of strychnine, 1/30 to 1/50 grain, twice daily alternately into each thigh, *i.e.* each leg receiving one injection of strychnine daily. He thought these two cases emphasized the value of the local use of strychnine in paresis, a form of treatment which had been advocated in infantile paralysis by Dr. Leonard Gutteries and others.

Dr. Hamilton Wright said that beriberi was an acute or subacute infectious disease due to a specific organism that might be ingested in any food or drink accidentally contaminated. After gaining an entrance into the alimentary canal, the organism multiplied in the contents of the stomach and small gut, but chiefly in the contents of the duodenum; there it elaborated a toxin which, being absorbed, poisoned certain afferent and efferent neurons to different extents and in different degrees, and thus gave rise to a group of symptoms which could be classified as acute pernicious, acute, and subacute beriberi. The probable duration of the active stage of the organism was from two to six weeks; after its active stage had ceased and its virus had been eliminated the paresis or paralysis it had engendered persisted. For this persistent paralysis he proposed the term "beriberic residual paralysis." He maintained that our knowledge of beriberi had been erroneously founded on the study and statistics of the residual effects of the disease (beriberic residual paralysis) and not upon the disease itself (acute pernicious, acute, and subacute beriberi). The position would be the same with regard to diphtheria had we based our conceptions of the disease upon postdiphtheritic paralysis. His theory that beriberi was an acute infectious disease having a definite primary lesion was based not only on clinical evidence, but also on indisputable post-mortem evidence.

Dr. Louis W. Sambon said he had read with great interest Dr. Wright's reports on beriberi, and he considered that the latter's careful and painstaking researches in the Malay Peninsula had elicited many important facts concerning the epidemiology of the disease. But he could not follow him when he stated that what hitherto had been called beriberi was only a sequela—a "residual paralysis"—and that the true disease was a duodemitis of short duration—an acute disease which he ascribed to an intestinal bacterium that he had neither cultivated nor inoculated, but only found post-mortem in the contents of the bowel. To Dr. Sambon the neuritis was the essential feature of beriberi; and, considering that in each case, and at different periods during the course of the disease, different sets of nerves were implicated, and that while some nerves recovered others degenerated, and that even within the same nerve, while some fibers degenerated others went through a process of regeneration, he was inclined to believe that the causative agent of the disease was to be found in the diseased nerves. In rabies the specific organisms were found in the spinal ganglia, and at times (in furious forms of the disease) they were very numerous in the cortex of the brain and in the cornu ammonis. In leprosy also the bacilli were frequently found in the diseased nerves. As to a possible agent of transmission, he thought that notwithstanding Dr. Clark's negative experiments the bedbug was the only one which seemed to fully agree with the peculiar epidemiology of beriberi. It also explained the difficulty of eradicating the disease from infected collective dwellings. Finally he wished to draw attention once more to the latency and recurrence of the disease in those who had contracted the infection. The relapse of beriberi, at a certain season of the year and under certain conditions, was analogous to that of malaria and explained many obscure points in the epidemiology and natural history of the disease.

## SOCIETY OF MEDICAL INSPECTORS OF THE CITY OF NEW YORK.

*Regular Meeting, May 9, 1905.*

The President, Dr. Augustine C. McGuire, in the Chair.

**Prophylaxis in Diseases of Children.**—Dr. Floyd M. Crandall read this paper, treating of prophylaxis in children from the viewpoint of the medical practitioner and the sanitarian. He quoted Holt, as saying that it is possible to prevent the majority of the diseases of children. A great many children's diseases were due to improper feeding, especially the diseases occurring during the first three months of life. Prophylaxis in children's diseases had made great strides during the last thirty years, and the mortalities of all ages had been greatly reduced. The great difficulties physicians and sanitarians met in their work of prophylaxis were ignorance, prejudice, old-fogyism, and religious delusions such as Christian science. There was still a certain amount of hatred of interference, and "love of personal liberty" opposed to all sanitary regulations. The requirements for a successful health officer were patience, tact, and courtesy, and equipped with these he was more likely to effect his mission.

**The Physical Condition of School Children.**—Dr. John J. Cronin read this paper, in which he reviewed the work of the department in the public schools in accordance with the new system which involved a thorough physical examination of each pupil by the medical inspector of the Health Department. If any disease or deficiency of sight or hearing, etc., was found, the child's parents were notified and referred to the family physician. The speaker said that the new system was rapidly producing beneficial results and that over 50 per cent. of the children found with defective vision had

procured glasses on the advice of the inspectors. In the physical examination, especial attention was paid to the child's nutrition, to cardiac and pulmonary diseases, to nervous affections, deformities of limbs, spine, or chest, and to throat and nose affections. The work, in the speaker's opinion, would bring forth rich fruits both in the health and in the education of the children, and would be of great benefit to the succeeding generation, as the children of today would demand better conditions for their children. It was to be hoped that any tuberculous children detected would receive proper care in public or private institutions or sanatoria, and would be taught separately from healthy children; also that pupils with heart disease would be dealt with gently as befits their condition and would not be crowded too much mentally. Care must also be taken that such children be debarred from violent athletic contests. Pupils with chorea and with other nervous disorders were also best treated and educated separately. The effect of adenoid growths and of hypertrophied tonsils on the child's physical and mental development was well known, and the removal of these structures, when indicated, was one of the great objects of these examinations. About 33 1-3 per cent. of all children examined had defects of vision corrigible by glasses, and this largely accounted for the great proportion of backward children in the New York school-system. Physical defects were largely responsible for truancy and other bad habits, and truancy was the first step on the downward path leading to crime and immorality. It was as hard for a truly healthy body to do or think wrong as it was for a defective body and unhealthy mind to do or think right. Some of the unhallowed money now so much discussed would be well spent in procuring glasses for the poor children of the tenements who need these aids to mental development. By caring for the child at school mentally and physically, we might hope to lessen the burdens of the state, and reduce the ranks of the paupers, the cripples, the consumptives, the insane, and the criminals.

Dr. Jacob Sobel said that in pursuing the work of prophylaxis in the school it was very important to secure the full cooperation of the principals. Propyhlaxis in school life was directed towards the prevention mainly of the infectious diseases, while in earlier life was the time to prevent errors of nutrition and development. He believed that tonsils that were large in size and presented a good surface to infection should be removed as a prophylactic measure, even though they did not obstruct respiration.

Dr. Charles Herrman suggested that each teacher in the schools receive a card of instructions on the methods of dealing with contagious cases developing at school, the rules for inspection, etc., so that they might become thoroughly familiar with the work of the department and would fully cooperate with the inspectors. The early recognition especially of the milder contagious diseases should be systematically promoted by sending all cases where there was the slightest suspicion to the inspector for examination.

Dr. E M. Thompson took exception to Dr. Cronin's statement that pulmonic and cardiac cases should be included in the truant and criminal class. In his experience such children were usually exceptionally bright. He thought that more time should be given to the early detection of incipient contagious cases instead of waiting for the teachers to make diagnoses of already developed cases.

Dr. De Santos Saxe said that since the new system of examination had been begun, there was a great deal more appreciation on the part of the principals for the work of the department. The school authorities were now realizing more than ever the true aims of the Health Department, and the two branches were working together with less friction than formerly. While a great deal would be done, no doubt, for the children now examined, yet the ultimate results of the work as outlined by Dr. Cronin would be seen only in succeeding generations. No one realized better than the inspectors the handicaps which they encountered in the prejudice and ignorance of the average layman, but gradually the public was becoming educated to regard the Health Department, not as an arbitrary ruler, not as its arch enemy, but as that part of the government that sought the welfare of the community by preventing disease.

Miss McCann, speaking for the Association of Women Principals, assured the Society of the hearty cooperation of that body in the new work of the Health Department in the schools, and said that the women principals some time ago petitioned the Board of Education to establish a similar system of physical examination, especially in the lowest grades. She thought that the best time to examine pupils was upon their entrance into the 1A grade. Then was the time to detect defects and to prevent trouble later.

Dr. Floyd B. Ennist said that the effects of the work now undertaken in the schools were difficult to overestimate, when one could find, as he had, a child who could not read the top letter of the Snellen twenty-feet test-card, and who could read with ease after securing glasses. One such result alone, he felt, was worth a month's work, and he was only sorry that in his own childhood days such examinations were not made, as he certainly would have been saved a great deal of trouble if he had had glasses early enough. It was a pity, he thought, that some philanthropist like Carnegie did not see fit to enable physicians devoting themselves to humanitarian work of this kind to give their time to it without struggling for a livelihood. The results of this work would be a greater monument to a philanthropist than all the libraries in the country.

Dr. Ghertler said that he had found three children with cardiac disease in one of the schools committed to his care, in whom he had the opportunity of noting the bad effects of violent exercise. He had observed these children before and after the routine lessons in physical training, and had been impressed with the dyspnea, the palpitation, and the other signs of cardiac exertion which they exhibited. He therefore pleaded for a careful exclusion of such children from any but the mildest physical exercises.

Dr. Cronin, in closing the discussion, said that he was obliged to differ from Miss McCann, and that the best time to examine school children was when they had reached the upper primary grades, when they showed signs of strain in various ways; when mentality could be better judged, and when deformities showed more clearly. Dr. Thompson could not have understood him correctly, as the speaker had not included the cardiac and pulmonary cases among the truants and the criminals. As a matter of fact, statistics showed that there were few cardiac cases among the mentally defective, and no pulmonary cases among them. The point he wished to make was, that these children should not be pushed or driven beyond their strength in their studies, or in exercising. He agreed with Dr. Sobel in advocating the removal of tonsils of large size irrespective of the question as to whether they produced any symptoms or not. They were bound to cause trouble sooner or later.

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### Chicago Surgical Society.

At the April meeting, Dr. John C. Munro of Boston, read a paper by invitation, entitled, "Lymphatic and Hepatic Infections Secondary to Appendicitis." He offered the following suggestions: (1) Lymphatic and hepatic infections were more common than we realized. (2) The two infections were frequently associated, and one type might be the source of origin of the other. (3) In certain cases of hepatic abscess, the source of infection, whether through the portal canals or through the lymphatics, could not be determined either clinically or at operation. (4) The type of infection did not depend upon the gravity of the originating appendicitis. (5) Subphrenic infections must not be isolated in a class by themselves, as they depend on both lymphatic and hepatic infections, and *vice versa*. (6) Hepatic infections were not uniformly distributed, even when originating in the portal tract, the left lobe being solely affected at times. (7) The prognosis of lymphatic, including the subphrenic, infections was better than that of hepatic, but when the latter were secondary to lymphatic

or direct mechanical invasion, the outlook was more favorable than in the true portal invasions. (8) The most important clue in making a diagnosis was the recognition of the causative appendicitis, and the elimination of this possible cause was necessary in dealing with obscure hepatic invasions in the presence of plasmodia, the Widal reaction, etc. (9) Early recognition and removal of the inflamed appendix might abort a secondary infection of the type considered here, but the corollary did not necessarily follow. (10) The characteristic signs and symptoms were well established in typical cases, and should form a basis for diagnosis in atypical cases.

Dr. Jacob Frank described "A New Method of Incising and Suturing the Liver to Reestablish Its Continuity and for the Control of Hemorrhage." Eighteen experiments on dogs were detailed. Two consisted of simply incising the liver through its entire thickness, without any suturing or other attempt to control hemorrhage. Both dogs recovered. In the remaining sixteen experiments, the author pursued the following plan: When a portion of the liver was to be removed in a transverse direction, a wedge-shaped piece was removed transversely to the viscus, leaving the organ with two flaps forming a trough. The flaps were then quickly coaptated, and with a long, non-cutting needle, threaded with a medium heavy catgut, a continuous suture was taken, the sutures alternating, one carried through the liver tissue near the bottom of the trough, and one superficially, until there was complete closure. It required very slight tension to approximate the flaps. The main object was to bring the flaps together for the purpose of obliterating all dead space. When a portion of the liver was to be removed in a longitudinal direction to the viscus, a wedge-shaped piece of the entire thickness of the liver was cut out longitudinally, thus removing the desired part. The broad, raw surfaces left by the removal of the wedge-shaped portion were converted into troughs, which was accomplished by the excision of wedge-shaped pieces. The troughs thus formed had two flaps. When the operation was completed, the raw surfaces of the original V left were transformed into smooth, continuous liver tissue, assuming the form of liver borders, and the V space left persisting as a notch. This method of excising the liver facilitated easy suturing, and did not require any tension on the suture to coaptate the flaps. Hemorrhage was successfully arrested, and the continuity of liver surface was reestablished. No drainage was used in any of the experiments.

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### Chicago Surgical and Chicago Medical Societies.

At a joint meeting of these societies, held June 7, 1905, Professor G. N. Calkins, of Columbia University, and Biologist to the State Cancer Laboratory, Buffalo, by invitation, spoke on the biological aspect of carcinoma. He mentioned the theories in vogue which have to do with the explanation of the stimulus of division energy of the carcinoma cells. Of the various theories advanced, he considered only two: (1) Marchand's theory, which he said was analogous to the stimulus of the gall-producing insect poison on plant cells; and (2) the parasite hypothesis. They had in Buffalo some 200 mice with carcinoma. The original tumor mice, which Dr. Gaylord brought with him from Prof. Jensen's laboratory, in Copenhagen, in February, 1904, died on the way from New York to Buffalo. The tumors were removed and put on ice. In three days, when mice were obtained, the tumors were transplanted into normal mice. About forty per cent. practically of the transplantations took, and a large number of mice developed carcinoma. The growths made their appearance in from three to five or six weeks after inoculation, the tumor mice ultimately developing symptoms of cachexia, followed by death. The tumors that developed varied in size from one-third the weight of the mouse plus the tumor to one-fifth. These tumors were transplanted from mouse to mouse nine successive times in the Buffalo Laboratory. Prof. Jensen had similarly transplanted the tumors from mouse to mouse for a period of two and a half years before Dr. Gaylord brought them from his laboratory to Buffalo, so that altogether there had been, in all probability, about thirty to thirty-five generations or transplantations of this tumor. These tumors were merely metastases from the original growth. The cells of the old tumor in each successive new environment were stimulated to grow and develop into a new tumor. According to the Marchand hypothesis, the primary stimulus which the first mouse received was a poison which originated from deranged metabolism, from malnutrition, or from other product of morbidity in the organism of the mouse. Were we to assume that there was formed in every mouse morbid products which carried on the stimulus to the division energy of the cells? In other words, could the organism produce a toxin which acted as a continued cumulative disease factor? On the other hand, according to the parasite hypothesis, we might assume that the primary tumor of the original mouse was caused by poison from some parasite. The advocates of the parasite hypothesis were forced to the conclusion that the parasite must be ultra-microscopic. The speaker did not wish to advocate that view, although he said it was gaining ground throughout the scientific world. In November of last year the disease tumor began to deteriorate; and the mice then showed signs of natural immunity and ability to throw off the disease.

A great many mice spontaneously recovered. They had had altogether over a hundred and fifty cases of spontaneous recovery from true carcinoma in mice. They thought the tumor material was growing physiologically old, and that it would die out and their means of experimentation would be lost. A tumor, therefore, was transplanted to a new strain of mice, and the virulence of the cells was restored, so that the mice died in from three to five weeks after inoculation. Dr. Clowes, chemist of the laboratory, conceived the idea that the blood from such a spontaneously cured mouse might carry immunity. He inoculated some mice having tumors of small size with the immune blood from a mouse that had spontaneously recovered. This was done in a number of cases, and six tumors disappeared after the use of this immune serum. Experiments had shown that immunity thus acquired had been efficient up to the present time, and had carried with it protection to the mice against reinfection. Experiments were tried subsequently in a slightly different form. In one such experiment, for example, forty-five mice from the same source were taken; twenty-three of them were treated with cancer mush plus the immune serum from the mice which had spontaneously recovered; and twenty-two of them were treated with cancer mush plus the normal blood of normal mice. The only difference between them apparently was the immune factor from cases in which the mice had spontaneously recovered. In the twenty-three mice treated with this immune serum, three developed tumors. In the twenty-two mice that were treated with normal blood plus the serum, ten tumors developed, or about the proportion of tumors successfully produced by the inoculation method.

This, in brief, he stated, was the position, from a biological point of view, of the cancer problem to-day. It was not known what caused the stimulus. It was not known that there was a parasite in cancer. It was not known that a specific poison produced in any way was the cause of carcinoma; nor was there sufficient evidence on biological and cytological grounds to justify the hypothesis of Farmer, Moore, Walker, and Bashford. Progress, however, was being made.

Dr. E. Wyllys Andrews read a paper in which he discussed the past and future surgery of carcinoma. Dr. William Allen Pusey read a paper on "The *X*-Ray in the Treatment of Carcinoma."

PHILADELPHIA COUNTY MEDICAL SOCIETY—NORTH BRANCH.

At a stated meeting, held May 16, Dr. HENRY LEFFMANN read a paper entitled "Dangers from the Domestic Use of Illuminating Gas and the Means of Avoiding Them." He pointed out that the obnoxious odor of old-fashioned coal gas was to a great extent a safeguard in its use, whereas the present form of illuminating gas, because of the larger proportion of water-gas it contained, is so nearly odorless that its presence is not readily detected by the sense of smell. The poisonous character of water-gas also demands the greater caution. Natural gas contains only 0.5 per cent. of carbon monoxid, coal-gas 6 per cent., and water-gas 45 per cent. With the object of diminishing the dangers from the use of illuminating gas for various domestic purposes, Dr. Leffmann suggested that the sale of inferior rubber hose for connecting gas stoves and heaters should be prohibited by law and that in no case should stop-cocks for turning the gas on and off be attached at the service end of such connection. He contended further that the burners on gas cooking stoves should be constructed on scientific principles, and he argued for rational cooperation between manufacturers of gas and gas stoves on the one hand, and physicians and sanitarians on the other hand, in establishing adequate safeguards to protect the public in the domestic use of gas. Dr. W. M. L. COPLIN presented a c. mmunication entitled "The Medico-Legal Relations of Gas Poisoning." Dr. WILLIAM S. WADSWORTH read a paper entitled "The General Characteristics of Gas-Poisoning, as Seen in Philadelphia." He contended that laws should be enacted with reference to illuminating gas and gas fixtures and attachments similar to those relating to sanitary plumbing. Landlords should be subjected to fines for providing imperfect fixtures, and it should be an offense to sell imperfect or inferior gas rubber tubing or gas burning apparatus of any kind for domestic use. Many deaths could be attributed primarily to imperfect fixtures, improperly constructed gas ranges or stoves, and inferior rubber-tube connections.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

At a st ted meeting, held June 7, Dr. ROBERT N. WILLSON, JR., read a paper entitled "Three Cases of Cerebrospinal Meningitis, Probably Due to the Meningococcus." In two of the cases pneumonia existed. Pneumococci were found in the fluid obtained by spinal puncture. All of the patients recovered. A fourth case of cerebrospinal meningitis was cited, in which the fluid obtained on puncture was sterile. Dr. JOHN B ROBERTS read a paper entitled "A Fatal Case of Bacillus Pyocyaneus Septicemia After Surgical Operation." The patient was a girl, nine years old, who required a plastic operation about the shoulder. Suppuration took place, and symptoms of septicemia developed. The pus was observed to have a blue color, due to the bacillus pyocyaneus. Death resulted, but post-mortem examination could not be obtained.

**Tuberculosis of the Peritoneum and Adnexa.**—P. Bégouin calls our attention to the tendency to regard tuberculosis of the peritoneum as always secondary to that of the adnexa. The result of this view has been the conclusion that in order to obtain a cure it is necessary to remove ovaries and tubes. On the other hand, many cases have been cured by simply opening the abdomen, without removal of the tubes and ovaries. The author details a case of tubercular peritonitis so advanced that it was decided impossible to remove the adnexa at the time of the operation, and the abdomen was closed; this patient entirely recovered. Many other similar cases have been published by other authors. The author claims that we should be more conservative in our treatment of such cases, and should not do a double castration in a young subject, thus unfitting her for married life, without careful consideration of the question whether cure is not possible without this sacrifice of the genital organs.—*Journal de Médecine de Bordeaux.*

## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

TWENTY-EIGHTH ANNUAL REPORT OF THE BOARD OF HEALTH OF THE STATE OF NEW JERSEY AND REPORT OF THE BUREAU OF VITAL STATISTICS, 1904. 8vo, 494 pages, illustrated, muslin.

PROCEEDINGS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION AT THE SIXTIETH ANNUAL MEETING, held in St. Louis, Mo., May 30 to June 3, 1904. 8vo, 470 pages, illustrated, paper.

CURRENTS OF HIGH POTENTIAL OF HIGH AND OTHER FREQUENCIES. By WILLIAM BENHAM SNOW, M.D. 8vo, 196 pages, illustrated, muslin. Scientific Authors' Publishing Co., New York. Price, $2.50.

JUDISCHE AERZTE UND IHR EINFLUS AUF DAS JUDENTUM. Von Dr. SIMON SCHERBEL, 8vo, 75 pages, paper. J. Singer & Co., Berlin, Germany.

MEMORIA DE LOS TRABAJOS EJECUTADOS EN EL CONSEJO SUPERIOR DE SALUBRIDAD EN EL ANO DE 1901, 1902, 1903, AND 1904. Folio, pages, 221, 236, 234, 288 paper.

THERAPEUTICS: ITS PRINCIPLES AND PRACTICE. By HORATIO C. WOOD, M.D., LL.D. Twelfth Edition. Thoroughly Revised and Adapted to the Eighth (1905) Edition of the United States Pharmacopœia. By Horatio C Wood and Horatio C. Wood, Jr., M.D. 8vo, 907 pages, illustrated, muslin. J. B. Lippincott Co., Philadelphia.

LES ACTUALITÉS MÉDICALES. MOUSTIQUES ET FIÈVRE JAUNE. Par A. CHANTEMESSE and FRÉDÉRIC BOREL. 12mo, 95 pages, illustrated. J. B. Baillière et Fils, Paris.

THE DOCTOR'S RECREATION SERIES. Vol. VI. THE DIARY OF A LATE PHYSICIAN. By SAMUEL WARREN, D.C.L., F.R.S. Arranged by Charles Wells Moulton. 8vo, 379 pages, illustrated, muslin. The Saalfield Publishing Co., New York.

GRUNDRISS DER SEMIOTIK DES HARNS. Von Dr. ST. SERKOWSKI. 8vo, 80 pages, illustrated. S. Karger, Berlin.

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A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. Edited by SOLOMON SOLIS COHEN, A.M., M.D. Vols. IX. and X. By various authors. 8vo, pages 570 and 479, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia.

THE READY REFERENCE HANDBOOK OF DISEASES OF THE SKIN. By GEORGE THOMAS JACKSON, M.D. 8vo, 676 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia. Price, $2.75 net.

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PHYSICAL DIAGNOSIS. By RICHARD C. CABOT, M.D. Third Edition. 8vo, 577 pages, illustrated, muslin. Wm. Wood & Co., New York. Price, $3.00 net.

INTERNATIONAL CLINICS. By various authors. Vol. II. Fifteenth Series, 1905. 8vo, 310 pages, illustrated, muslin. J. B. Lippincott Company, Philadelphia.

COLOR-VISION AND COLOR-BLINDNESS. A practical manual for Railroad Surgeons. By J. ELLIS JENNINGS, M.D. Second Edition. 8vo, 132 pages, illustrated, muslin. F. A. Davis Company, Philadelphia. Price, $1.00 net.

DIE CHIRURGISCHE BEHANDLUNG DER HÄMORRHOIDEN. Von DR. PAUL SCHIACHT. Zweite Auflage. 8vo, 90 pages, paper. Grafe & Unzner, Königsberg, Germany, Price, M. 2.

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City.

| | Week Ending Sept. 2, 1905. | | Week Ending Sept 9, 1905. | |
|---|---|---|---|---|
| | Cases | Deaths | Cases | Deaths |
| Measles | 122 | 11 | 95 | 7 |
| Diphtheria and Croup | 144 | 13 | 117 | 14 |
| Scarlet Fever | 48 | 2 | 48 | 2 |
| Smallpox | 1 | ..... | ..... | ..... |
| Chickenpox | 7 | ..... | 8 | ..... |
| Tuberculosis | 670 | 147 | 306 | 146 |
| Typhoid Fever | 282 | 21 | 184 | 23 |
| Cerebrospinal Meningitis | 18 | 8 | 12 | 12 |
| Typhus Fever | ..... | ..... | ..... | ..... |
| Yellow Fever | ..... | ..... | ..... | ..... |
| Cholera | ..... | ..... | ..... | ..... |
| Totals | 1,202 | 207 | 860 | 204 |

**A Note on the Condition of the Tendo Achillis Jerk in Diphtheria.**—J. D. Rolleston bases his paper on 100 cases of diphtheria in which the tendo Achillis jerk was investigated. He presents the following summary: The tendo Achillis jerks are affected in a considerable proportion of all cases of diphtheria, though less frequently than the knee-jerks. The frequency and extent to which they are affected bear, like albuminuria and paralysis, a direct relation to the character of the initial faucial attack. They are completely abolished in all cases of diphtheritic paraplegia. Their absence may be the only evidence of loss of motor power in the lower limbs. Like the knee-jerks, they are liable to be affected at an early stage of the disease, and to remain absent after disappearance of all diphtheritic paralysis, properly so called. Like the knee-jerks again, they may be unequally affected on the two sides, and, like the former, they may be unusually brisk before they become sluggish, and finally disappear. The Achillis jerk, like the knee-jerk, after it has been lost may reappear on one side before it does so on the other.—*Brain.*

**Cysts of the Vagina.**—Voituriez tells us that the frequency of vaginal cysts is considerable; 50 cases were found by Neugebauer in his own practice. A cyst of the vagina is a fluid tumor, of some size, growing sufficiently large to demand interference. They are to be distinguished from minute cysts, the result of endometritis. They occur in young women, frequently after an accouchement, and they may also be found in the very young and even congenital. They are single or multiple; are generally lateral; are often oblong; they are paracervical, retrovulvar or occur in the middle of the vagina. They originate within the vagina, and project through the vulva. They may be as large as an egg or even as a child's head. They grow in the thickness of the vaginal wall, and thin the mucous membrane, as they grow, so that the wall becomes fine and transparent. The wall of the cyst is composed of connective tissue of the fine fibrillar variety and contains usually muscular fibers. The inner surface is lined with cylindrical stratified epithelium, and may be ciliated. The contents is variable, generally transparent, and viscid, or yellow; it may be purulent as the result of inflammation. They may render coitus difficult and painful, and the diagnosis is made by vaginal examination. They do not tend to regression, but continue to grow and prevent function until operation is undertaken for relief. —*Journal des Sciences Médicales de Lille.*

**A Danger in Motor Driving.**—J. W. Dunbar Hooper warns his readers of one of the dangers due to improper action in starting a motor carriage, which results in a fracture of the radius and ulna. The object of revolving the flywheel is to overcome compression and start the piston working in the cylinder. The electric spark ignites the naphtha at a definite moment. If the explosion takes place too soon a "back fire" takes place, and the handle moves suddenly and forcibly in the opposite direction. If the handle is firmly grasped the force is exerted on the wrist. The handle should be grasped only with the fingers, and not the thumb of the hand, so that the handle is easily released when this unexpected movement takes place. There should be a steady pull upward, so as to get the hand over the dead center in its top position, and there it should stop, the hand not going beyond that point while grasping the handle, and on no account should the handle be forced down.—*Intercolonial Medical Journal of Australasia.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, Public Health and Marine Hospital Service during the period from August 19 to September 8, 1905:

| | | Cases. | Deaths. |
|---|---|---|---|
| **SMALLPOX—UNITED STATES.** | | | |
| Louisiana, New Orleans | Aug. 19–26 | 1 | .. |
| Michigan, Grand Rapids | Aug. 19–26 | 2 | .. |
| Ohio, Toledo | Aug. 12–19 | 1 | .. |
| Tennessee, Memphis | Aug. 19–26 | 2 | .. |
| Wisconsin, Appleton | Aug 19–6 | 2 | .. |
| **SMALLPOX—INSULAR.** | | | |
| Philippine Islands, Manila | Jul. 1– 8 | 1 | . |
| **SMALLPOX—FOREIGN.** | | | |
| Brazil, Bahia | July 29–Aug 5 | | 1 |
| Rio de Janeiro | July 23–Aug. 6 | 78 | 5 |
| Chile, Valparaiso | To Aug. 9 | 3,553 | 836 |
| China, Niuchwang | July 22 | 1 | .. |
| France, Lyon | Aug 5–12 | .. | 1 |
| Paris | Aug. 5–19 | 76 | 12 |
| Great Britain, Cardiff | Aug 12–19 | 1 | .. |
| Liverpool | Aug. 12–19 | 1 | .. |
| London | July 29–Aug. 5 | 3 | .. |
| India, Bombay | July 25–Aug. 8 | .. | 6 |
| Calcutta | July 22–29 | .. | 3 |
| Madras | July 22–28 | .. | 3 |
| Italy, Catania | Aug 17–24 | .. | 1 |
| Russia, Moscow | July 22–Aug 12 | 13 | 6 |
| Odessa | Aug. 5–19 | 11 | 3 |
| St. Petersburg | July 29–Aug. 5 | 3 | 1 |
| Spain, Barcelona | Aug. 19–29 | .. | 1 |
| **YELLOW FEVER—UNITED STATES.** | | | |
| Florida, Pensacola | Aug. 29 | 3 | |
| Georgia, Atlanta | Sept 2 | 1 | Imported. |
| Indian Territory, Mayville | Sept. 1 | 1 | Doubtful. |
| Louisiana, Acadia Parish | To Aug. 17 | 1 | .. |
| Ascension Parish | Aug. 14–Sept. 3 | 21 | .. |
| Assumption Parish | Aug. 26–Sept. 3 | 6 | .. |
| East Carroll Parish | Aug. 14–Sept 4 | 36 | 1 |
| Iberville Parish | To Aug. 31 | 15 | 5 |
| Jefferson Parish | To Sept. 3 | 149 | 14 |
| Lafayette Parish | Aug. 15–Sept. 4 | 2 | .. |
| Lafourche Parish | To Sept. 3 | 331 | 31 |
| Madison Parish | Aug. 14–Sept. 4 | 9 | .. |
| Orleans Parish | July 21–Sept. 4 | 75 | 292 |
| Plaquemines Parish | To Sept. 1 | 23 | 2 |
| Rapides Parish | Aug. 28–Sept. 3 | 7 | .. |
| St Bernard Parish | To Sept. | 7 | 1 |
| St Charles Parish | To Sept. 3 | 73 | 6 |
| St. James Parish | To Sept. 3 | 4 | .. |
| St. John the Baptist Parish | To Sept. 3 | 55 | 7 |
| St Mary Parish | To Sept. 3 | 342 | 9 |
| St. Tammany Parish | To Aug. 22 | 2 | .. |
| Terrebonne Parish | To Sept. 3 | 66 | 3 |
| Mississippi, Gulf Quarantine | July 22–Aug. 10 | 53 | 1 on Vessels |
| Hattiesburg | Aug. 28, 1 diagnosis proved not yellow fever. | | |
| Lumberton | July 28 | 1 | .. |
| Mississippi City | Aug 22–Sept. 3 | 31 | .. |
| Natchez | To Aug. 30 | 15 | .. |
| North Gulfport | Aug 15–Sept 4 | 33 | .. |
| Pearlington | Sept. 1 | 2 | .. |
| Vicksburg | Aug 30 | 2 | .. |
| New York, New York Quarantine | Aug. 12, 1 from S. S. Advance from Colon. | | |
| **YELLOW FEVER—FOREIGN.** | | | |
| Brazil, Rio de Janeiro | July 22–Aug. 5 | 16 | 6 |
| Mexico, Tezonapa | Aug. 20–26 | 3 | .. |
| Tierra Blanca | Aug. 13–26 | 1 | 1 |
| Vera Cruz | Aug 13–26 | 5 | .. |
| Nicaragua, Leon | Aug. 8 | | Present |
| Managua | Aug. 8 | | Present. |
| Peru, Lima | Aug. 12 | 1 | Imported. |
| Panama, Bocas del Toro | Aug. 11–18 | 1 | .. |
| Colon | July 31–Aug 12 | 6 | 2 |
| Panama | July 31–Aug 12 | 8 | 1 |
| **CHOLERA—INSULAR** | | | |
| Philippine Islands, Manila | Aug 26 | Present. | |
| **CHOLERA—FOREIGN.** | | | |
| Germany, Hamburg | Aug. 29–Sept 5 First Case Imported. | 1 | |
| India, Bombay | July 25–Aug. 8 | .. | 2 |
| Calcutta | July 22–29 | .. | 26 |
| Madras | July 22–28 | .. | 145 |
| **PLAGUE—INSULAR.** | | | |
| Hawaii, Waipahu | Aug. 30 | .. | 1 |
| Philippine Islands, Manila | July 1– 8 | 3 | 2 |
| **PLAGUE—FOREIGN.** | | | |
| Argentina, Santiago del Estero | July 20 | Recrudescence. | |
| Australia, Queensland, Cairns | July 8 | 1 | .. |
| Ipswich | July 5 | 1 | 1 |
| New South Wales, Sydney | July 1– 8 | 1 | .. |
| Brazil, Rio de Janeiro | July 22–Aug 5 | 4 | 2 |
| China, Mukden District | July 22 | Reported. | |
| Egypt, General | July 8–15 | 11 | 10 |
| India, General | June 24–July 8 | 4338 | 3043 |
| Bombay | July 25–Aug 8 | .. | 102 |
| Calcutta | July 22–29 | .. | 8 |
| Madras | Jul. 22–8 | .. | 1 |
| Japan, Chiba Ken | July 22–Aug 5 | .. | 1 |
| Panama, La Boca | Aug 28 | .. | 1 |
| Peru, Lima | July 10–20 | 2 | .. |
| Siam, Bankok | July 1 | Present. | |
| Turkey, Beirut | July 17 | 1 | Imported. |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 13.
Whole No. 1820.

New York, September 23, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### THE INDIVIDUAL TREATMENT OF DIABETES MELLITUS.*

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NEW YORK.

The idea it is intended to convey by the phrase "Individual Treatment," that I have taken the liberty of coining, is a consideration of the individual and his physical condition as a separate existence in contradistinction to the rules of treatment as collectively formulated that have no regard for individuality, which in the case of diabetes, is of the greatest consequence. In other words, the treatment of the individual is meant rather than that of his disease. Time and again in treating diseases, the failure to individualize has netted results that have been disappointing, while the tendency to generalize along beaten paths has abridged our therapeutic resources very materially, and at the same time contributed to bring a disease into undue prominence, at the expense of the patient, who was lost sight of, in the aggregate. This omission in the treatment of diabetes has manifested itself in a deplorable scarcity of specific medication, and in a notable failure to cut short, blot out, or lessen the frequency of its occurrence. Therefore, in treating persons suffering from diabetes, the physician who forsakes the tenets of the text-books, and the precepts of the lecturer, and who individualizes, classifies, and separates his cases, will be rewarded with better results than will he who casually prescribes an opiate and religiously prohibits carbohydrates. We are so apt to forget that therapeutic principles in their practical application must be modified to suit the exigencies of the individual cases, and that they must have a due regard for the modification of disease, as manifested in different individuals, and in the same subject under varying constitutional conditions. This dictum is doubly true for the disease under consideration, for the reason that it occurs under different circumstances in different subjects, varying in character and severity within wide limits, and therefore calling for such distinctive modifications in treatment, that the individual treatment of types of different groups may be quite at variance.

The natural history of the disease itself, its intrinsic tendency to chronicity, the failure of nature to effect a spontaneous cure, the alarming frequency of its occurrence, the vacillating state of our mind as to its pathology, the notorious impotency of most drugs, all combine to invest this disease with an importance and interest, as far as treatment is concerned, second to no other.

The old classification into mild, moderate, and severe types, which is based on the quantity of sugar in the urine and its tendency to disappear under a strict dietary regimen, is too arbitrary to be of much service in treating individual cases; while, in the light of our new knowledge of physiological functions and of the comparative fuel values of different classes of foods, such a classification is untenable. As proof of this claim is the everyday experience of meeting with cases of high sugar percentages accompanied by mild symptoms, and conversely, cases of low sugar percentages accompanied by severe symptoms.

Such a classification, while it has a certain prognostic value, entirely ignores the nutritive value of food elements, nor does it take into consideration the fact that the excretion of glucose in urine is not in itself incompatible with the enjoyment of health, and secondly, that the disappearance of the sugar is not yet proof that the patient is cured of diabetes. As a matter of fact, the organism actually requires for its maintenance carbohydrates for the repair and growth of its tissues, and for the production ot heat and muscular force. This necessity for carbohydrates is so emphatic that directly they are proscribed, the system draws upon the nitrogenous elements of food to supply the missing component, showing that if a sufficiency of carbohydrates for the needs of the system be withheld, the digestive organs are compelled to seek them from other sources. Thus we know that even under an exclusively nitrogenous and fatty diet, sugar may continue to appear in the urine. The system seems to crave for carbohydrates, and resents the withdrawal of them by the appearance of morbid states. I have seen a number of diabetics in whom the most persistent subjective symptom was muscular fatigue and pain, who were relieved only by the exhibition of a measured amount of carbohydrates.

The classification alluded to above, which has found its way into text-books, should, it seems to me, be therefore discarded, on the ground that the severity of the pathologic process cannot be estimated by the amount of sugar in the urine.

Another classification with which we are familiar is one based on the presumed seat of the lesion, namely, into hepatic, pancreatic, cerebral, myogenic, and the nervous variety. Concerning this classification, a moment's consideration will make it clear that this division is likewise objectionable.

Firstly, we do not with any degree of certainty understand the pathogenesis of the disease; secondly, the physician has not at his command sufficient clinical data to make a differential diagnosis between these types, and thirdly, the clinical pictures of these heterogeneous types ofttimes simulate each other to such an extent that an attempt at any such distinction must be mere erudition.

In the treatment of individual cases, therefore, it is more advisable to ignore the classifications in vogue, while it will be more profitable to direct our efforts against the morbid phenomena of the disease, as exemplified in individual cases. Unless this is done, treatment will become mere routine and dependent upon principles based on speculation as to the nature of the disease.

To insure the results outlined in this paper, a

*Read at the June meeting of the Harlem Medical Society, N. Y.

study of the following items, is indicated; to wit, (1) The power of assimilation for carbohydrates, which is readily ascertained by current methods. (2) The general physical state of the patient, whether anemic, plethoric, obese, or emaciated. (3) The mental attitude of the patient, whether depressed, hopeful, negligent, or indifferent. (4) The patient's ability to maintain weight. (5) The state of his digestive and assimilative functions, whether there is present an insufficiency, an atomy, or otherwise impaired function. (6) His ability to maintain a nitrogenous equilibrium, as relatively determined by a comparison between the specific gravity of the urine, and amount of urea excreted on the one hand, and on the other, the amount of digested proteid food. (7) The patient's age, physique, occupation, and mode of life, whether old or young, robust or frail, engaged at hard or easy labor, leading an active, strenuous, or sedentary life. (8) The presence of complications, particularly a nephritis, myocarditis, or arteriosclerosis. (9) His natural preferences for foods and beverages.

All the factors must be carefully noted with a view of treating each case on its own merits. The superiority of this method of treatment, while in no sense a radical departure from other methods, cannot be questioned, as the results of treatment speak for themselves. For it is no vain boast to declare that the greater success attending the treatment of diabetes to-day, is due rather to an intelligent management of cases on the lines here indicated, than to the use of remedial agencies.

Diabetism, as now observed by me in public and in private practice, is no longer the fell disease it was ten and fifteen years ago. The disease to-day has been robbed of many of its destructive capacities, nor do we meet so often with such revolting and aggravated types. The diabetic of to-day, generally speaking, lives longer and more contentedly, suffers fewer dietary privations, need not religiously practice total abstinence from sugars and starches, and from liquors; extensive dermatoses, such as furunculosis, and carbunculosis, occur less frequently, diabetic coma is amenable to treatment and can be at times retarded, while diabetic gangrene can be at times belated or limited in its ravages; recoveries after surgical operations occur more often.

I think you will sanction my optimism anent the progress made in alleviating the symptoms of diabetes, and I believe you will agree with me that the proximate cause of this improved state of affairs is, as has been outlined in the subject matter of this paper, the application of exact methods combined with a close concern of individuality in disease.

Inasmuch as the pathogenesis of the disease is still in question, our efforts must be directed against symptoms alone. Unfortunately, we have no specifics, not even a remedy, in which reliance can be placed, as a curative agent. All who look to certain drugs, therefore, as antidotes to the disease will be doomed to disappointment, and yet a number of drugs have been extolled from time to time for their usefulness.

I have personally experimented with a number, giving each a fair trial, and have been finally forced to discard each in turn. Among such, the following are a few: Arsenic and its preparations, salicylate of soda and aspirin, permanganate of potassium in fifty consecutive cases, which were reported in a previous paper, the coal-tar preparations, sulphate of sodium, iodide of potassium, bichloride of mercury in cases in which a history of syphilis, inherited or acquired, was given, jambul, yeast in quite a large number of cases.

The results in all of these trials were carefully watched and considered. Sometimes it would appear as though a certain amount of reliance could be placed in them, but the improvement was of short duration, so that the final judgment had to prevail that the use of drugs, as curative agents, was very questionable, and that the search for a specific was a seemingly hopeless task. I have had better results, however, in the employment of special drugs for the amelioration of special symptoms, and in the choice of these agents, I was guided by an interpretation of the origin of the symptoms and the *modus operandi* by which these made their appearance; for example, if in a given case I believed that the clinical picture indicated an hepatic insufficiency, efforts were directed against the liver, as the *fons et origo* of the disease, with the result that more than one diabetic, who presented marked gastro-intestinal symptoms was relieved with sulphate of sodium, or calomel, or bismuth. Again, if I found a condition of chronic anemia, a resort to chalybeate preparations gave more satisfaction than did the perfunctory employment of opium. Or, if in another set of cases the nervous element predominated, with disturbed sleep, irritability, migraine, neuralgias, psychopathia, unusual solicitude of the patient as to his physical state, and an indifference to his obligations, I supplemented the treatment with nerve tonics, such as a combination of the following preparation: Sodium bromide ʒss, sodium phosphate ʒi, dissolved in a mineral water and taken at bedtime, until the nights became calmer, the temperament improved, the pains were alleviated, and the whole mental attitude was improved. I have never allowed myself to believe that there was any one drug, not even excepting opium, which could be relied upon to cure diabetism, and I have always been sceptical regarding the extravagant claims made by some observers for certain drugs, because I believe such claims were based on hypothetical views regarding the nature of the disease, and on the ground that these observations do not take into consideration the essential fact that a glycosuria is merely a symptom, and its disappearance does not mean that the patient is cured of his diabetes, as the constitutional vice may still persist in other forms.

In a number of cases, which gave a history of acquired syphilis, iodides and mercury were employed with a view of favorably modifying the course of the diabetes, but I must confess my utter failure to establish a possible connection between these two affections. In the same lines of investigations lithia salts were employed, when a distinct history of gout was manifest, aspirin, when a rheumatic diathesis was present, and quinine when a history of malaria was obtainable, but the results in all such instances were likewise unconvincing.

A word regarding the use of opium and its alkaloids. It is the favorite drug to-day, as it has been heretofore. That its reputation of possessing curative influences is grossly exaggerated becomes apparent to anybody who watches his cases closely. The indiscriminate employment of the drug without limitation is more, it seems to me, a matter of custom and tradition, than one of therapeutics. As a reconstructive or specific agent, its usefulness is very questionable, but that it has some claim to merit as a palliative measure cannot be gainsaid. If improvement follow its employment, it becomes very soon apparent, otherwise its use should be discontinued. While it may diminish the secretion of urine, it diminishes, coincidentally all the secretions, and thereby gives rise to a general depreciation of the physiological functions, producing a condition which, if allowed to continue uninterruptedly, will surely entail more serious consequences than

the original morbid state would, uninfluenced by opium. I now employ this drug, in cases accompanied by a train of nervous phenomena, such as localized pains associated with polyuria, and in certain grave cases only when diet has no effect in checking the progress of the disease. I have learned from experience that opium has no effect on the morbid condition as such, but merely ameliorates symptoms, just as it acts in many other diseases.

This paper very properly ignores the consideration of many alleged cures and nostrums for diabetes, which have been in circulation from time to time, and whose exaggerated claims have not stood the test of experience or just criticism. We also note with keen disappointment the failure of modern therapeutics and bacteriology to establish a principle for the prevention and cure of the disease.

The treatment of diabetes may conveniently be considered under three divisions: *Prophylactic, Symptomatic, Dietetic.*

I. *Prophylactic Treatment.*—The maxim, "An ounce of prevention is worth a pound of cure," applies with double force here, for it is of more consequence to discover a case of beginning diabetes than to diagnosticate a number of advanced cases. To the former you can hold out hopes of a comparatively long life, but to the latter you only promise to prolong a life of suffering. Knowing that the disease cannot be radically cured, our duty is to discover it in its beginning with the hope that we may prevent its firm establishment, and to ward it off in those threatened subjects whose physiological demeanor indicates that they are candidates, so to speak, for the disease. Heredity, we know, plays an effective part in the etiology of this disease, and whenever this influence can be traced it becomes our duty to preach the lesson of abstemiousness. The children of diabetics, therefore, should, when they reach man's estate, restrict their diet in consideration of the family taint. As early as 1901 I advocated the necessity of systematic examination of the urine in all persons over thirty-five years of age, as a routine measure, even when in the apparent enjoyment of good health, just as the teeth are regularly submitted to the dentist's inspection (See MEDICAL RECORD, April 6, 1901), claiming that if this procedure would more generally obtain, many cases of threatened diabetes and nephritis could be disclosed in time to avert disaster.

The racial predisposition of Hebrews should be borne in mind, and the predisposition by reason of prolonged mental strain or a sedentary life, or exhausting intellectual occupations, should not be lost sight of. Another point of practical importance from a prophylactic standpoint is the close relation between diabetes and certain other morbid states, such as gout, obesity, hepatic congestion, affections of the nervous system, and arteriosclerosis. The occurrence of an excess of uric acid may be a forerunner of a confirmed diabetism. The urine of about one-third to one-fourth of all gouty subjects contains sugar in appreciable quantities. In obese subjects the enforcement of suitable exercise, general massage, and hydrotherapeutic measures is indicated. Subjects over thirty-five years of age in whom an enlarged liver is palpable, and who present, periodically, the following symptoms,—syndrome, icteric complexion, constipation, clay-colored stools, headaches due to the absorption of toxins from intestinal putrefaction, should always be under suspicion.

Finally, there appears to be a relationship between glycosuria and oxaluria. In some cases the latter was found to be the premonitory stage of the former, and due to over-indulgence in carbohydrates or nitrogenous food.

In passing, I wish to allude to a distinct pathologic entity which in a previous paper I styled "aglycosuric diabetes" (see MEDICAL RECORD, December 11, 1897), and which is of considerable prophylactic interest. It is a morbid state presenting a typical clinical picture of diabetes, with the exception that sugar is not excreted in the urine. This entity, for want of a better name, I might be permitted to designate, as "Paradiabetes." It is an anomaly of true diabetes and in all events the prediabetic stage, and is not of infrequent occurrence. The point of importance in connection therewith, is that this symptom-complex should be treated as a mild case of real diabetes. The treatment of the diabetic dyscrasia, irrespective of the subjective phenomena is important, for while we cannot cure diabetes, we can relieve suffering by surrounding the patient with every resource known to science, and thus postpone the final issue. A very important part, therefore, of the therapeusis, pertains to measures which do not concern drugs at all. Thus diabetics should seek mental, nervous, and physical rest whenever possible, and take exercise only under the supervision of a physician. The state of all the functions should be carefully watched, for we find in this constitutional affection, a diminution in the functionating power of all organs, especially in the eliminating organs. The skin, the bowels, and the kidneys, therefore, should receive more attention than is usually allotted to them.

When first discovered, a complete change of surroundings, such as a stay at a health resort, is desirable. Any place that offers natural advantages of climate, topography, and medicinal springs, and is equipped with hydrotherapeutic facilities, is to be preferred. It is much to be deplored that no such properly equipped resort is to be found on this side of the Atlantic. While we have many places that offer the natural advantages, they are not furnished with the appointments that are so necessary a part of them.

II. *Symptomatic Treatment.—Excessive hunger and thirst.* Diabetics will indulge their appetites despite the admonitions of the physician, and it therefore becomes a necessity to resort to some expedient to relieve them of their morbid desires, which are no guides as to the requirements for food.

The sensation of thirst does not entirely reside in the throat, but may be the expression of the needs of the body for water. In the case of diabetes, it is excited by the excess of sugar in the blood, which itself invokes a polyuria. Patients should be restrained from gratifying their appetites *ad libitum*, for overindulgence means overwork for kidneys and heart, which will sooner or later manifest itself in structural changes in these organs. The continual hunger is due to the fact that the ingested food is rapidly excreted without performing the functions usually ascribed to it. Among the measures that should be resorted to are the following: sucking small pieces of ice, drinking a mouthful of water at stated intervals in order to keep the parched mucous membrane of the mouth wet, drinking small quantities of water acidulated with lemon-juice or a little bitartrate of potassium. As a good summer beverage, lime juice and vichy without syrup may be advised; failing in these, total abstinence from carbohydrates for ten days, in conjunction with increasing doses of codein. Begin with one-third or one-fourth grain three times a day, increasing by one-third or one-fourth grain every third day, until two grains are taken three times daily, the third dose being given at bedtime to induce sleep. For the hol-

low feeling in the stomach due to the craving for food, asafœtida pills of one grain have been suggested, while for the intense craving for drink, saline injections into the rectum have been highly spoken of.

*Emaciation and weakness.* Emaciation accompanied by muscular weakness occurs at different periods of the disease, and in different degrees. Sometimes it is the first symptom that attracts the patient's attention to himself. It appears to correspond in severity to the degree of polyuria. This latter depends partially upon an overaction of the kidneys, which drains away the body fluids in general, and partially upon the fact that in a starch-prohibited diet, the oxygen of the system burns up its own fats. This emaciation is one of fats and muscle fiber, and when once begun is generally progressive, while its persistence is a fairly accurate gauge of the gravity of the cachexia. It is a fundamental principle of therapeutics that in all wasting diseases, the chief object of treatment should be to interrupt the waste of fat and to endeavor to replace the increment of loss. The success, therefore, of any method of treatment for the relief of the emaciation and weakness, would reasonably be measured by the skill displayed in preventing this loss of strength and flesh. The dietetic uses of fats for growth and nutrition are so well established that it would seem to be the part of wisdom to increase body weight by judiciously resorting to fats and oils, even at the expense of neglecting the glycosuria. Therefore, in the case of a rapily emaciating diabetic, the main indication is forced-feeding of fats and oils both in the form of natural foods and of artificial preparations.

Such pharmaceutical preparations as cod liver oil, and the fat emulsions that are on the market, serve useful purposes, and should be pushed to the limit of gastric toleration. Pure cream, whole milk, yolk of egg, butter, bone-marrow, edible oils, as well as fatty meats are all useful.

There is some difference of opinion regarding the limitations and advantages of forced-feeding of fats, objection having been raised on the ground that the acetone bodies found in didabetic urine are due to an excessive assimilation of fats, but practically such a claim has little value in the face of the ready methods in vogue for the detection of the urinary acetone bodies. The condition of the stomach and intestines, however, better enables us to estimate the quality of fats that may wisely be administered; for, directly a fatty diarrhea and other symptoms of intestinal disease make their appearance, we have a positive contraindication for their further use.

Of the articles enumerated, the most valuable as a reconstructive agency, and which at the same time is readily assimilated, is cod liver oil. It furnishes the wasting system with an amount of potential energy and heat that is equivalent to the consumption of large quantities of natural foods.

Accompanying the muscular weakness, we frequently find pain along the course of certain nerves, especially the sciatic nerve, or one of its branches. This pain is very obstinate in character, and is symmetrical in type. It is a true peripheral neuritis. I have found that opium alone gives little relief, but when combined with hyoscyamus as in the following formula: Extract of opium and extract of hyoscyamus, of each one-quarter grain three times a day, better results can be looked for. Rest in the inclined position is a valuable adjuvant.

*Glycosuria and polyuria.* As stated above, there are no specifics to ameliorate these symptoms. Taken by themselves, fortunately, they are never a menace to life. Of drugs, the one most resorted to is opium, or one of its preparations, in increasing doses, if occasion require; its mode of action is doubtful. The presumption is that it exercises a selective affinity for the vasomotor system, dries up the secretions, and allays irritability and pain. In regard to the method of administration, it should be borne in mind that if it is going to exert a beneficial influence on the cachexia, it will become apparent very soon, and before large doses are required. The notoriously large doses advocated by some authorities, in my experience, are positively harmful, just as they would be in any other disease. I never go above two grains of codein three or four times daily, as I have found that if the disease be at all amenable to this drug, it will announce itself before this maximum dose is reached. If no improvement follow such doses, its further administration should be discontinued. The same rule applies to opium and morphine, they should be given only in moderate doses, otherwise not at all.

In many cases the glycosuria has a tendency to spontaneous improvement, provided the system be not overloaded with carbohydrates. According to most observers, if a patient can tolerate 200 grams of carbohydrates in any form, daily, his glycosuria requires no further attention. Transient improvement can usually be hoped for, in the absence of intercurrent disease, unless the case be one of long standing, by means of a properly restricted diet, in conjunction with such aids as muscular exercise and suitable hygienic surroundings. In obese subjects over forty years of age, improvement of these symptoms is generally to be expected. Reference should be made here to the surprising fact that beneficial results have been observed by Mossé and Von Noorden to follow the use of measured quantities of carbohydrates, such as potatoes and oats. These investigators report that often the glycosuria and the polyuria would markedly abate after such a diet had been employed for a time and other therapeutic measures had failed.

*Skin affections.* The more important skin lesion is a dermatitis or eczema, accompanied by pruritus, about the female genitalia. Such pathological conditions as furuncle, carbuncle, and gangrene, do not properly belong within the scope of this article, being more relevant in a consideration of the surgical aspects of the disease.

It is known that subjects with saccharine blood, or blood conveying any other foreign substance, offer a lowered tissue-resistance, in consequence of which pus-generating organisms secure a readier entrance and meet a more favorable pabulum for proliferation; staphylococci, especially, are known to thrive well in a medium containing sugar. The direct and continual contact of saccharine urine, with the parts about the urethra may also cause pruritus, followed by solutions of continuity from scratching.

The natural inference as far as therapeusis is concerned is to remove the cause, which in the case of diabetes means to rid the urine of sugar. Of the multiplicity of local remedies suggested for the relief of diabetic pruritus, comment need not be made here of the inefficiency of most of them, and the positively injurious effects of some, such as carbolic acid, sublimate, and nitrate of silver solutions in any strength. Good effects from these irritating substances need not be looked for; what is indicated is a soothing and protective application. Seen at the beginning, a soothing lotion, such as "Liquor Burrowi," a saturated solution of boric acid, or the official lead and opium wash may give relief, provided dietetic measures to rid the urine of sugar supplement the local treatment. Seen later, when

the skin lesion is of a severe type, the following procedure will be found useful. Shave the affected parts carefully, cleanse with boric acid solution and dry, then apply over the affected area a coating of a 50 per cent. ichthyol collodion, and cover with lint or absorbent cotton, held in place with a T bandage. Repeat this whole procedure every third day, having previously removed the old collodion layer. This method has given me good results in a number of obstinate cases, and I have never seen it described elsewhere. The local application of adrenalin has given good results according to Meara. In extreme cases of *eczema intertrigo*, accompanied by great physical suffering and discomfort, with a pruritus so intense as to prevent sleep and which has defied all local and constitutional treatment, one measure is still left to us, another procedure that is not mentioned in the more familiar text-books, namely, catheterization of the bladder at regular intervals by night and day, with a view of preventing the affected genitalia from coming in contact with saccharine urine, with supplementary local and dietetic measures. This catheterization should be continued until the parts are restored to something like a healthy state. I recall one case of severe *eczema intertrigo* with such an agonizing itching that the patient was reduced to a state bordering on collapse. Nothing was of any avail, until the catheterization treatment was adopted.

*Diabetic coma.* Up to date, the treatment of this morbid state is based upon the presumption that the coma is brought on by an autointoxication, from abnormal acids, an acid toxicosis, so to speak. Whether we are on safe grounds in assuming that a hyperacidity of the blood is at the root of this concomitant of diabetes, is not yet certain, and consequently we are hardly justified in deducing from this unaccepted theory a rational principle of treatment. The bare fact that pathologic acids whose properties and occurrence are of doubtful origin, are found in the blood and urine of advanced diabetics, is not itself proof of a relation of cause and effect between the coma and these acids. We cannot logically accept the acid theory of coma until certain apparently contradictory events are reconciled. Firstly, it is known that alkali therapy in a developed case of coma, is rarely followed by recovery. Secondly, it is known that acid bodies are found in the urine in a number of other diseases that are never accompanied by coma. Thirdly, it is known that acid toxins may be present in quantities in the urine of diabetics without coma ever intervening. Fourthly, in a number of cases of diabetic coma none of the acid bodies were ever demonstrable. In other words, we can have the occurrence of diabetic coma minus the poisonous acids. Fifthly, in a suspected case of diabetic coma the urine itself rarely shows a hyperacidity. Experiments to ascertain the acidity, quantitatively, have been recorded. Although these features concerning the properties of the urinary acid toxins cannot satisfactorily be reconciled with the clinical findings, nevertheless, we have in the acetone bodies a working hypothesis, or starting-point, on which to build therapeutical data. Thus, we may claim that alkali-therapy, although of little value during the coma, has undoubtedly been of service prophylactically in the *precomatose* stage. Efforts, not without a measure of success, have been made along strictly scientific lines to trace the source of the acetone bodies to the fats taken as foods; some observers have even claimed to have succeeded in isolating the special variety of fat which predisposes to an acid intoxication. As a matter of fact, it is a very debatable question, whether the coma can be considered in the light of an acid intoxication. Nevertheless, in the absence of positive proof of the nature of the coma, whether due to toxic acids, gastrointestinal toxins, faulty tissue metabolism, or a mother substance of the acetone bodies, and further, in lieu of a better method of treatment, it would be the part of wisdom to direct our therapeutical efforts to the conditions as they occur and on an interpretation of the clinical manifestations.

The treatment of diabetic coma, therefore, should be considered under two divisions, firstly, that of the *precomatose stage,* and secondly, that of the *comatose stage.*

So far as the prophylaxis of coma is concerned, it is to be noted that the urine of diabetes should be regularly examined for the presence of the acetone bodies, and if present in increasing proportions, the diet should be relaxed. An exclusive diet of proteids and fats should be abandoned, while carbohydrates, such as potatoes, bread, milk, and alcoholic beverages, should be allowed in limited amounts. When the system no longer excretes these acids, a return to a rigid diet may be enforced. Should the trend of events indicate impending coma, that is, should acetone, diacetic acid, and $\beta$ oxybutyric acids, appear in the urine, and the patient complain of dizziness, nausea, or dyspnea, he should be at once put to bed, placed on a milk diet, protected against colds, fatigue, and nervous and gastric disturbances. Heroic alkali therapy is now employed. Bicarbonate of soda grs. xxx t.i.d. is to be administered, until the urine is markedly alkaline; brandy or whiskey is useful, and also vichy in large doses, such as ℥ viii every three hours; a hypodermic injection of natrobenzoate of caffeine or of camphor in ether should be given at once. All opium should be discontinued. Oxygen inhalations for the dyspnea should be given freely, and a high rectal enema of salt solution if the bowels have not been previously evacuated. I usually order a strong, quickly acting purgative, such as croton oil gtt. i, with a few drops of olive oil placed on the tongue; the heart's action should be watched.

A few drugs enjoy the reputation of being of great service, such as glycenic acid in ounce doses, to diminish the excretion of the acetone bodies. Others are urotropin, owing to the readiness with which it separates in the economy into formalin and ammonia, ammonium fluoride, calcium carbonate, etc., etc.

The treatment of the patient during the comatose state unfortunately is almost a hopeless task. In the despair of the situation almost any therapeutic measure, however heroic in its execution, would be pardonable. Blood-letting followed by an intravenous injection of an alkaline fluid into the blood current, should be first tried. At the same time, the hypodermatic injections of cardiac tonics, rapid and complete evacuation of the bowels by the aid of gtts. ii croton oil, with olive oil on the tongue, high rectal irrigation of salt water, and free inhalation of oxygen gas.

III. *Dietetic Treatment.*—Opinion is a unit in declaring that the keynote to the intelligent treatment of diabetes, is the question of diatetics; although there has not been any radical departure from existing methods of treatment, nevertheless, there has taken place somewhat of a general revision of existing dietetic principles, which have been followed by favorable results. The treatment of diabetes is no longer a matter of dietetic restriction, but one of dietetic regulation; it does not mean total abstinence from carbohydrates, but a control of carbohydrates; it means a diet to fit the individual, not a diet to fit the disease; it means that a sharp distinction must be made between the diabetic dyscrasia and confirmed diabetism.

The bad effects of a one-sided diet on the processes of digestion, absorption, and assimilation soon announce themselves in morbid phenomena due to disordered metabolism. The human economy resists the attempt to starve it of one of its essential food elements.

The nutritive requirements of the body for the proper maintenance of nutrition and of the vital forces cannot be ignored with immunity in health, much less in disease. Now, since each of the three great alimentary principles, proteids, fats, and starches, has a distinct physiological purpose, it stands to reason that a pathologic reaction must follow, either immediate or remove, when the economy is deprived of any of these principles. A rigid exclusion of sugars and starches in the treatment of diabetes is a thing of the past, nor do we often find it necessary to exclude them permanently from the menu of diabetics. On the contrary, we often substitute carbohydrates for fats in cases of marked acetonuria. It is in the dietetic treatment that individualization takes first rank. The individual necessities of each case should be ascertained by a careful consideration of the character and intensity of the disease, the patient's power of resistance, and his reaction; his physical propensities, whether lean or obese, and his idiosyncrasies of diet. Only after watching him closely can we arrive at conclusions as to what the best diet would be in the given case at the outset and during the course of the disease, for the diet must necessarily change to meet the exigencies of the disease. Nevertheless, there are some types of the disease which must be met at first by a strict exclusion of carbohydrates, at least temporarily. Fortunately, this dictum does not apply to the majority of diabetics.

Recently efforts have been made, based on chemical experiments, to estimate the heat or fuel values of the three groups of food-stuffs, proteids, fats, and starches, and from these deductions to calculate mathematically the nutritive necessities of man in health and in disease. As a result of these scientific experiments, we have an accumulation of statistical tables exhibiting the fuel values or potential energies in terms of "calories" of various foods. One table exhibits in parallel columns the percentage composition of various articles of food and the resulting potential energies also in terms of calories. Another table indicates the number of calories necessary to maintain health in subjects of different ages and engaged in different pursuits. These tables have been employed by numerous investigators as a means of ascertaining exactly how much of proteids, fats, and carbohydrates are necessary to repair the losses and wastes of the body in disease and the requirements in health. But it was soon discovered that, although these theoretical computations were inspired in a scientific spirit, they could not have anything more than an empirical value in actual practice, for the reason that the human machine refused to be governed by laboratory methods, and that something more than weights and measures were needed to decide the question of heat equivalents in foods. I have had some experience in the "caloric method" of feeding in diabetes, and am of the opinion that these empirical measurements of food values sound well on paper, but that practical experience does not confirm the conclusions as to their reliability. For there are so many sources of error, and so many disturbing factors at work in the body which influence the final results, that the merit of the method cannot go unchallenged. Again, admitted that the caloric estimates be corrected, it does not necessarily follow that these numerical values will be developed in the body to their fullest extent and at the most appropriate time for utilization, nor is there any guarantee that these fixed calorie values will not be influenced by one of the many physiological operations of the human machine, many of which are as yet uninterpreted. Nature's laws cannot be goverened from the laboratory. Reasoning by analogy, the same view must be taken of the value of the various special diabetic diets that have been proposed from time to time, especially by German authorities, such as Ebstein's, Düring's, or Naunyn's diet, the skimmed milk diet, etc. A long experience has shown that the claims made for these dietaries have proven all but worthless. No one routine and fixed dietary can be universally employed for all cases promiscuously, irrespective of individual conditions.

In the dietetic treatment, our first aim should be to ascertain approximately the daily excretion of abnormal urinary ingredients, the acetone bodies in particular, also the amount of urea. This point determined, we are in a position to decide upon the character of the diet as indicated by the metabolic processes. Next, ascertain the patient's tolerance for carbohydrates. This point furnishes the clue as to the quantity and quality of the starches and sugars that can be allowed. This is accomplished relatively by exhibiting a known quantity of carbohydrates, such as four ounces of bread, which equals sixty-six grammes of sugar. One or two days later determine the amount of sugar excreted; the difference between the quantity administered and the quantity excreted corresponds relatively to the the carbohydrate capacity of the patient. Another method is to have the patient swallow 100 c.c. of glucose, dissolved in 500 c.c. water on an empty stomach. Following this step, there are two possibilities brought to light. Either it is found that the subject has no tolerance for sugar or a mild tolerance for sugar; either of which conditions determines the quantity of sugars and starches that may be allowed. We have now arrived at a stage when we can rationally decide upon the dietary for our patient. We thus have two classes of cases. One set of cases who can dispose of a given quantity of starches, and another set that has no power of assimilation for starches.

Cases belonging to the first group can be much benefited by a judiciously selected dietary. Their urine should be regularly examined for urea and glucose. In this group of cases will be found diabetics who look well nourished and present few subjective symptoms. Such patients should be allowed a few glasses each week of some wine, such as Burgundy, claret, Moselle, or Rhine, also ale in preference to beer, inasmuch as in the former the sugar has almost been entirely converted by fermentation into alcohol and carbonic acid. A few pieces of rye or wheat bread are also permissible. The use of flour other than wheat or rye, as gluten, I have abandoned, as I have little confidence in them on account of their uncertain composition, and if taken in large quantities they throw into the circulation more starch than would obtain by eating a few pieces of rye or wheat bread. The substitution of potatoes for wheat flour is in accordance with recent views, and good results are claimed for this practice. Potatoes contain a low percentage of starch in comparison to flour, and it is asserted that the potash salts in them exercise a beneficial influence on the progress of the diabetes. The eating of green vegetables, namely the ones growing above ground is to be encouraged. It is customary with me to insist on one starvation day in each month, on which carbohydrates are rigidly excluded, while a laxative mineral water is substituted on account of its eliminative effects. When a patient first presents himself for

treatment, and there are no urinary contraindications, I begin the management of the case by a rigid sugar-free diet of about ten days, then restore carbohydrates gradually to the limit of assimilation. A knowledge of the percentages of starches in the various articles of diet is essential in treating diabetics.

In the second group of cases belong the severe types of diabetes, those that are scarcely amenable to dietetic treatment, and that excrete glucose even on a starch-free diet. Here the question of diet depends on the physical conditions and age of the patient. Our chief aim should be to prevent systemic intoxication and to keep up the general health of the patient. His diet, if an old person, should not be too prohibitive, as in such cases the treatment becomes worse than the disease, even though such a diet has no effect in diminishing the glycosuria. Alcoholic stimulation in old persons is urgently needed, as there is practically no substitute for it in those subjects who have attacks of temporary weakness. I especially prefer cognac and brandy to whiskey and champagne. Alcohol is really a food for such patients and is also of service in helping to digest fats. It should be the golden rule in the dietetic treatment of diabetes that there is no advantage to be gained in causing the glycosuria to disappear, if it be accomplished at the expense of the general health of the patient. In any event, it should always be borne in mind that the long-continued use of an animal diet is a menace to the diabetic, and that a certain amount of carbohydrates, or rather carbon, is absolutely essential to life, and that, deprived continuously of it, the body must necessarily consume itself or starve in order to supply the missing unit. A potent factor is to watch the functions of the organs of digestion and assimilation. Unless the physiology of these organs be kept at the proper standard, treatment of any kind will prove ineffectual, while waste and loss of strength cannot be repaired, however much the patient be overfed.

When we consider how differently individuals react towards carbohydrates, we are reminded that possibly there exist two other unrecognized nutritional diseases analogous to diabetes, characterized by the presence in the urine of the products of faulty proteid and faulty fat assimilation and giving rise to distinct clinical pictures, and that, after all, the disease now known as diabetes is merely one phenomenon of a complex pathologic entity yet to be identified. Already we recognize albumosuria and lipuria. The methods of examining urine for the presence of the products of faulty fat and proteid assimilation are as yet too crude and impractical to be of service to thec linician, but when this difficulty has been removed it will not be long, I venture to predict, before the nature of glycosuria will be fully revealed, and then possibly a new disease will be added to our nosology.

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## CONGENITAL UMBILICAL HERNIA.

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A CONGENITAL umbilical hernia is a tumor of variable size, containing one or several abdominal viscera, seated at the umbilicus and existing in children at the time of birth. Of the peri-umbilical hernia I shall have nothing to say, because the congenital type only arises through the umbilical ring, while the peri-umbilical form only occurs in the adult. Congenital umbilical hernia does not always have the same origin; some contain viscera, which have never been enclosed within the abdominal cavity, while in other cases the viscera forming the contents, after having been seated normally within the abdomen, protrude during the last few months of intrauterine life, or during labor. The former are not hernias properly speaking, because the word hernia means the exit from the abdominal cavity and what has never been contained therein can naturally never come out, consequently, it is rather more of a congenital malformation and not a hernia, properly speaking.

Gosselin, in his "Leçons sur les hernies abdominales" published in 1865, divided umbilical hernia into three types as follows: (1) very large hernia containing the liver and the larger part of the intestine, with absence of a considerable portion of the abdominal wall; (2) hernia of medium size seated at the base of the cord and having for contents the liver and intestine, or the liver or the intestine alone, but which cannot be reduced: (3) hernia the size of a small nut to that of a crab apple, round and transparent, situated at the base of the cord and reducible. This classification appears to me somewhat arbitrary and would be better designated as embryonal hernia, which corresponds to Gosselin's first group, and fetal hernia which develop after the completion of the third month of intrauterine life. In embryonal umbilical hernia three varieties may be distinguished. The first, which may be termed umbilical eventration, is characterized by an arrest of development of the abdominal walls, or a defect in the union of the walls. Such cases present large irreducible hernia, with the viscera sometimes only covered by a thin membrane in direct continuation with the envelopes of the cord, while at other times they are free in the amniotic fluid. The defective union of the abdominal wall may be more or less extensive. This first variety of hernia consequently offers most variable sizes, according to the extent of the arrest of development, as well as to the extent of the lack in union of the walls.

The contents vary from a single intestinal coil to nearly the entire intestine with its adnexa. The heart has occasionally been found as part of the contents, the liver is almost always present and it may alone form the tumor, and this leads me to remark that the umbilical vein, by going into the longitudinal hepatic fissure, forms a cord which fixes the organ to the ring and explains the formation of this hernial contents. The membrane forming the sac, which may rupture during intrauterine life is, I believe, generally considered as a prolongation of Rathke's primary membrane or the membrane reuniens.

The adhesions uniting the sac to the viscera appear generally due to agglutination and do not appear to be of an inflammatory nature.

The second variety is the diverticular umbilical hernia due to the persistency of the omphalomesenteric duct, which opens into the intestine by an orifice commonly termed the intestinal umbilicus. Obliteration of this orifice commences after birth and is complete from the thirty-fifth to the fortieth day, while the omphalomesenteric duct becomes atrophied and detached from the intestine at about the tenth week. In those cases where this duct persists it may lead to the formation of a diverticular hernia, but it is most infrequently for the diverticulum alone to form the hernia and, under these circumstances, it usually passes by unnoticed. It is consequently probable that occasionally it is included in the ligature of the cord and gives rise to intestinal fistula. It may, however, happen that the obliteration, which commences at its intraabdominal end, has taken place and then a small fistulous tract results, ending in a cul-de-sac, instead of the formation of an abdominal anus. It has been pointed out by Duplay that a diverticular hernia is occasionally present simultaneously with a

stricture or complete occlusion of the intestine and, under these circumstances, if the point of occlusion is situated below the entrance of the diverticulum, a thickening of the cord is met with, while gurgling produced upon pressure of the cord at its base is associated with symptoms of strangulation. These diverticulæ vary in caliber, while their length may be from five to ten centimeters, or even more.

In those cases where they develop into a hernia, a hernial sac is wanting and the diverticulum is adherent to the base of the cord, or at the internal aspect of the amniotic prolongation, thus rendering the rupture irreducible. It is most infrequent for the diverticulum to alone form the entire tumor and cases of this type reported in literature are few in number; usually it is accompanied by the presence of intestinal coils.

The third variety of embryonal hernia may be termed hernia of the vitellin loop. It is characterized by the presence of the intestinal loop united to the omphalomesenteric duct at the base of the cord and which, instead of little by little entering into the abdominal cavity, has remained adherent to the umbilicus. The remains of the duct may be found on this loop of intestine.

There now comes up for our consideration the congenital umbilical hernia, which develops after the formation of the umbilicus, during the fetal period, and which has been called fetal hernia in opposition to embryonal hernia. Here one is dealing with a true hernia, because the viscera make their exit from the abdominal cavity by way of the umbilicus, resulting in the formation of a sac lined with peritoneum. The size of these hernias is extremely variable, from that of a walnut to the size of a fetal head at term. The contents may consist of the large or small intestine or both, as well as the liver, etc.

In very large hernias it rarely happens that the fetus is born with the hernial coverings intact, because they are usually ruptured during labor, or even pregnancy, so that the intestine floats freely in the amniotic fluid. Two membranes may be distinguished over the portion of the dilated cord, namely, an external and an internal membrane, the nature of which I shall discuss when speaking of the etiology. The external integument is formed by the dilated umbilical cord and is represented by the amniotic membrane which on the one hand joins the skin of the abdomen and, on the other, continues directly on to the cord, forming its sheath. The internal lining of the sac represents the hernial sac properly speaking. Both membranes are united to each other by a layer of connective tissue which frequently takes on a gelatinous structure, similar to that bearing Wharton's name. Occasionally there are other intermediary layers, although in a varying degree of development, such as the abdominal fascia or muscles.

In the larger number of cases the sac is transparent, so that one can see through its walls and observe the coils of intestine and the meconium that they contain. In those cases which have not ended in death, this transparency becomes gradually attenuated and ends by disappearing.

The union of the sheath of the cord with the abdominal skin usually offers a distinct line of demarcation, but occasionally it may be irregularly indented, that is to say that at certain points the skin sends out prolongations on the sheath of the cord. Sometimes quite a large reddish fold will be noticed at the junction of the skin with the amniotic membrane, as was pointed out some years ago by Parmenter. Ahlfeld believes that the distinct limits are more frequently met with while the indented border is rarer and accompanies a vesical fissure. He injected a fetus by the aorta and found that the red coloring extended as far as the border, but not into the envelopes of the hernia, and there was not the slightest trace of capillary injection. Generally speaking, the two umbilical arteries are situated outwardly and below, while the vein is usually found above. It not infrequently happens that they may be distinguished through the transparent covering of the hernia. They may occasionally entwine the tumor. Then again the two arteries may be found thrown to the side, while in others they may vary as to their number. Ahlfeld, after having examined eight cords in cases of funicular hernia, found only one artery and one vein in five, while in the three others there were two arteries and one vein, and Otto, who examined eight cords, found one artery others there were two arteries and one vein, and vein quite frequently become united at the apex of the tumor forming the cord, but the insertion of the cord does not always take place at the apex of the tumor. Usually the cord occupies one of the sides and, according to Cruveilhier, the insertion is found more frequently on the left. It often happens that in these cases the elements of the cord, arteries, and vein, are thrown to the same side instead of being dissociated. In cases of irreducible hernia the insertion preferably takes place at the apex of the tumor. In forty-five cases where the point of insertion of the cord was given, Buschan found the following: Thirteen times in the middle of the tumor, once on the right of the tumor, and twice on the left, on the anterior aspect of the tumor once and on its lower aspect twenty-eight times, to the left and below five times, and to the right and below three times. This same authority makes the remark that the cord is usually very short and Otto has described a case where it was completely wanting, while the hernial sac was directly adherent to the placenta. A similar case has been described by Thorner.

The viscera contained in the sac vary greatly, but, as I have pointed out, usually a coil of intestine, the liver, or the stomach, is to be found, the liver alone quite frequently. Then again all the organs belonging to the digestive apparatus may form the contents of these hernia. Chadwick has described several instances in which the heart and stomach formed part of the contents, while Masurel has reported an instance of hernia in a child who lived ninety-five hours which had as contents the omentum, the intestine from the duodenum to the sigmoid flexure, and also a kidney which had no ureter. The liver, spleen, bladder, and kidneys were normal, and he supposes that the organ which was found in the hernial sac was a supplementary kidney.

The smaller hernias usually contain only some coils of small intestine, and, occasionally, as has already been pointed out, the contents may be represented by an intestinal diverticulum alone. In twenty-three cases, Kraemer found the following organs in the hernial sac: intestines twenty-three times, liver twenty-two times, stomach ten times, spleen five times, and the heart twice. Thus it will be seen that out of these twenty-three cases the liver was found only once less than the intestine and the above-mentioned authority is of the opinion that this proportion is below the real truth. He even believes that generally speaking one is authorized to admit that in the majority of cases where the liver was absent in the hernia, it nevertheless formed part of the contents. Lindfors collected sixty-five cases of funicular hernia, which were submitted to treatment, and has given the following figures relative to the contents: liver eight times, liver and intestines five times, liver and omentum twice, the cecum twice, while the stomach, omen-

tum, intestinal coils, and transverse colon were each met with once. In one case the larger part of the abdominal viscera were present, while in another the contents consisted of the heart, stomach, and intestinal coils. In forty-five other cases coils of intestine were alone mentioned as forming the contents, or, on the other hand, the latter were not indicated.

Very frequently congenital umbilical hernia is accompanied with other congenital malformation, so much so that Hertzfeld found twelve out of sixteen instances presenting the following defects: In four there was a fissure of the palate, in five fissure of the bladder, in three a pubic fissure, four spina bifida, and in one a cerebral hernia. Beside these one may meet with malformation of the genital organs, deformities of the bones, contracture of the joints, malformation of the feet and hands, and cyphotic or scoliotic changes in the vertebral column.

According to Lindfors, out of a total of nineteen instances of congenital umbilical hernia, nine were cases of abortion, and out of these there were three which presented no other congenital malformation. The remaining six presented malformations of the genital organs.

Malposition of the viscera is frequent in congenital umbilical hernia; the stomach and spleen often are situated lower than normally, while the heart and lungs may be drawn into the hernia if the diaphragm is lowered.

The viscera are frequently hypertrophied, but usually it is the liver which is partially enlarged, or in entirety, and becomes adapted to the hernial sac, taking on an absolutely abnormal shape. In large umbilical hernia, the vertebral column, frequently becomes curved and, according to Ahlfeld, it is sufficiently marked for the lower part to come in very close proximity to the shoulders; the cyphosis is usually associated with lordosis.

The mesentery may be possessed of a greater length than normally. The increase in size of the viscera may be explained from the fact that the hernia, by allowing the abdominal cavity to empty itself partially of its organs, those which remain within have a tendency to become hypertrophied in order to fill up the space left by those which have made their exit, and are consequently exposed to displacement. The mesentery becomes longer, due to the traction upon it by the intestine contained within the hernia, and it has been upheld that this exaggerated length has been the cause of the hernia, while in reality this would simply appear to be a secondary phenomenon.

I have pointed out that malformations of the genital organs are frequent, consisting principally of a double uterus or vagina, epispadias, a bifid penis or clitoris, etc., accompanied by pubic fissure and exstrophy of the bladder. Ahlfeld gives the following explanation: If the vitelline cord drags the intestine towards the lower part of the abdomen and retains it outside, a diastasis of the lower half of the abdominal wall will result; if the traction continues, the intestine crowded down towards the symphysis pubis pushes the allantoid before it and with it prevents the union of the structures coming from each side, which should unite in the median line. In this way the lower part of the abdomen and the symphysis remain with a fissure and, on account of the latter, those organs situated on each side of the symphysis and which, by their union should form the external genital organs, do not meet. The allantoid forms a large bladder, because it is not limited in front by the abdominal walls and remains perfectly free in every direction excepting posteriorly. Since it cannot form an excretory canal below, it becomes filled with urine and finally ruptures, and consequently the anterior wall thus disappears while the posterior wall alone exists and becomes covered with mucosa. On the other hand, de Quatrefages insists upon the part played by adhesions in explaining the formation of exstrophy of the bladder, because the former prevent the closing of the abdomen and the union of the pubic bone. He points out that the internal organs, arrested in their development, will remain outside, while the fissures, which primarily were normal, will persist and new ones may even form during this process and the formative force, being overcome by these different causes, will leave various organs incompletely developed, or, on the other hand, will either unite or bind together certain parts which Nature had destined to be separate.

In these cases of congenital umbilical hernia malformations of the intestines, such as absence of the anus or rectum, stricture of some portion of the intentine or its occlusion, have been frequently found. This has been explained as follows: At the commencement of the second month the lower half of the intestine forms a straight line extending from the lower end of the vertebral column to the upper part of the coil. This portion merely undergoes a slight lengthening during the following weeks. The descending part of the large intestine, by a slight curve forms the transversal portion which goes out directly by the abdominal cleft. As yet there is no ascending colon, while on the other hand the small intestine increases in length very rapidly. One can thus see that a traction produced by the omphalomesenteric canal can only result, as far as the small intestine is concerned, in an exit of other intestinal coils through the abdominal cleft, while the large intestine is exposed for this very reason to many changes, either in its point of attachment, or in its lumen. If the traction has occurred at a time when the lower end of the digestive tract is still closed, it happens that from the traction, the rectum is so much pulled upon upwardly that its lower end cannot take part in the formation of the anus. If the traction on the rectum continues at a later date a stricture in its lumen may take place from this same cause, while actual contact of its walls may bring about an obliteration and thus may be explained the various cases of stenosis of the lower parts of the intestinal canal.

Congenital umbilical hernia is relatively rare; Thudicum believes that it occurs once out of every two thousand births, while, according to Lindfors, it was encountered once out of five thousand, one hundred and eighty-four in a series of twenty thousand, seven hundred and thirty-five births occurring at the maternity hospital of Munich. At the lying-in-department of the Charité Hospital at Paris 3,043 births occurring between 1886 and 1894 showed no instance of congenital umbilical hernia. The question as to whether or not the sex has any influence on this malformation is a difficult mater to solve, but it may be said that out of the thirty-seven cases collected by Lindfors there were twenty-two boys and fifteen girls, while Buschan, out of a total of sixty-nine cases, found forty-three boys and twenty-six girls. Children afflicted with very large eventrations are usually born dead at or before term. The cause of death is difficult to ascertain, but German authorities are of the opinion that anemia of the fetus is usually the cause, and I have pointed out that quite frequently one of the umbilical arteries is missing, or they may be only slightly developed, and this is the cause of anemia.

Embryology teaches us that the blastoderm becomes divided into three layers from which the various organs of the embryo develop. These three layers are called respectively the external, middle, and internal. The medullary sulcus once formed, the

middle layer of the blastoderm becomes divided into two plates, separated from each other by a cavity. These two plates become agglutinated, one with the external layer and the other with the internal layer, the first forms the musculo-cutaneous plate, or somatopleure, while the second forms the fibrointestinal plate, or splanchnopleure. After this the primary and unique abdominal sulcus becomes divided into two sulci, the interior of which becomes inlaid in the external one. The internal sulcus is the starting point of the digestive tract, while the external sulcus gives rise to the thoracic and abdominal wall.

These two sulci soon become transformed into two closed tubes from union of their walls, and, consequently, the umbilical opening is double, just like the two layers which give rise to it. The closure of the internal layer or splanchnopleure forms the intestinal umbilicus, while the closing of the external layer or somatopleure forms the cutaneous umbilicus.

From the formation of the two umbilici it results that those parts of the splanchnopleure and somatopleure which enter into the formation of the embryo become completely separated from those entering into the composition of the envelopes of the vitellin sac, and later from those which enter into the formation of the amnios.

The internal sulcus, the starting point of the digestive tract, is produced by the folding in of the splanchnopleuræ. The intestinal sulcus forms the middle region of the digestive tract; at its anterior and posterior part it is in communication with the two tubular cavities terminating in culs-de-sac; the anterior intestine or pharynx and the posterior intestine or rectum. The anterior intestine develops first, while the posterior only becomes formed much later. The walls of the splanchnopleure consequently are in direct continuation with those of the vitellin sac. This communication progressively decreases in size so that after a while it only forms a canal or omphalomesenteric duct and soon its obliteration becomes complete. The canal then becomes the vitellin membrane and the viteilin sac ceases to be in direct communication with the intestinal cavity. If the omphalomesenteric duct persists, Meckel's diverticulum is formed.

The somatopleure accompanies the splanchnopleure in its development and forms a tubular pocket. This pocket forms little by little and finally gives rise to the cutaneous umbilicus, a concentric opening in relation to the intestinal umbilicus. After it has become closed it extends in a sheath which contains the umbilical vesicle and the placental vessels, in other words the umbilical cord. After having formed this sheath it again becomes folded near the placenta in order to continue directly with the amnios.

The abdominal wall is in the first place formed by two superposed layers, the ectoderm and the somatopleure, and consists in a transparent membrane designated under the name of "membrane unissante" inférieure," somatic plate of Hertwig, or Rathke's membrane. Later on it becomes completed by the appearance of new elements coming from the somatopleure or the protovertebræ.

Having thus summed up briefly the embryology, we will now consider the formation of embryonal hernia. If the borders of the somatopleure do not reach the median line of the embryo on account of arrested development, it happens that the thoraco-abdominal cavity does not close in front and the viscera which should fill it, such as the heart, liver, spleen, stomach, and intestine are consequently placed outside of the body. This arrested development, which also arises in the amnios, gives rise to an excessive shortness of the umbilical cord, or it may be completely absent, and, as I shall show later on, this brevity of the cord has been considered as the cause of these malformations, when in reality it is simply the consequence.

In certain cases the cord is completely wanting and Geoffroy Saint-Hillaire thought that adhesions played a considerable part in the formation of monsters, inasmuch as the adhesions which united the embryo to the placenta prevented the closing of the thoraco-abdominal wall. These adhesions were produced by the effect of the contact of the viscera belonging in the thorax and abdomen with the placenta. If the somatopleura only becomes united above the umbilicus, the thoracic wall will be formed, while the abdominal wall will be wanting; the celosomia is consequently only abdominal, if the fold only forms below the umbilicus the thoracic wall will be wanting more or less, a condition which is met with in certain cases of cardiac ectopia.

The cutaneous umbilicus may consequently remain widely open when there is an arrest in development. It not infrequently happens that the somatopleure becomes completely formed, but retains its primary characters of a transparent membrane on account of a defective formation of either the cutaneous, muscular or bony elements. In this case the viscera are contained at the base of the cord, being covered by the membrana reuniens. This absence of permanent elements added to the primary abdominal wall is, generally speaking, only partial.

Another cause of embryonal hernia is a defective regression of the omphalomesenteric duct. At the commencement of the fourth week, the intestinal tube, which, up to that time, represents a nearly straight line, and still in communication with the umbilical vesicle by a wide canal, commences to form its first loop. The median part of the intestine where the omphalomesenteric duct is inserted, becomes placed outside of the abdominal sulcus at the time this loop forms and the lower part passes above the upper, so that the cecum becomes formed from the upper branch of this loop. On account of the increase in length of the intestines at both ends, the tube elongates rapidly, so that at about the eighth week five or six loops will be found situated outside of the abdominal cleft. Then at he level of the fetal end of the umbilical cord appears a swelling destined to contain the intestinal loops situated within it and outside of the abdominal cleft, which at this time is undergoing closing. This swelling disappears as soon as the intestine enters within the abdominal cavity at the beginning of the third month.

At this time the omphalomesenteric duct becomes detached and obliterated, and a small rudimentary débris of this duct is still found suspended to the small intestine, although the remainder of it has completely disappeared. Under normal conditions the omphalomesenteric duct gives way to the traction exercised from both sides upon it; it becomes thin and finally breaks. Now, if one is dealing with a very thick cord, it retains the intestine outside of the umbilicus beyond the normal time and an umbilical hernia forms. If the intestinal loops have already entered the abdominal cavity, without any separation of the duct having taken place as a consequence a diverticulum is formed.

We now come to the consideration of fetal hernia arising in an umbilicus already formed and possessed of a peritoneal sac. This type is produced by the same mechanism that arises in umbilical hernia of children and adults. The theory of arrested development for explaining the formation of congenital umbilical hernia in the embryonal period was given to the medical world by Meckel and has been generally admitted, but before this theory others had been promulgated, but need not detain us here to any

great extent. Oken admits that congenital umbilical hernia is not the result of a protrusion of the abdominal contents, but from an insufficient retreat of the intestinal loops primarily situated in the umbilical cord, and he believes to have found in their relaxation the cause by which the gut does not enter into the abdominal cavity. According to his way of thinking, a mother, weakened by disease, might transmit this weakness to the fetus, whose intestines would be lacking the necessary force to enter into the abdomen. Thudicum believed that this process arose from a relaxed mesentery, while Lassus thought it due to an increase in the size of the liver, but if this were the case the liver should be found enlarged in all anomalies of this kind, a thing which does not occur. According to the former authority, the various causes may become combined and the intestine, filled with meconium, can, by its weight prevent the occlusion of the abdominal integuments. Then again the position of the embryo may have a certain influence. According to Buschan there is no one exclusive cause. Ahlfeld long ago pointed out, in describing a large number of cases, that it was nearly always the same part of the intestine which was involved, and especially the lower part of the ileum, cecum, and ascending colon with the afferent portions of the mesentry.

Now, since embryology teaches that this very portion of the intestine is at a certain epoch of development situated outside of the abdominal cleft, and that it only enters into the abdominal cavity after atrophy of the omphalomesenteric duct has taken place, Ahlfeld thought that the patency of the intestinal canal with the umbilical vesicle beyond the normal time, gave rise to these malformations, and to give weight to this explanation he quoted cases in which the abnormal presence of the omphalomesenteric duct was noted. I have already pointed out that this persistency of the omphalomesenteric duct, in point of fact, is quite frequently the cause of embryonal umbilical hernia, but I believe that Ahlfeld is in error in believing that it is the only process arising in these malformations. Chadwick explains the formation of this hernia by a defective development of the abdominal wall, but only in a certain number of instances. He says, however, that if the size of the abdominal organs is too great to be easily surrounded by the abdominal walls at the time when the latter should normally close, the intraabdominal pressure will prevent the return within the abdomen of a certain number of intestinal coils which, up to that time, have remained within the cord.

We find another cause for the formation of hernia in the persistency of the umbilical vesicle which in these cases draws that part of the intestine to which it is attached out of the ring. Duplay some time ago remarked that the peritoneum develops like the abdominal walls and mentioned the importance of this fact, because every time that there is a defect, or better still, an arrested development of the abdominal wall, this arrest must be produced to the same extent in all the layers entering into the formation of these structures, exactly as if they were formed by a single layer. Consequently the membrane covering the protruding viscera cannot be the peritoneum in cases in which the process arises from an arrested development. The absence or the presence of peritoneum forming the sac of the congenital umbilical hernia will consequently allow one to establish the distinction existing between these two varieties of congenital umbilical hernia. Those arising during the embryonal period, whose immediate envelope is the primary membrane of Rathke, and those of the fetal period which develop when the ventral plates have become united to form the umbilicus, and consequently where the peritoneum should exist forming the hernial sac. The hernias of this latter variety must consequently form after the third month of intrauterine life. Lindfors does not acquiesce in this theory, and, according to him, the peritoneum always forms the sac of embryonal hernia, this being because he does not distinguish the lower uniting membrane of Rathke from the parietal peritoneum. This only amounts to a simple question of words.

Generally speaking, the diagnosis of congenital umbilical hernia is an easy matter, and naturally imposes itself upon one when in presence of eventrations or a very large hernia, and I have pointed out the external characters which this surgical malady presents. The transparency of the envelope greatly facilitates the diagnosis. The variation in the size of the tumor when the child cries or struggles is also a most important diagnostic element. But, although the diagnosis is generally easy, it may occasionally happen that the size of the hernia is so small that it is passed by unnoticed, and so great authorities as Sabatier and Dupuytren mention a certain number of cases in which a loop of intestine or a diverticulum was included in the ligature of the cord and, for this reason, it is always prudent not to apply the ligature too near the umbilicus. In point of fact, I would point out to obstetricians that it is always well to determine whether or not a hernia exists before tying the cord, and this is readily discovered if one seizes the base of the cord between two fingers and by pressure to ascertain whether or not any organ is found to enter into the abdominal cavity. Or again, in order to be still surer, one may wait for the child to cry, because, if the intestine should be adherent and cannot be reduced, a substance foreign to the elements of the cord may be felt between the fingers. In some cases the intestine or the diverticulum may extend quite a distance into the cord, and in 1850 Stanley described a case where the midwife, who, nevertheless, had ligated the cord quite a distance from the umbilicus, included the intestine in the ligature, so that a fecal fistula occurred on the fourth day and the child died a week later from this unfortunate occurrence.

The diagnosis of the elements forming the contents in congenital umbilical hernia may be most difficult or even impossible, but the transparency of the envelopes will frequently allow one to note de visu the organs contained in the sac, but for this it is necessary to see the child immediately after birth, because the envelopes become rapidly opaque. Percussion will allow one to differentiate the intestine from the liver, if the intestine alone forms the contents, while, when the liver is present, dullness will be elicited. If both organs form the contents dullness will be detected in certain points. According to Meckel, when the liver forms part of the contents, the hernia will take on a bluish red hue and, if it is compressed, the presence of a solid body will be discovered which prevents the apposition of the abdominal walls. Duplay pointed out that considerable importance must be attached to the insertion of the cord when one was desirous of ascertaining whether or not the liver formed part of the contents of hernias partially or completely reducible. In this case the cord will be found situated on the left side of the tumor, which will easily be discovered if one recalls the relationship of the umbilical vein with the liver. The differential diagnosis with urinary omphalocele must also be made. This latter process will be diagnosticated, because it is fluctuating, transparent, and seated at the base of the cord. In these cases, as there is frequently a defective formation of the urethra, it is accompanied by complete or incomplete retention of urine.

Thanks to the progress realized in the treatment of congenital umbilical hernia, the prognosis of this condition has become more favorable than it was a few years ago. Duplay estimated that the prognosis essentially differed according to the variety. Umbilical hernia arising during the fetal period is not serious, but the same cannot be said of the process when it occurs during the embryonal period. If they are of a medium size the prognosis is always very serious. However it is at the present time known that this gravity was greatly exaggerated by the older physicians. According to the mechanism by which spontaneous cure takes place, it may be concluded that the possibility of reduction is an indispensable condition. Irreducible hernia, on the contrary, is usually incurable. As Duplay has said, it is evident that the prognosis will vary with each type and that the presumption of the viability of newly born babes will be in inverse relation to the extent of the umbilical eventration and in direct relation to the duration of gestation.

In making the prognosis one should also take into consideration those malformations which so frequently co-exist with the umbilical process because the former may be such as to be incompatible with life.

As late as 1856 Lauth made the statement that hernias of the cord were almost always beyond the resources of surgery, and that only a palliative treatment would prolong the life for a few days in children born with this defect, although in times gone by there had been cases of spontaneous cure reported, although exceptionally, in instances where the hernia was of small size. In 1866, Duplay in the work already alluded to, says that he considers the active measures for the immediate reduction of the contents as defective, and that in many cases this brusque reduction would be impossible, for the simple reason that the abdominal cavity is not sufficiently large to contain the intestinal mass developing in the cord. For these reasons he is of the opinion that one should simply support the umbilical region with a bandage and by short maneuvers to facilitate the reduction of the contents by enlarging little by little the abdominal cavity. In 1877, Orliac insisted upon the importance of preventing the falling off of the cord as long as possible, in order to allow the abdominal cavity to undergo that development which is necessary in order to receive the viscera forming the contents of the sac, as well as to aid Nature's efforts in allowing the underlying granular membrane the time for forming. He also points out that this membrane is not alone a protection for the viscera, but that, under the influence of its retraction which later on takes place, the umbilical ring will decrease in dimensions. He concludes that if the hernia is reducible the surgeon should limit himself to favoring Nature's action, which, in many instances, will effect a cure. As an operative procedure he advises, after having incised the umbilical ring and reducing the intestinal mass, to unite the wound with sutures, or, better still, to simply ligature the walls of the hernia supported by appropriate dressings. According to his way of thinking, irreducible hernias containing the entire liver are incompatible with life. He also pretends that, if the hernia is somewhat large, reduction should not be tried, because Nature does not proceed in this way, and, on the other hand, since the abdominal cavity cannot receive the viscera, which have never been contained within it, one is liable to produce dyspnea, syncope, and the formation of hernia through other openings.

As may be seen, Orliac and the majority of other writers of his time were content, in the larger number of cases, to employ an expective treatment, which they considered more prudent. They were still under the influence of the opinion held before them by authorities such as Malgaigne, Albinus, Ruysch, Hager, and Soemmering, who considered this affection as incurable and did not proceed surgically according to the precepts of the illustrious Ambroise Paré.

The numerous reported instances of spontaneous cure in former times are, for the most part, only relative and should not be regarded as real cures merely because the child lived. The hernia was not cured and as far as the final result of the process of granulation is concerned, from the standpoint of the quality of the occlusion of the hernial orifice, especially in instances of somewhat large hernia, the records leave much to be desired. Generally there is an insufficiency of detail relative to the nature and degree of the cure. Whether or not the process simply consisted in a covering over of the hernia by skin with a reduction in its size, or whether it was a complete reduction with a permanent occlusion of the hernial orifice are facts which are not clearly shown in the reported cases. Fleischmann, however, expressly states that, after the cure of a case of hernia described by him, a large tumefaction existed, through which the intestinal coils could be felt so that the wearing of a bandage was absolutely necessary. The autopsy of children dying shortly after a so-called cure had been accomplished, showed that a marked disastasis of the recti muscles existed, and it is evident that a properly conducted operation would have favorably modified this condition of the abdominal walls. From what has been said, it is not a difficult matter to come to a conclusion relative to the efficacy of expectant treatment.

A number of methods have been proposed for the radical cure of congenital umbilical hernia, the first of which we will mention being that of Dohrn, whose technique is as follows: at the apex of the hernia, at a point where quite a large quantity of Wharton's jelly is to be found, he raised a portion of the amnios with rat-tooth forceps and cut it with small scissors. He then separated the amnios from the peritoneum as he approached the umbilicus, which was all the easier to accomplish from the fact that Wharton's jelly is more abundant between these two membranes. The vessels were ligated with catgut, and afterwards the intestine was reduced; then the peritoneal sac with its internal borders was united in a longitudinal direction at the level of the umbilical orifice was also sutured with catgut. That portion of the peritoneum situated above the ligature was then resected. After having freshened the borders of the abdominal integuments, they were united in a longitudinal direction, excepting at the lower angle, where the ligated vessels were lying. Olshausen circumscribed the hernial orifice by an oval incision made at a very short distance from the cutaneous borders. On the skin he isolated the amnios from the parietal peritoneum, and seizing the cutaneous borders with forceps he drew them towards the middle of the hernial orifice. The umbilical vessels were cut and ligated, the oval wound of the abdominal integuments was closed after reduction of the contents, with deep and superficial sutures. From this it will be seen that Olshausen only removed the external hernial envelope and sutured the abdominal integuments over the reduced peritoneal hernial sac. According to his way of thinking, the great advantage of this method is the preservation of the peritoneum, because, in cases where the wound might break down, an occurrence not infrequent, it would be sure to heal, by granulations which would form from the abdominal integuments and would soon fill up the space.

The technique followed by Carl Breus consists in reduction of the intestine, the opening and removal of the hernial sac, after a provisional occlusion of the hernial orifice, and ligature. After disinfection of the field of operation he endeavors to reduce the contents within the abdominal cavity by a slight, but increasing, pressure, proceeding from the apex of the hernia towards its base. When the reduction has been accomplished, he endeavors, either by palpation of the sac, or by utilizing its transparency, to assure himself that it is perfectly empty, and, in order to avoid protrusion of the reduced viscera, a clamp is placed on the skin surrounding the base of the sac. One must be careful that the borders of the hernial orifice are applied against each other by the clamp as accurately as possible. After thus having obtained a provisory occlusion, he advises opening the sac carefully in a longitudinal direction, commencing at the apex and extending to the base, in order to be able to assure oneself by a direct examination of its interior, that the reduction of the contents has been complete. When this is not the case, if, for example, a coil of intestine has remained in the sac, it must be reduced before proceeding. If adhesions exist, the simplest way is to incise the peritoneal sac at the point of adhesion, to isolate the amnios, and afterwards reduce the intestine with the adherent part of the sac. Once the reduction assured, the sac is removed and the ligatures are applied immediately below the clamp. The two ends of a long and strong silk ligature are threaded on two ordinary needles, the needles are introduced into the tissues at a distance of about one centimeter. The ligature is double, so as to be able to ligate the tissues under the clamp in three parts. If the hernial orifice is of large diameter, a larger number of ligatures will be required. After having carefully tied the ligatures, the clamp is removed and an antiseptic dressing applied.

The reproach that has been addressed to this method is the insufficiency of the occlusion and the slight solidity of the cicatrix, but experience has disproved this. The tissue of the stump which has been ligated becomes eliminated, granulations form, which favor a solid union of connective tissue between the integuments over the surface of elimination and the integuments having been brought together by sutures are held intimately approximated, thus preventing any gapping. This technique, however, presents one disadvantage, namely, that it requires more from the abdominal walls than suture after freshening. In those cases where, after reduction, the intraabdominal tension is somewhat increased, the clamps should, at least partially, include the abdominal skin in their grasp, because if they are merely applied on the peritoneal amniotic part, they would tear it. The tissues included between the bites of the forceps are lost, they undergo necrosis, because the ligatures are placed below the clamp.

Herniotomy, without opening the sac, first advised by J. L. Petit, was reinstated in 1874 by Colson. In reality, however, this procedure is merely Olshausen's extraperitoneal method. In cases where adhesions are extensive, particularly when the liver is adherent to the hernial sac, it perhaps may have some good points, but nevertheless the incision of the sac, followed by its extirpation, is certainly the only proper method to follow in these days of aseptic surgery. The hernial orifice is transformed into an abdominal wound. In his technique, Dorhn freshened the borders of the ring, but, under these circumstances, the closure of the latter by sutures left two depressions above and below on account of the oval shape of the ring and, in order to avoid this result, Berger proposed incising a small portion of the linea alba above and below the umbilicus. Le Dentu resected above and below the orifice, two small triangles with their base at the ring. By this device the wound is made an elongated oval and the operation is certainly more efficacious without being rendered more serious.

In order to assure a more perfect occlusion, or to modify the various manners of closing the operative wound, Geisel, Polaillon, and Reverdin sutured the ring and the neck of the sac simultaneously, while Sien was one of the first to advise the separate suture of the neck and the ring. Lawson Tait advised, by making an incision parallel to the walls, to make two flaps, one being formed by the fibrous layer adherent to the peritoneum and the other by the fibrous layer adherent to the skin, and these two surfaces were brought together with the hope of obtaining a solid cicatricial wall. Lucas-Championnière insists upon the necessity of doing away with the peritoneal infundibulum, like in any other hernia. He closes the sac by chain ligatures after having executed tractions on the neck so as to do away with all depression. The persistency of a cul-de-sac of the peritoneum is merely an opportunity given for the formation of a new hernia, and it is for this reason that he draws the neck of the sac out as far as possible and sutures the peritoneum as high up as can be accomplished. Wylie calls special attention to the necessity of exactly approximating the deep aponeurotic layer in order to avoid a recurrence, and the same may be said of the exact approximation of the peritoneum. However, the majority of operators seem to be entirely ignorant of the fact that the thick fascia which unites the recti and forms their sheath, composing the linea alba, is in reality the tendon of the abdominal muscles and it is this fascia and not the recti which gives the abdominal walls their resistance in the transversal direction. The recti are easily thrown outwards by any force tending to separate them. On the other hand, Condamin proposed opening the sheath of the recti at the same time that the umbilicus was resected, the technique being as follows: After isolating the sac the upper part is carefully seized with dissecting forceps, and the sac is drawn up away from the viscera, and then with the knife a small incision is made into it near the point of the forceps. The opening is then enlarged and, guiding the scissors on an index finger, introduced into the interior of the sac, it is opened up without any danger of wounding the contents. After reduction of the contents, the adhesions having been broken up if any exist, the borders are freshened, and to accomplish this the left index finger is introduced into the ring in order to destroy any adhesions which may be present. The finger may be retained in the abdomen and curved in such a way that the ring and the linea alba above and below it can be incised so as to have a musculo-aponeurotic opening. The union of these two sheaths should form, after closing, the abdominal cavity, a common sheath for the recti. Before closing the abdominal wall the peritoneum is sutured according to Doyen's method for intestinal suture. The second layer should include the recti and the aponeuroses; the posterior aponeurosis being always somewhat covered by the muscle, the needle should be inserted at quite a distance from the freshened borders in order to be sure of including it in the suture; the skin is closed with interrupted sutures of silver wire. The patient must naturally wear an abdominal belt in order to prevent any mishap from coughing, straining, etc. Later on, the originator of this technique introduced a slight change which he considered important. Instead of closing the peritoneum alone, he includes the deep layer of aponeurosis with a running suture, care being taken to make a good seroserous approximation. If this method is

followed, Condamin believes that the peritoneum does not tear and the occlusion is consequently more perfect. The second layer of sutures includes the anterior layer of aponeurosis and the recti, while the skin is closed as usual. Without doubt in this procedure the mechanical obliteration is more perfect than in the others, because the parts are united in three layers.

Quénu has described a technique which he calls the musculo-aponeurotic mattress and is quite similar to Condamin's method. After closing the peritoneum the posterior layer of aponeurosis is sutured and then a second layer of sutures unites the recti, while a third suture closes the superficial aponeurosis of these muscles.

Duplay prefers a through-and-through suture and, having employed it considerably, has no fault to find. After having resected the thin skin forming the umbilical cicatrix, he inserts through-and-through sutures, including the skin in cases where the hernia is small. When the hernia is of fairly large dimensions, he excises the umbilical ring and closes this with a through-and-through suture not including the skin, the latter being closed with a separate layer. Personally I am inclined to resect as little as possible in cases of large congenital eventrations, and if there is any difficulty in approximating the freshened borders of the wound one should not hesitate to resort to free lateral dissection to quite an extent, which will permit the sliding over of the musculocutaneous layers. If, later on, secondary herniæ arise where these dissections have taken place, they can always be attended to, but at birth the most urgent indication is to cover over the viscera, which are only protected by a layer of peritoneum and a badly defined granular layer, with a cutaneous or a musculocutaneous surface.

Dauriac's modified technique, published in 1894, is as follows: Only one-half of each muscle is incised and it is divided longitudinally into two equal bands. The external band of each muscle is destined to remain intact and to assure muscular continuity. The internal band is incised with a knife transversely, the incision being carried up to the vertical incision in each muscle. This forms two muscular flaps which are crossed and sutured, the upper left flap being united to the lower right one and reciprocally. When dealing with congenital umbilical hernia this authority prefers total crossing of the recti to that of partial crossing.

Such are the principal methods which have been advised for the treatment of congenital umbilical hernia. As to the method to employ for the radical cure, I do not believe that any one can be considered the best, and it is well to make a selection among the various techniques according to the given case. In reference to Mayo's method, which in the adult is, according to my way of thinking, superior to any other, I having done this operation eighteen times without recurence, it has been purposely not alluded to when discussing the radical cure of congenital hernia because it cannot be readily applied with any chance of success on account of the necessary resection of the tissues which it involves.

Generally speaking, simple laparotomy with extirpation of the sac and suture of the freshened borders of the wound will be sufficient in a large majority of cases. As to the use of several layers of buried sutures, I can say from practical experience that, although they may be practised successfully in the adult, they are far from being easy in newly born children.

The question now arises as to when a congenital umbilical hernia should be operated on and, in reply to this, I would say that it should be done as soon as possible after birth, because dessiccation of the sac will soon become the starting point of inflammatory attacks in the viscera. If the operation is carried out carefully and without undue loss of time, babies will stand the operative shock and anesthesia well.

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## SIXTY CASES OF GENERAL PARESIS—A CLINICAL STUDY.

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I have compiled a few statistics in regard to some cases of general paresis, which have presented themselves in the last seven years at Dr. Starr's Clinic—the Vanderbilt—in the College of Physicians and Surgeons, New York, and I have in several instances compared the statistics with those compiled by Drs. Serge Soukhanoff and Pierre Gaunouchkine from some 500 cases, which, during the years 1898-1905, atended the Psychiatric clinic of the University of Moscow.

The cases number sixty, and all are males; they do not comprise the entire number of cases of paresis appearing at the Vanderbilt Clinic during that time, but a very large proportion. I have selected those regarding which the records were most complete, and those in which comparisons could be most easily made with the cases from the Moscow Clinic.

A very large number of the sixty were fairly well to do, and either had a trade or had followed some calling in life. There was a printer, two carpenters, two plasterers, three seamen, a packer, two shoemakers, a caulker, a truckman, a painter, two tailors, a cook, three agents, three clerks, a machinist, and so on through the list. There were but three laborers, and none of the sixty represented the lowest strata of society, as so often does the average dispensary patient. The cases from the Russian clinic were also of the better class. They comprised merchants, accountants, those engaged in "intelligent" occupations, dealers, farmers, and servants. The farmers sent the smallest contribution; the mechanics the largest.

The proportion of married to single was large, in each clinic about two to one. The exact table is as follows:

| | Moscow Clinic. | Vanderbilt Clinic. |
|---|---|---|
| Married | 79.19 per cent. | 67.85 per cent. |
| Single | 19.01 | 32.14 |

Nearly every one of our cases was far advanced at the time of admission; as was shown by the well marked tremor of both lingual and facial muscles, and by the pronounced mental symptoms. The tremor was present in 75 per cent., the mental symptoms in 80 per cent. And again was the advanced stage of the disease illustrated by the length of time in which the patient had been complaining. Of forty-two patients just 50 per cent. had been complaining for one year or longer. And 33 1-3 per cent. had complained for at least three months. Only two had felt badly for less than a month.

I have arranged a table comparing the ages of the cases at the two clinics.

| Age. | Moscow Clinic. | Vanderbilt Clinic |
|---|---|---|
| At 20 | 0.60 per cent. | None. |
| 21-25 | 1.34 | 7.01 |
| 26-30 | 11.29 | 1.75 |
| 31-35 | 26.15 | 21.05 |
| 36-40 | 30.31 | 24.56 |
| 41-45 | 15.01 | 21.05 |
| 46-50 | 9.06 | 14.03 |
| 51-55 | 3.86 | 1.75 |
| 56-60 | 1.93 | 5.26 |
| Above 60 | 0.45 | 3.50 |

And I have also arranged a table of the American cases, showing them by decades.

| By Decades. | Number of Cases. | Per Cent |
|---|---|---|
| 20-29 | 5 | 8.7 |
| 30-39 | 19 | 33.33 |
| 40-49 | 22 | 38.5 |
| 50-59 | 9 | 15.7 |
| 60-69 | 2 | 3.5 |
| | 3 | |
| No record. | | |
| | 60 | |
| Between 35-45 years. | 35 | 61.40 |

It will be seen that the disease increases as the years advance, reaching its limit about forty-five, and then decreases in almost the same ratio. Over one-half of the entire number of our cases occurred between the ages of thirty-five and forty-five. It is unusual to find so large a proportion occurring in the fifth decade. And adding those cases in the fifth and sixth decades we find that over 18 per cent. of the cases occurred after the fiftieth year.

It is interesting to dwell a moment on the comparison of the age figures in the two clinics. The Moscow Clinic had cases at twenty and younger; the Vanderbilt had none before twenty-one. On the other hand as a balance to this the percentage of cases in the Moscow Clinic above sixty was less than one-half of one per cent., whereas the percentage in the Vanderbilt Clinic was three and one-half. The years in which the greatest number of cases occurred are identical in the two clinics—thirty-six to forty; in the Moscow Clinic there was a larger number occurring just before thirty-six, rather than just after forty; whereas in the Vanderbilt Clinic the percentage was the same. The Vanderbilt Clinic had a remarkably low percentage between twenty-six and thirty. The number fell off in the Moscow Clinic very greatly after fifty. In general one can say that in both clinics the greatest number of cases occurred before forty-one, whereas after forty-one the New York Clinic recorded more cases. The exact percentages are as follows:

| | Moscow Clinic | Vanderbilt Clinic |
|---|---|---|
| Up to 41 | 69.69 | 54.37 |
| After 41 | 30.31 | 45.63 |

The youngest patient of all was twenty-one; the case was typical in every respect. It was of the tabetic type. The patient first presented himself at the eye clinic, complaining of impairment of eyesight. The opthalmoscope revealed a well advanced stage of optic nerve atrophy, and the patient soon displayed a condition of marked mental hebetude. This young man had all the cardinal symptoms—the Argyle-Robertson pupils, the lost knee jerks, the tremor of the face and tongue, the paretic speech and handwriting and the mental symptoms.

The oldest patient was sixty-five; the case was of the ataxic-paraplegic type, with marked tremor and mental symptoms—delusions, hallucinations, and loss of memory.

The records of the Moscow Clinic show that the greatest number of cases occur in the years thirty-one to thirty-five; their youngest case was nineteen; there is mention of one of sixteen, but it is a girl, and I have not taken the female cases at all into consideration.

The facts elicited in regard to the knee jerk are as follows:

In one-half of the cases the knee jerk was exaggerated. This is also true of the Moscow Clinic. The following table of comparisons arranged by percentages will best show the records of the two clinics:

Table of Knee Jerks.

| | Moscow Clinic | Vanderbilt Clinic |
|---|---|---|
| Exaggerated | 50.57 | 53.57 |
| Diminished | 9.09 | 3.57 |
| Abolished | 19.89 | 30.35 |
| Normal | 12.31 | 1.78 |

The following represents in numbers the quality of the knee jerk as found in each of the cases at the Vanderbilt Clinic: The knee jerk was normal in one case, diminished in two, exaggerated in thirty, absent in seventeen, lively or active in six, no record in four.

It is worthy of note that in these sixty cases the knee jerk was normal in but one. In the Moscow Clinic the proportion of the normal knee reflex was considerably greater.

In the Vanderbilt Clinic cases the pupils were normal in eleven cases, that is 18.4 per cent.; whereas the typical Argyle-Robertson pupil was found in twenty-seven cases. If we except the eight cases in which the record of the pupil was incomplete or lacking, there remains a total of fifty-two cases. Of these twenty-seven give the Argyle-Robertson pupil, that is exactly 52 per cent. There were in addition ten cases recorded as displaying sluggish pupils. Probably more than half of these were very sluggish and therefore almost Argyle-Robertson, so that this type of pupils was fairly constant, occurring in much more than one-half of the cases.

Table of Pupils.

| Pupils re-acted | Moscow Clinic | Vanderbilt Clinic |
|---|---|---|
| badly ("mal") | 82.05 | 71.15 |
| or not at all. | | |
| Pupils re-acted | 17.95 | 28.84 |

Here I have been obliged to adopt the wording of the Russians.

The pupil records of the Vanderbilt Clinic are as follows: Normal in eleven, simply unequal in four, sluggish in ten, Argyle-Robertson in twenty-seven, there was no record in eight.

It is to be regretted that an examination of the fundus of the eye was not made in every case. As it is, I find that in six of the cases there was present a well-marked degree of optic nerve atrophy, and in two more the eyesight was very bad or failing. In these eight cases, in which there was an involvement of the optic nerve, an admitted specific history was present in but one, whereas such a history was denied in four and there was no record in three. The ages of the eight cases were taken from every decade.

The tremor was present in a large proportion of the cases—just 76.8 per cent.; this tremor invariably meant a tremor of the facial and lingual muscles. It was absent in one, present in forty-six, and there was no record in thirteen.

Of the thirty-four cases in which was present a record of the speech, 56 per cent. displayed the typical paretic speech. Only one case was normal.

The most common mental symptom complained of was loss of memory. Out of forty-eight cases twenty-seven displayed a very bad memory or a complete loss of memory. This is almost 60 per cent. Of these forty-eight twenty-seven displayed loss of memory, six mental hebetude, four were excited and irregular, five were peculiar, and only eight had delusions and hallucinations.

Mental symptoms were—absent in six and present in forty-eight; there was no record in six.

The records regarding the presence or absence of syphilis are not very complete, and we cannot deduce much from them. This may be due to the foreign birth of many of the patients, or to their ignorance, or to their unwillingness to comprehend the question. Of the cases recorded syphilis was admitted in 59.3 per cent. and denied in 40.6 per cent.

Table of Syphilitic Infection.

| | Moscow Clinic | Vanderbilt Clinic |
|---|---|---|
| Admitted | 61.54 per cent. | 59.37 per cent. |
| Denied | 19 61 | 40.62 |

In those cases in which was kept a record of the time of appearance of the disease after the period of infection it was found that the time varied from five to eighteen years. It was usual, however, to have the paresis develop about fifteen years after the in-

itial lesion. In the Moscow Clinic the period was shorter—six to ten years.

If now from these statistics we deduce a few conclusions and formulate them in a clinical form we should expect to get a composite picture of paresis that would be as follows: A man of about forty-five, fairly well to do, married, and with a trade, who has been perfectly well until within the last year or fifteen months. About that time he begins to feel nervous, weak and restless. This condition becomes worse, and when he presents himself to the physician he has the Argyle-Robertson pupil, a tremor of the facial and lingual muscles, and a paretic speech. The knee jerks are exaggerated and he has a distinct loss of memory. When questioned carefully he admits that some fifteen years ago he did have a chancre.

No. 71 East Fifty-second Street.

## THE HIGH FREQUENCY SPARK IN A XANTHOMA-LIKE DEGENERATION OF THE LIPS.

By CHARLES WARRENNE ALLEN, M.D.,

NEW YORK.

CONSULTING GENITOURINARY SURGEON TO THE CITY HOSPITAL; PROFESSOR OF SKIN DISEASES, N. Y. POST GRADUATE MEDICAL SCHOOL, ETC.

In 1896 Dr. J. A. Fordyce (*Journal of Cutaneous and Genitourinary Diseases*, November) called attention to a peculiar affection of the mucous membrane of the lips and oral cavity. The case described is illustrated by an excellent colored plate and photo-micrographs, to which I will refer instead of going into lengthy detail. The changes resulting in a yellowish white discoloration of the vermilion border were chiefly confined to the epithelial cells, the protoplasm having degenerated into a substance allied to, but not identical with, keratohyalin. The condition is quite common, but as it rarely gives rise to any inconvenience other than the peculiar appearance when the separate mustard-seed-sized lesions fuse into an almost solid patch, the physician is seldom called upon to treat it.

Till now this has been fortunate since no plan of treatment previously suggested has been efficacious. In Dr. Fordyce's case and others iodine applications were made without result. Curettage was not wholly successful, and had too glaring disadvantages. Dr. Fordyce's original paper needs one correction. In his closing sentence he says: "I report the affection as an example of a mucous-membrane change, which, while apparently not uncommon, has hitherto escaped observation." The word "report" is undoubtedly intended instead of "observation," since at the meeting at which the paper referred to was read I, along with others, spoke of having observed it many times before, and I had pointed it out to students prior to the report without being able to tell them its nature, nor what to do for it. I have since learned to regard it as of very frequent occurrence, and have seen the identical condition on the lips of the female pudenda. Now, while I have never had a patient consult me for this affection alone, I have repeatedly called the patient's attention to it when slight (and to be seen distinctly only when the lip is put upon the stretch). I have also asked them if they would not like to have it removed, when it has been pronounced—giving the appearance of an extremely anemic vermilion border, or suggesting xanthelasma. Until the high frequency methods came into vogue, as I say, there was no practical method of treatment known to me, and I rarely attempted anything. Several years ago I found in the high frequency spark the most practical and perhaps the least painful, prompt, and satisfactory method of removing disfiguring xanthoma tumors from the neighborhood of the eyes. Struck by the resemblance between the two conditions I began to treat these lip cases, and with very prompt and good results. In two of the patients there was coincident xanthoma of the lids, which I cured with the spark. One was also a subject of lues. Indeed most of the patients so far treated have been syphilitic, and in two I feel quite sure that the lip degenerative change began subsequent to their coming under mercurial treatment, but I do not wish to draw any conclusions from these facts. The condition undoubtedly exists in whole series of members of a family in which there is no lues, no ingestion of mercury, and no xanthelasma. In applying the high frequency spark I employ a static machine and a hyperstatic transformer, a large carbon electrode, a spark gap of two inches, and a contact spark of about an eighth of an inch, or one which will cause almost at once a marked whitening of the surrounding pink of the lip. Two or three sittings usually suffice and the pain is trifling.

* American Dermatological Association, September 8, 1896.

30 East Thirty-third Street.

## A CASE OF ACUTE INTERNAL HYDROCEPHALUS.*

By THEODORE DILLER, M.D.,

PITTSBURG, PA.

NEUROLOGIST TO THE ALLEGHENY GENERAL HOSPITAL; VISITING PHYSICIAN TO THE INSANE DEPARTMENT OF ST. FRANCIS HOSPITAL.

A girl, aged four years, was sent to me by Dr. Simpson, of Indiana, Pa., on May 27, 1904. She was the third child of healthy parents. Her birth was uneventful. Her brothers and sisters are all healthy. She developed normally, and was in perfect health up to one and a half years ago, *i. e.* up to the age of two and one-half years, when she became suddenly ill with a fever, which confined her to bed for a week. Recovery seemed perfect. Six months later (at the age of three) the eyes turned inward, first one and then the other. These internal squints grew more marked during the next six months, when the squint of the left eye became less pronounced than that of the right.

Five months before I saw her she had an attack which was characterized by high temperature, badly coated tongue, and suppression of urine and albuminuria, and which was thought to be an attack of Bright's disease. She did not make a good recovery. In March (two months before I saw her) she had vomiting attacks. She often screamed and jerked in her sleep; again she would sob and laugh alternately. For a time she was delirious—said dogs were after her, etc.

Early in April it was noted that she did not use the left hand as much as the right; and a couple of weeks later she began to drag the left foot. These palsies steadily increased; and in the meantime defects in articulation were noted.

When examined by me, the child was somewhat dull and irritable mentally. No alteration of sensation could be discovered. She had a marked internal squint in both eyes, more marked in the right than the left. She was able to walk alone, but there was marked spastic paralysis in left arm and leg. The left knee-jerk was greatly exaggerated. Ankle clonus and the Babinski toe reflex were present on the left side. There were beginning contractures in the left hand. An ophthalmoscopic examination

*A paper prepared for the annual meeting of the American Neurological Association, held in Philadelphia, June 1-3, 1905.

could not be made. Articulation was somewhat defective.

On November 2 (more than five months later) Dr. Simpson wrote me as follows: "When you last saw her she had an aggravated strabismus, and dragged her one toe when walking. Her condition rapidly grew worse. She had what was like an attack of indigestion, sick stomach, temperature of 102-3, obstinate bowels, etc., but was evidently more than that, for afterwards she became perfectly helpless, and has remained in that condition ever since—about fourteen weeks. She cannot turn in bed, or swallow solid food, or speak, or cry, except a slight whine. At times she moves her arms just enough to change their position. All the muscles in the legs are atrophied, more especially those of the calves of the legs, which are perfectly flat. The feet are drawn into the position of talipes equinus, and are nearly always rigid. The thenar and hypothenar eminence of her hands have disappeared, and her fingers are usually drawn tightly into the palms. However, on some visits, I find them relaxed and quite flaccid. She remains in the one position until changed, for she cannot turn in bed. She was quite emaciated, but has gained somewhat in flesh. Her pupils are equal. Pulse is about 100 and weak. Bowels and urine regular and involuntary. Temperature normal. She can take only liquid nourishment, and that in teaspoonful doses. Tactile and contact sense appear to be everywhere absent. When hungry, she attempts to cry, and will only take malted milk, and appears never to be satisfied. In swallowing, she has not the proper use of her tongue, for even in teaspoonful doses she will allow part of the liquid to run down over her mouth. She sees and hears, and will often answer direct questions by nod of her head. She is certainly the most helpless little creature I have ever treated. I will add that she suffers no pain; she lies quietly all the day or night in the one position. She can not or will not protrude her tongue."

On December 19 (six weeks later), Dr. Simpson wrote again: "Since I wrote you, she gradually became weaker, and her condition not changing materially until she finally died of exhaustion. I removed the brain and had a good look at it, but, owing to circumstances, I had to return it, so you will be minus a nice specimen. The condition was one of internal hydrocephalus. The sutures of the skull were not separated—I suppose for reason of the child's age, four and a half years. The cortex of the brain was almost smooth. The convolutions and fissures almost obliterated, and the brain itself giving one the impression that he held in his hand a bladder. Before I had the brain entirely removed, it accidently ruptured, and about a pint of clear fluid spurted out on the floor. I made an incision down through the brain substance and could readily see the distended ventricles. The two hemispheres appeared about equal in size. During life, I had often noticed the child's head, and at times thought I could detect some enlargement, especially in the temporal regions, but I was not positive of it. The skull cap was very thin, the saw going through it very rapidly."

It is likely that the fever from which the child suffered at the age of two and a half years was the first manifestation of an internal hydrocephalus, which more or less steadily progressed, and terminated the child's life two years later.

I am indebted to Dr. Simpson, whom I desire to thank for permission to record this interesting case, and for his excellent descriptive letters, which form the most important part of this contribution.

I may add my original diagnosis was poliencephalitis.

200 Ninth Street.

## A CASE OF ABDOMINAL PREGNANCY UNDIAGNOSED UNTIL AFTER OPERATION.*

By A. J. Ronginsky, M.D.,

New York.

Instructor in Diseases of Women at the New York Post Graduate Medical School; Attending Gynecologist to the Lebanon Hospital Dispensary.

The complete ignorance of the true pathological condition of the following case, although the woman had been attended by no less than fourteen physicians at one time or another, is certainly of interest to the profession at large.

Mrs. L., aged 39, Russian, always attended to her house work, married at the age of 21, gave birth to seven children, oldest 16 years, youngest 11 months. Labors normal. Had one miscarriage seven years ago, and was curetted for same at the Gouverneur Hospital. Her menstrual history was regular as to time, quality, and quantity. She never menstruated during lactation.

On June 10, 1904, she appeared at my office complaining of pain in the epigastric region, and slight vomiting. On examination, nothing objectively could be discovered, and I thought her indisposition to be due to an acute attack of indigestion. I prescribed the usual remedies. She called again the next day, slightly improved, but still had some pain in the epigastric region. Assuming that my diagnosis was correct, I continued the treatment on the same line. She felt greatly improved until June 14, when I was called to her house, she having had another attack of pain in the abdomen and some vomiting. On examination, I found her abdomen slightly distended, with tenderness in the epigastric region. Assuming that all her symptoms were due to constipation from which she had suffered for the past three days, I prescribed small doses of calomel to be followed by a saline. On calling the next morning I found her very much improved.

I next saw her on June 21. Her condition had undergone a great change. She was very anemic, her abdomen was markedly distended, she was more or less emaciated, telling me that she lost 9 pounds by actual weight. She presented a true clinical picture of one suffering from intestinal obstruction due to a malignant growth. Her condition rather alarmed me, and I advised that a consultant be called in, but she felt better the same afternoon.

I saw her again on June 25, and her condition instead of getting better, grew worse since my last visit. The distention was very marked, the emaciation more apparent. Some one advised her to see a local surgeon which she did on the previous day, but fainted in the doctor's office, and had to be brought home in a cab. The doctor called at her house a few hours later, and after examining her, prescribed digestive powders. Her general condition gradually grew worse and the obstruction became more marked. On July 1, I asked a prominent stomach specialist to see her with me, and after a careful examination he thought the patient suffering from a general neurosis of the intestinal canal, causing spasmodic contraction of the walls of the intestines from which resulted the pain and obstruction. He advised appropriate treatment, and the patient felt somewhat better for a few days, but on July 5, she again had an attack of pain in the ab-

*Read before the Eastern Medical Society.

domen which lasted for about two hours. I gave her a high rectal enema of ox gall and olive oil, which relieved her only slightly.

At this stage of her illness I confessed to her family that I was rather puzzled as to her condition. I advised that the same consultant see her again. We met on July 10, and after a thorough examination the doctor thought that she was probably suffering from a malignant growth of the cecum, but no mass could be felt. The same treatment was continued with the addition of a stomachic tonic.

The fact that the patient had lost 25 pounds by actual weight, that the obstruction was on the increase, and that she was severely anemic, made me think the diagnosis quite reasonable, and from now on I thought her condition to be hopeless, and tried to relieve her symptoms only. I saw her daily up to July 17.

During the week of the 17th, a local physician was called in to see her without my knowledge. Later I was informed that no diagnosis was established by the doctor, and he also treated her symptomatically only. The obstruction increased, the abdomen being so distended that the skin began to show signs of atrophy at some points. Not being able to make her comfortable at home, I advised her removal to a hospital, and on July 28 I had her admitted to one of our prominent hospitals. After being examined by the attending physician and surgeon, the gynecologist was called in to see her. A probable diagnosis of obstruction due to some growth was made and an exploratory laparotomy was advised. The hemoglobin was too low, so the operation was deferred for the present.

Her condition slightly improved during the next few days, and she was operated on August 6, and no sooner than the abdomen was opened, a fetus of about 3½ months appeared at the opening. The greater portion of the placenta was attached to the small intestines, also to the ovarian end of the tube. She died 3½ hours after the operation, not rallying from the profound shock which she went into the minute the abdomen was opened.

I am fully aware that at times a secondary abdominal pregnancy as the case here, may puzzle the most competent expert for a time, but for a pathological condition to deceive completely over a dozen physicians, some of whom are considered the most competent in their special fields, should not pass by unnoticed. Every one examined her gynecologically and to no one was the condition of the uterus suspicious. I will repeat that if ever I saw a case of chronic obstruction of the lower bowel, this certainly appeared to be one. At the latter stage of her illness her abdomen had to be supported, and to put it in her words, "Her belly was too large to be carried by her thin emaciated body."

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**Important Differential Points in the Diagnosis of Sporadic Cretinism, Mongolism, Achondroplasia, and Rachitis.**—Charles Herrman defines the terms which he uses as follows: Rachitis here considered is the ordinary form so often seen in infants and children. Only the sporadic cretinism or infantile myxedema is here considered. By mongolism he refers to that form of congenital idiocy of unknown origin in which the patients show the Mongolian slant of the eyes. Achondroplasia is considered as it occurs in infants and children. The writer gives a comprehensive view of the e diseases, with their points of difference. Among the facts which he discusses are the following: A marked, persistent, subnormal temperature, which reacts immediately to thyroid treatment, is characteristic of sporadic cretinism. The temperature in mongolism is sometimes subnormal, but this is never so marked or persistent as it is in cretinism. Rachitis and chondrodystrophy, when uncomplicated, have a normal temperature. In cretinism, as against mongolism, the skin often has a characteristic myxedematous infiltration. In all of these conditions there is a delayed closure of the fontanels. In rachitis the head is large and square. In mongolism the head is brachycephalic. In cretinism the head is small, with no special characteristics. In chondrodystrophy the head is relatively large. In this affection also the end of the nose is bulbous. This is different from the condition of that feature in cretinism and mongolism. In cretinism the tongue is enlarged; this is not so in mongolism. In all of these affections the teeth appear late, but especially so in cretinism. In all of these conditions the extremities are shorter than in the normal. In cretinism the hand is flat and spade-like. In rachitis, when it is well marked, and especially in the second year, the hand is long and narrow, with the thumb flexed. In chondrodystrophy the hand is small and square. In mongolism the hand approaches more nearly to the normal. As to the mentality, the intelligence in rachitis is retarded only in so far as the children do not mingle with others early. In chondrodystrophy the intelligence is not markedly affected. Cretins when untreated are sluggish, apathetic, or idiotic. In mongolism there are all grades, from the mildest form of imbecility to complete idiocy. Treatment with thyroid extract is specific only in the cases of sporadic cretinism, although the other conditions may be somewhat improved by this medication.—*Archives of Pediatrics.*

**Biology of the Anaerobic Microorganisms.**—Giovanni Grixoni has carried out very extensive experiments with regard to the possibility of cultivating organisms that are usually anaerobic in the air. He gives us these conclusions: 1. Many anaerobic germs, the cause of grave infections in men and animals, may multiply and produce toxins in the presence of atmospheric air. 2. In order that these microbes, habitually toxic, may become virulent special conditions are necessary which are rarely found in nature. 3. If fragments of fresh organs, taken from healthy adult animals, be mixed in the substrata of cultures, as they decompose *in vitro* a rapid multiplication goes on in the air of the bacilli of tetanus, of malignant edema, etc. 4. Such germs increase in virulence by transplantation into fresh substrata. If left in the same medium they lose their toxic power. 5. Such germs lose their toxic power when cultivated for a long time in presence of oxygen in nutritive broth rich in ammonia. 6. By modifying the culture medium it is possible to make these anaerobic germs grow in the air. 7. These experiments give us much information as to the pathogenesis of several surgical diseases up to this time obscure.—*Giornale Medico del Regio Esercito.*

**A Study of the Physiological Biliary Flora.**—Andrea D'Ambrosio has made experiments to determine whether the bile normally contains any microorganisms. At the present day it has been determined that the bile is not bactericidal nor antiseptic in its action. The author made use of the bile of dogs, rabbits, and guinea pigs, after having fed them on appropriate food for several days. He did not use chloroform in any of the cases, nor any method of anesthesia. He obtained the following results: Of 45 animals used, only 19 showed microorganisms in the bile. In these cases the bile was found to be turbid and more dense than normal. In all cases of limpid bile no germs were found. He therefore supposes that the bile of the animals in which the germs were found was not in a strictly normal condition. The bile of the majority of normal animals is probably sterile. The microorganisms found were a form of diplococcus, which has been described by Escherich as micrococcus enteritidis; another corresponding in morphology to the bacillus subtilis, and, less frequently, still another similar to the last.—*Giornale Internazionale delle Scienze Mediche.*

MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

THOMAS L. STEDMAN, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, September 23, 1905.

## A SANE POLICY ON THE ISTHMUS.

AFTER making several false starts, those responsible for the construction of the Panama canal seem at last to have come to reason, and have determined to begin again and begin right. The makers of the canal started out with the brave resolution to dig, dig at once, and keep on digging until the canal was dug, the theory being that the way to do a thing is to do it. But theory and practice are not always compatible, unless the theory is sound. If the canal could be cut by machines of steel, whose only enemy is rust, and without the supervision of vulnerable man, the original plan of the canal diggers would have been admirable, and perhaps even the former commission of incompetents would ere this have been well along on the way to the completion of their task. But, like so many men of affairs, engineers, and army officers, they ignored the lessons of the past and refused to heed the warnings of the medical profession that the work of sanitation was the prime necessity, and should be the first to be undertaken. They professed to believe that the failure of De Lesseps was due to the wholesale stealing of his subordinates and failed to see that it was disease rather than graft that thwarted the efforts of the French. They made a concession to the demands of the medical profession in placing Col. Gorgas in charge of the sanitation of the Isthmus, but they saw to it that he was not a member of the commission, but rather a subordinate with little or no authority to carry out the indispensable measures of sanitary reform. The result is known. In spite of his best endeavors, hampered as they were by ignorant and unsympathetic members of the Canal Commission, malaria and the fear of yellow fever seized upon the officials and laborers, and the work came practically to a standstill almost before it was begun.

How long these more than useless commissioners would have gone on putting this murderous theory into practice no one can say, had not Dr. Reed been sent to the Isthmus on a non-medical mission. While there he carefully compounded a bomb which he exploded on his return to Washington, with the happy result of disrupting the old Canal Commission. We opine that the Washington authorities had a suspicion that he would cast a medical eye over the situation while in the Isthmus, otherwise the appointment of a physician to appraise the value of land, which was the ostensible purpose of the commission of which he was a member, would have been incongruous. Whether the indignation which the Washington authorities expressed at the premature publication of his report in a medical journal was real or feigned, the old Canal Commission was promptly dissolved and a new one appointed. The new commission, of which Mr. T. P. Shonts is chairman, is evidently of different stuff, for it is taking hold of the canal problem at the right end. It is now announced that the work of digging the canal is to stop while every effort is to be made to better the sanitary condition of the Isthmus.

An engineer, who returned recently with some members of the commission from Panama, has given out an interview in which he outlines the new plan of campaign. The work of excavation has stopped and that of sanitation is to be pushed along with the greatest possible speed and efficiency. Working stations exist at short intervals all along the line of the canal. At each of these, cottages will be built for the married employees and a hotel for the bachelors. Appropriations have been made for these buildings at seven stations. It is suggested also that the old army canteen be established at each of these work-towns, where the men can bowl, play billiards or cards, other than poker and pure gambling games, and get a glass of beer or light wine if they want it. But no liquor will be sold, nor will any saloons where it is to be had be allowed on the line of the Canal Zone. In addition to building decent quarters for the men, providing them with various forms of innocent entertainment, and improving the personal hygiene in other ways, the authorities are also prosecuting the the work of sanitation vigorously. War is being waged chiefly against the mosquito. In the country the tall grass is kept mowed down, the pools are repeatedly swept out, and all stagnant water is treated with oil. In Panama the streets are being paved, the pools in the still unpaved portion are repeatedly covered with oil, and twice a month every house in the city is thoroughly fumigated. These measures have borne fruit, for although there has been some yellow fever in Panama, the cases were few; but there can be no doubt there would have been an epidemic, with so much fresh material for the disease to feed upon, had it not been for the untiring efforts of the sanitary authorities.

If Col. Gorgas has accomplished so much while hampered by the hostility or imbecility of the old commission, there is every reason to believe that when his efforts are seconded by an enlightened new commission he will repeat the sanitary triumph of Havana, and we shall see another tropical pesthole converted into a health resort through the application of the discoveries of modern science. Then the work of excavation can proceed merrily, and Sir Patrick Manson's fears of the invasion of Asia and the coast of California by yellow fever from the Isthmus will be allayed.

## THE COUNTRY DOCTOR AND THE SURGEON.

THE practitioner of medicine in the country is usually a busy man, too busy, as a rule, to find much time to devote to a consideration of his trials or to compare his condition with that of his supposedly more fortunate city brother. Whenever, therefore, he does break silence and essays to present his own ideas as to the mutual relations of city and country doctors, his views are almost always of interest.

In a recent issue of the *Medical News,* Dr. B. R.

Riley takes up the subject of specialism and declares that its present tendency is to make the general practitioner in the country, a weak man, at least in a surgical way. He is a fair diagnostician and a good all-around man, and he approaches his case on all sides except the surgical one. This he turns over to the superior ability of his city confrère, and no small amount of the knowledge acquired by the latter, has been derived from cases sent him by the country practitioner. According to the author, the country practitioner who gives no thought to surgery, other than to bemoan his inability to practise it under the conditions which surround him, and accordingly sends his patients to the city, is the rule, not the exception. But he hopes for a better day when the country practitioner will no longer act as the shipping clerk to his haughty city colleague. There is no reason why this should be, for the country doctor is often, if he but knew it, the superior of his urban brother. The former will reduce a dislocation or treat a fracture, and seldom, if ever, loses a great deal of sleep over the worst cases, but "the city surgeon will approach a dislocation or a fracture with the one thought that it is a walking advertisement of either inferior or average ability, and actually loses more sleep over a simple fracture than over an abdominal section. Thus the country practitioner assumes easily the burden of responsibility that seems to rest heavy on the city surgeon. Why? The public is accustomed to having fractures reduced at home. If he accepts the responsibility and takes the chances that bring little money or prestige, and may bring criticism and damage suits, why not attempt operations that bring money and fame with less chance of disgrace?" In spite of the lack of favoring surroundings which often attend surgical cases in the country, Dr. Riley maintains that the country doctor can make his hands as surgically clean, and the home as sterile as is the case in the city hospital. If capable, he can, with impunity, attempt the same work with the same assurances of success that the city man has. With reference to the specialties, it may be necessary to send certain cases to the city, but with reference to surgery, it lies with him to say whether he shall send all his patients needing major operations to the city or not. He must hold before him only one thought, that of competency. Conservatism must not take the place of common sense. "Conservative surgery is all right, but the country practitioner is too prone to neglect or omit and call it conservatism, when in reality it is as much a malpractice act to neglect as it is to do wrong in the first place." Under present circumstances, surgery in the country is becoming one of the lost arts, and the writer's remedy for this state of things is for the man in the country to go to the city every two or three years, and attend on post-graduate courses and hospital clinics.

The country practitioner has always been noted for his self-reliance, and this paper shows that he is beginning soberly to consider some of his drawbacks and is hitting on the right means for their removal. Throughout the well-settled portions of the country, very few practitioners are outside of the range of some well-ordered hospital. It may be located in a very small city, but at the present time many communities are amply supplied in this respect, and the effect of hospital establishment in these communities has done much for surgical science in all the regions roundabout.

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### High Irrigation of the Intestine.

In the *Berliner klinische Wochenschrift* of August 21, 1905, Aldor again calls attention to the local treatment of the intestine by means of high irrigations. This procedure, the value of which he thinks cannot be overestimated, has lost a great deal of its popularity in late years, because of the insistence by many investigators that the measure was based upon an erroneous conception. They held that not only no fluid could pass to the ileocecal valve, as the advocates of this form of medication claimed, but that the tube through which the fluid was to be injected itself remained in the sigmoid flexure, either pushing the wall of this portion of the intestine toward the opposite side of the abdomen, or, if the length of the mesentery prevented, rolling up upon itself in the lumen of the sigmoid. The result would be an accumulation of the injected fluid in the lower part of the large intestine, and in the inability of the patient to retain the injected fluid these investigators found the clinical proof of their hypothesis. As the result of five years of experience, Aldor, however, comes to other conclusions, substantiating, by means of the Röntgen pictures of the tube *in situ* his claim that, properly inserted, no obstacle to the passage of a soft rubber tube into the colon normally exists. The numerous observations made upon cadavers apparently reinforce the view of Aldor's opponents, but to this the writer opposes the fact that the conditions in the cadaver are quite dissimilar to those in the living subject in whom the peristalsis of the intestine affords valuable assistance in the introduction of the tube. The technique of the procedure is simple. The patient is placed upon his left side, and a soft rubber tube of sufficient length is introduced to a distance of about 40 cm., when it may be presumed to have passed the sigmoid flexure. By digital examination the course of the tube may be followed far enough to determine whether it has become coiled upon itself, while another indication that it has not caught in a fold of the mucosa is afforded by the direction in which it advances. Should further control be necessary, the tube may be withdrawn; if it has been coiled up in the sigmoid, the soft rubber will still bear the marks of the twists upon it. Boas has asserted that low irrigations are in themselves sufficient to reach the ileocecal valve, basing his statement upon the observation that in a patient in whom a cecal fistula had been established, the fluid from such an irrigation escaped through the colostomy wound. This, however, is an abnormal condition, and no conclusions can be drawn therefrom. Not alone does Aldor's method, the author of it claims, prevent the tenesmus arising from an accumulation of fluid in the rectum, it makes possible the treatment of the mucosa of the large intestine without surgical interference, thus obviating the insult to the appendix involved in the newly conceived operation of appendicostomy.

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### The Danger of Too Much Zeal.

It is a well authenticated fact that chronic ulcerations may, under the influence of long-continued irritation, become converted into typical carcinomatous processes. A leucoplakia of the oral mucous membrane differs from the ordinary type of ulceration, still it is the outward expression of a chronic irritation commonly due to syphilis or tobacco, and also

offers a fertile soil for the development of a cancer. As a general thing, its presence signifies a grave prognosis, and many remedies have been proposed for its eradication. Of these only two have been attended with any degree of success, viz., the use of the actual cautery and excision of the patches with suture of the wound margins. Among the unfavorable results which may attend these procedures is the possibility that they themselves may give rise to the development of a particularly severe form of malignant disease. This is illustrated in a case reported by Kolaczek (*Deutsche Aerzte Zeitung*, June 1, 1905). The patent, a man of 48, gave a history of syphilis early in life, and was also an inveterate smoker, so that the cause for an extensive leucoplakia was not far to seek. As the patches gave considerable annoyance, their removal was decided upon, the larger ones being excised and the smaller ones destroyed with the thermocautery. At the site of one of the latter, on the upper lip, there soon developed an indurated ulcer, and four weeks later an enlargement of the submaxiliary lymph-nodes, the picture presenting every evidence of malignancy. Excision of the growth with the glands was followed by healing, although within three months the anterior chain of cervical lymph-nodes became enlarged and were removed. Two and a half years later the patient again presented himself with an extensive recurrence involving all the glands down to the clavicle. Operation failed to do any good, and the patient developed a cachexia to which he quickly succumbed. Kolaczek believes that the operative interference was the factor which brought about the malignant change in an already predisposed field, the severe reaction which attended the cauterization inducing a backward migration of the offending cells into the lymph channels. The suggestion advanced by this writer will probably account for the rapid new growth which often takes place where a cancerous tumor has been operated upon. The lesson to be gained from the recital of this case is, that any procedure which induces a severe reaction, such as might follow the use of the cautery, should be avoided in the treatment of leucoplakia and other suspicious lesions of a similar character. Simple excision would seem to meet better the required conditions. Another thought suggested by this case is that there is possibly such a thing as meddlesome surgery. The advice given not long since by one of the leaders of American surgery to remove all moles and other excrescences which may, or may not, some day undergo malignant change, while in principle eminently sound, may sometimes be followed too literally for the good of the patient.

### The Value of a Little Greek.

An esteemed British contemporary some time ago resented a comment of our London correspondent, who said, anent the desirability of the retention in the university curriculum of a little Greek: "Even that little, *pace* the Dons, might have prevented the appearance in one of our medical journals during the last month of three communications on 'afebrile' enteric fever." Whereupon our criticised contemporary remarked somewhat warmly: "A pedant, without any knowledge of medicine, might conceivably find fault with an expression which he would probably consider—quite mistakenly—to be a 'bull.' But to the physician, who thinks more of things than of words, 'afebrile enteric fever' is as legitimate a phrase as, for example, 'apyretic pneumonia.' In any case, in the name of etymological common sense, what has Greek to do with *febris?* We are inclined to think that our critic's zeal for Greek, like that of not a few of its defenders, is purely altruistic." All of which is delightful, because such unconscious testimony to the justness of our correspondent's observation. "Sam," said the quizzical darkey, "yo' ben trabelin' in de Orient, hab yo'? Well, how'd yo' like Turkey?" "Turkey?" said the other. "W'y stuffed wif ches'nuts an' oystahs—er—er——" "G'wan, yo' fool niggah! What's turkey got ter do wif trabelin' in de Orient, anyhow—huh?"

### Long Lived Doctors.

In the comparat've mortality tables physicians do not take a high place, coming after clergymen, gardeners, teachers, artists, lawyers, and those following many industrial pursuits, and themselves preceding in general only those engaged in admittedly hazardous occupations. But though the average of life in members of the medical profession is below the normal, individuaal instances of longevity among physicians are not uncommon. This is strikingly shown in the obituary notes in another column of this issue. Among the ten deaths reported by our correspondents in various parts of the country there were five of physicians eighty years old or older, and only two of those below seventy two years. The average age at death of the first five was 85.2 and that of the ten was 74.5 years. The oldest on the list died at the ripe age of ninety-six years.

## News of the Week.

**The Harvey Society Lectures.**—The first lecture of the recently organized Harvey Society will be given by Professor Hans Meyer, the distinguished pharmacologist of the University of Vienna. Professor Meyer will speak in German upon the subject "Die Theorie der Narcose." The lecture will be held on Saturday, October 7, at 8.30 P. M., in the New York Academy of Medicine. The second lecture will be given on October 14, at the same hour and place, by Professor Carl von Noorden, of Frankfort, the well-known authority on diabetes. The title of Professor von Noorden's lecture is "Modern Problems of Metabolism." The lecture will be delivered in English. Other lectures of the course will be given by Professors L. F. Barker, Howell, Lee, Levene, Mendel, Minot, T. H. Morgan, Novy, Park, Theobald Smith, and J. C. Webster. It is hoped by the founders of the Harvey Society that it may be of use in furthering the wider diffusion of knowledge of the medical sciences. The Harvey Society cordially invites those interested to attend these lectures.

**Needs of the Chicago Health Department.**—Health Commissioner Whalen has made the statement that meat inspection in Chicago is inadequate, and says that where six inspectors are now at work, forty are needed. It is impossible for a few inspectors to prevent the sale of meat which has become unwholesome after its inspection at the yards when it is distributed over the immense area of Chicago by hundreds of obscure retail dealers. Dr. Whalen also says that the staff of sanitary inspectors should be increased, and he believes Chicago could not expend money more usefully than in the development of an efficient, well equipped, and non-political body of inspectors and a scientific and comprehensive system of food and sanitary inspection.

**Alcoholic Patent Medicines.**—Under a decision rendered by the Commissioner of Internal Revenue every druggist who after December 1 of this year may sell certain so-called patent medicines having whiskey or other distilled spirits as the chief ingredient will be obliged to pay a special tax to the Government as a liquor dealer. The manufacturers of these medicines will be required to pay the special tax imposed upon rectifiers and liquor dealers. Some of the worthy members of the W. C. T. U. will be surprised when they learn that their favorite nerve tonic and all-around bracer is nothing but whiskey, and bad whiskey at that.

**Virginia's Tax on Physicians.**—The Medical Society of Virginia is engaged in an effort to have repealed the law which imposes a special license tax of from ten to twenty-five dollars a year on physicians. Under the direction of the society there is being published a paper, *The Medical Legislator*, which has taken up the cudgels in behalf of the move. The paper is edited by Dr J. Beverley Deshazo of Ridgeway.

**War Against Contract Practice.**—At the annual meeting of the New Hampshire State Medical Association, held last April, a resolution was passed to the effect that no physician doing contract practice for fraternal organizations after January 1, next, would be permitted to remain a member of the society. This action was endorsed last week by the Manchester Medical Society and the Nashua Medical Society, and it is believed that all the county and local societies throughout the State will take similar action. The Peterborough (Ontario) Medical Society recently discussed the same question at a meeting held September 7 to act upon a resolution introduced some time ago, forbidding lodge, factory, and other contract medical practice after January 1, 1906. The committee appointed to canvass the local profession reported that there was no approach to unanimity and recommended that no action be taken. The matter was therefore dropped for the present.

**Law Regarding Embalming.**—The Illinois State Board of Health, through its Secretary, Dr. James A. Egan, has issued the following notice to Illinois embalmers: "Under the provisions of the Act approved May 13, 1905, no person shall embalm or prepare for transportation any body dead of a contagious or infectious disease or embalm any dead body, or hold himself out as practising the art of embalming, unless he holds a license from the State Board of Health authorizing him so to do. After September 1 1905, no transportation company operating in the State of Illinois will accept a body dead of any contagious or infectious disease, unless it has been prepared by an embalmer holding a license issued by the State Board of Health. After January 1, 1906, any person who shall embalm or prepare for transportation any body dead of a contagious or infectious disease, or embalm any body, or hold himself out as practising the art of embalming without having obtained a license from the State Board of Health, shall be deemed guilty of a misdemeanor."

**Treatment of the Morally Insane.**—In a special despatch to *The Sun* from Berlin, dated September 16, it is stated that Professor Liszt of Berlin in a paper on "moral insanity," which was read at the Congress of Criminologists, submitted that special measures must be carried out to render morally insane persons, whether criminals or not, harmless to society. Secondly, the professor insisted that morally insane persons must be punished with less severity than others. Professor Torp of Copenhagen opposed the second proposition. He said it was customary in Denmark to punish the morally insane less severely than ordinary criminals, but the system provoked general discontent. It was only suitable for those who were irresponsible from external causes such as drunkenness. Experience showed that persons who were morally insane were not susceptible to improvement by punishment, and always relapsed into crime. They should not be punished but should be dealt with by special treatment. Dr. Kielhorn, representing the schools of Hamburg, said the percentage of morally insane children was far greater than was generally believed. Over 1,000 were taught in nine Hamburg schools. Two per cent. were confirmed criminals, whose rescue was hopeless, but the remainder could be reformed by suitable treatment. Punishment by imprisonment or detention did more harm than good. After a long debate, in which many speakers denounced Prof. Lizst's propositions as unworthy compromises, both were adopted by a large majority.

**The "Denver Medical Times."**—Dr. Thomas H. Hawkins has retired form the active management of this journal, though he continues on the editorial staff. A stock company has been formed to publish the paper. The commercial side of the journal will be directed very properly by business men, though all the editors are personally interested in the success of the publication, being stockholders in the owning company.

**Society Meetings in New York.**—Two national medical societies—the American Association of Obstetricians and Gynecologists and the American Electro-Therapeutic Association—have held their annual meetings in New York this week, the first named at the Hotel Astor and the second at the Academy of Medicine.

**Cholera.**—The German sanitary authorities appear to be gaining the upper hand of the cholera invasion. For the twenty-four hours ending at noon September 19 there were but seven new cases reported, and no deaths, the totals from the beginning of the outbreak being 208 cases and 75 deaths.

**Yellow Fever in Cincinnati.**—A trainload of refugees from Louisiana bound for Cincinnati last week were met by Dr. B. F. Lyle at Lexington, Ky., and on their arrival five suspects were sent to the Branch Hospital, where they were found later to be suffering from yellow fever.

**Cook County Hospital Staff.**—Examinations for candidates for positions on this staff will begin on September 28. The successful candidates will be placed on the civil service eligible list, and when vacancies occur on the staff they will be assigned to fill them. The life of the present staff cannot exceed six years, as fixed by the civil service act passed by the Illinois Legislature, and no member of the present staff will be permitted to serve a second term. The County Civil Service Commission will hold the examination but the examining board of reputable physicians, and surgeons will have charge of its chief details.

**War on Unclean Dairies.**—The Board of Health of East St. Louis, Ill., has inspected all the dairies in that city, and declared a number of them unsanitary and ordered them closed. The owners have been given thirty days in which to put their places in a sanitary condition, when they will be passed upon, and if found satisfactory will be permitted to resume business. Other owners were warned of unsanitary conditions prevailing in and around their dairies and were instructed to clean up their places at once.

**Medical Ethics in the College Curriculum.**—The Philadelphia County Medical Society has adopted a resolution requesting all medical schools to furnish their senior class with a special course of lectures or addresses upon the subjects of Medical Ethics and the Business Aspect of the Practice of Medicine, and including the recommendation that graduates promptly join the local county medical society.

**Decrease in Typhoid Fever in Chicago.**—Chicago, twelve years ago, had the highest death rate from typhoid fever of any large city in the world (17.22 in the ten thousand of population in 1891 and 12.21 in 1892), but last year the rate was only 1.92 per ten thousand—among the lowest of all large cities.

**The School of Medicine of Purdue University.**—On September 1, 1905, by the unanimous action of their respective Boards of Trustees the Medical College of Indiana was made the Medical Department of Purdue University with the title of "Indiana Medical College School of Medicine of Purdue University." The Medical College of Indiana was founded in October, 1869, and has given continuous instruction in Indianapolis for thirty-five years, graduating in that time over 1600 students

**Laying of the Corner-stone of Washington Park Hospital, Chicago.**—The corner-stone of this hospital was laid September 4. The building will be three stories high, 145 by 44 feet, and will have a capacity of 75 beds. The cost is to be $50,000. It will be ready for occupancy January next and will have a total capacity of 105 beds

**Decrease in Death Rate From Consumption at the Dunning Institutions, Illinois.**—The mortality rate from this disease in these institutions has decreased 15.31 per cent. since patients have been removed to the new tuberculosis hospital. This is said to be due to the surroundings at the new hospital. In the months of March, April, May, June, July, and August of last year, the death rate of tuberculous patients was 42.52 per cent., while during the corresponding months this year the mortality rate has been 27.21 per cent.

**The Germ of Yellow Fever.**—It is again reported from New Orleans that the Drs. Archinard have discovered the microorganism of yellow fever, and that a definite and authoritative announcement of this will soon be made.

**Prickly Heat in New Orleans**—The residents of New Orleans have been suffering in a remarkable and unusual degree from prickly heat, an affection which, despite the prolonged summer is not very common there. It has been found that most of the sufferers had been experimenting with the arsenization method of preventing yellow fever, which consists in taking arsenic in small amounts daily for a long period of time, and many have attributed their discomfort to that fact.

**Sickness in the Russian Army.**—A despatch from St. Petersburg says that the Council of Defense of the empire, under the presidency of the Grand Duke Nicholas Nicholaevitch has announced that the mortality in the Russian army is twice as great as the mortality among the population of the country. After service in the field twelve per cent. of the soldiers become invalids and twenty-two out of every thousand become tuberculous

**The Southern Medica Training School,** a college for the education of medical missionaries, has been opened in Atlanta. The institution, which is coeducational, is empowered by its charter to confer the degree of M.D. on those who have complied with the legal requirements The dean of the faculty is Dr. J. McFadden Gaston.

**Teetotalism in the Canal Zone.**—A convention of prohibitionists in Massachusetts have adopted a resolution calling for the interdiction of the sale or the gift of alcoholic liquors on the Canal Zone to any employee of the government. The penalty which they wish imposed for infraction of this law is thirty days' imprisonment and expulsion from the Canal Zone. A copy of the resolution has been sent to the President.

**An Epidemic of Typhoid Fever** exists at Nanticoke Pa., where there were 205 cases on September 14. The borough building has been turned into a hospital and the hospitals of Wilksbarre, Scranton, and Hazleton have arranged to take some of the patients. A large number of experienced nurses have been engaged, and every householder has received orders to boil all water and milk used.

**The Crusade Against Mosquitos**—A thorough discussion of ways to exterminate the mosquito will take place at the second Pan-American Sanitary Convention to meet in Washington on October 9. All South American republics will be represented and many European scientists will attend. The program gives a large place to papers on yellow fever, the plague, cholera, and malaria Each South American republic will report on the sanitary conditions in its territory.

**The Houghton County (Mich.) Medical Society** held its annual meeting at Hancock on September 4. Officers for the ensuing year were elected as follows: *President*, Dr. N. S. MacDonald, *Vice-President*, Dr. C H. Rodi, *Secretary and Treasurer*, Dr S. S. Lee, *Board of Censors* for three and two years respectively, Drs. E. T. Abrams and W K. West

**Dr John Williams** has been appointed by the Ontario government medical superintendent of the provincial epileptic hospital at Woodstock. He is a graduate of the medical Department of the University of Toronto in 1873.

**Three Chinese Surgeons** recently arrived in San Francisco on their way to attend the meeting of the Association of Military Surgeons at Detroit next week. They are Dr Ho Kan Yuen of the navy, Dr Ying Young Tsui of the army, and Dr. Wang Pang Chung of the South China army. All of them have been educated in England or the United States.

**The Erie Railroad Surgeons' Association** held its annual meeting in this city on September 13 and 14. The following officers were elected. *President*, Dr. M. S. Cramer of Ohio City, O.; *Vice-President*, Dr. D. A. Currie of Englewood, N. J.; *Secretary*, Dr J. A. Allis of Upper Montclair, N. J.

**The Washington County (Vt.) Medical Association** held its fourth annual meeting at Barre on September 12. The following officers were elected: *President*, Dr. William Lindsay of Montpelier; *Vice-president*, Dr. C. F. Camp of Barre; *Secretary*, Dr. O. G. Stickney of Barre, *Treasurer*, Dr. C. E. Chandler of Montpelier; *Censors*, Dr. F. W. Burbank of Cabot and W. F. Lazelle of Barre.

**Appointment of Asylum Superintendents in ontario.**—The Government has made the following changes in the superintendency of the provincial hospitals for the insane: Dr. C. Clark of Rockwood Asylum to be superintendent of the Toronto Asylum, vice Dr. Daniel Clark, retired. Dr. E.

E Ryan of the Kingston Asylum to be medical superintendent of the Rockwood Asylum. Dr. E. C. McKay of Morrisburg to be medical superintendent at Cobourg Asylum, vice Dr. E. McNeil.

**Call for a Southern Quarantine Convention.**—A formal call was issued on September 16 for a Southern conference on quarantine and immigration to be held in Chattanooga on November 9 and 10. It is signed by twelve Governors and the officers of the Chambers of Commerce of several cities An object of the meeting is to obtain "some uniform system of quarantine that will allay apprehensions of the people and minimize the dangers resulting from an outbreak of yellow fever." The call declares: "This is necessary if we would save our land from the demoralizing and brutalizing tendencies of a panic-inspired quarantine." The call was signed by the Governors of Tennessee, Louisiana, Maryland, West Virignia, Virginia, Florida, Mississippi, Missouri, Kentucky, South Carolina, Texas, and Georgia.

**Obituary Notes.**—Dr. Asa S. Allen died in Cleveland on September 6, at the age of ninety-six years. He was born in Martha's Vineyard and went to Cleveland in 1842. He practised medicine for many years in Akron and Berea, Ohio, but retired about fifteen years ago.

Dr. Ephraim J. McCollum died in Tiffin, Ohio, on September 7, at the age of eighty-five years. He was a graduate of the Jefferson Medical College in the class of 1853. The physicians of Seneca County united two years ago in the celebration of his golden jubilee of practice.

Dr. C. G. Royster died at Trenton, Ky., on September 4, at the age of eighty-three years. He was graduated in medicine in Philadelphia in the early 40's, and after practising for a time in Montgomery County moved to Paducah. He retired many years ago on account of feeble health and advancing years.

Dr. Thomas Menees of Nashville died September 6 in his eighty-third year. He was born in Davidson County, Tenn., June 26, 1823 and was graduated from the Medical Department of Transylvania University in 1846. He began practice in Springfield, and later removed to Nashville. He always took an active interest in public affairs and was State Senator for one term and was a Representative in the Confederate Congress from 1861 to the dissolution of that government. In 1873 Dr. Menees was elected Professor of Materia Medica and Therapeutics in the University of Nashville. In the following year he was elected Professor of Obstetrics in the University of Nashville and Vanderbilt University. After the separation of the medical departments of the two universities he accepted a chair in Vanderbilt University. His three sons became physicians, but none of them is living; one lost his life in Memphis during the yellow fever epidemic in 1878. He leaves a grandson, a practitioner. Dr. Menees continued in fairly active practice until about a year ago.

Dr. George W. Duncan died September 8, at his home in Franklin, Ky., of cancer, at the age of eighty years. He was a graduate of the Medical Department of the University of Louisville in the class of 1847. One of his sons is a surgeon in the U. S. Army stationed in the Philippines.

Dr. James Laws died in Washington on September 11 in the seventy-eighth year of his age. He was born in Philadelphia and was graduated from the Jefferson Medical College in 1854. He entered the navy as surgeon and served until after the close of the Civil War, when he resigned. He practised then in Philadelphia, but in 1883 moved to Washington to accept the position of examining surgeon in the Pension Office, which he filled up to the time of his death.

Dr. William M. Late of Bridgeport, W. Va., died in Bordentown, N. J., on September 4, at the age of seventy-two years. He was born in Rappahannock county, Va., and studied medicine under his stepfather, Dr. William Duncan, taking his degree from the University of Pennsylvania in 1855. He practised continuously in Bridgeport to within a short time before his death.

Dr. Thomas Gilfilan of Northampton, Mass., died September 9 at the age of seventy-five years. He was born in Milton, N. Y., and was a graduate of the Berkshire Medical College in the class of 1854. He served in the medical corps of the Union Army during the Civil War.

Dr. Ernest Früh of Philadelphia died suddenly on September 7 at the age of fifty-three years. He was a graduate of the Jefferson Medical College in the class of 1876.

Dr. Colin P. Dewar of Ottawa, Ont., died September 7 of uremic poisoning at the age of forty years. He was graduated from the Medical Department of McGill University in the class of 1888.

## Correspondence.

### OUR LONDON LETTER.

(From Our Special Correspondent.)

THE BRITISH ASSOCIATION—PHYSIOLOGY—SOUTH AFRICAN DISEASES—CHEMISTRY OF GOLD—HEREDITY AND DEGENERATION.

London, September 1, 1905.

As the British Association (for the Advancement of Science, to give its full title) is meeting in South Africa, its proceedings seem scarcely to come within the province of a London correspondent. Yet those of us who remain in town are sufficiently interested to give to its doings even more attention than to the several vacation discussions that the newspapers have got up for our amusement or instruction. It will doubtless be for the benefit of South Africa, and we may perhaps say of this country, too, that a large amount of the attention given to the association has a great local interest. The event will diffuse knowledge which concerns us all on various topics, but I can only touch on one or two of medical interest.

Colonel D. Bruce in his presidential address before the Section of Physiology took for his subject the advance in knowledge during the last ten years of the causation and prevention of diseases of stock. South Africa, he said, was rich in the opportunities of studying diseases of animals, every species of domestic animal seeming to have one or more specially adapted for its destruction. The most important were East Coast fever, Texas fever, biliary fever of horses, malignant jaundice of dogs, tsetse-fly disease, trypanosomiasis of cattle, rinderpest, horse sickness, catarrhal fever of sheep, heart-water of sheep, goats, and cattle—quite a comprehensive list. East Coast fever was first recognized in the Transvaal three and one-half years ago, and proved excessively dangerous. Only about 5 per cent. of the cattle attacked recovered. The duration of the disease was about ten days. The cause was a minute blood parasite which lived in the interior of the red corpuscles and was carried by a blood-sucking parasite—the brown tick. No treatment will cure and no method of conferring immunity has been discovered. Texas fever or red water is found in almost all parts of the world, and was introduced into South Africa about 1870. The native cattle seem to have developed immunity for themselves, but, although apparently healthy, can communicate the disease to fresh importations—a great discouragement to the importation of prize stock—and there is no known way of conferring immunity which is free from risk.

As to the tsetse-fly, ten years ago it was supposed to kill by injecting poison, as snakes do. In 1895 Sir W. Hely-Hutchinson started an investigation which resulted in the discovery of the trypanosoma. Alone among the blood-sucking flies the tsetse-fly can convey the parasite from affected to healthy animals for at least forty-eight hours. The cause of this is not completely cleared up, but there is evidence of enormous multiplication of the trypanosomes

in the fly's intestines within twenty-four hours. Since 1895 many other trypanosome diseases have been discovered in all parts of the world, the most important being the "sleeping sickness" of the West Coast and Congo, which has spread to Uganda and other parts, and is still spreading and sweeping off thousands of human beings. No inoculation has proved of value as yet, and no drug has been of any avail. Rinderpest has lost its terrors since Koch's discovery, which was so well followed up by Kolle and Turner. It can now be stamped out wherever it appears. Horse sickness carries off thousands of horses every year. It only affects equines. But for it the Transvaal would be one of the finest horse-breeding countries in the world. No parasite has been found to account for it, perhaps because it is ultra-microscopic in size. No insect carrier has been discovered—no method of prevention or cure.

The President of the Section of Chemistry, Mr. G. T. Beilby, could scarcely avoid discoursing on gold production to a meeting in the richest of the world's gold fields. So, having described the process of washing alluvial deposits, he said that in 1889 it was superseded by the discovery of the cyanide process now universally employed. At that time probably not fifty tons of cyanide of potassium were produced in a year. Now the world uses little short of 10,000 tons a year, of which the Transvaal takes about one-third. Chemists must be interested in the production of the cyanide, as they are in the process of extracting the gold. Mr. Beilby, in discussing the chemistry of gold, remarked that Professor Liversidge said sea water contained a grain of gold per ton; but the weakest solution of cyanide was richer than that, so he was rash enough to predict that if the Transvaal mines were closed it would not be on account of the competition of the sea.

The debate on Heredity and Degeneration, opened in the *Morning Post* on August 14 by Dr. Archdall Reid, was closed yesterday. Quite a number of thoughtful writers have supported Dr. Reid's views, which, however, have failed to command the assent of the profession generally; and this fact perhaps led him to rather smart criticism of prevailing opinions. Medical men, he says, know that races exposed to adverse conditions, such as diseases, become inured to them, but they have no knowledge of any race which has grown degenerate in such conditions. Yet, he adds, they accomplish the surprising intellectual feat of believing that each generation under these conditions becomes more degenerate. This, he says, is as if they believed that walking down a hill would bring them to the top. Slum life, alcohol, disease, and so on have bulked largely in the columns of controversy which the *Post* has issued regularly for above a fortnight. In the long correspondence many smart things have been said, statements made and speedily contradicted, hypothesis put forward to have their bases cut away, and amid all prejudices expressed with the assurance that they were arguments. The most interesting part of the discussion relates to the conditions of slum life, and these are admitted to be what we usually call adverse. But would their removal arrest degeneration? It is urged that alcohol, for example, if banished to-day would reappear to-morrow. To be of any use, it must be got rid of forever; but this cannot be, and we must be content for evolution (blessed word!) to produce immunity; that we cannot alter human nature, and therefore the efforts of temperance reformers can only end in failure. This is so discouraging a notion to philanthropists that no wonder it has been opposed by an army of zealous men who are convinced that there must be a fatal flaw in the reasoning which leads to such a conclusion; and they have on their side facts in abundance, and many have been brought forward in this discussion. Some of them, especially those embodied in statistics, have been misinterpreted, and the bearing of others has apparently been misunderstood. In truth, all through this logomachy it has been difficult to dismiss the idea that the combatants are confusing the issues, and that, perhaps, more than anything by employing terms in different senses, though it seems also possible that neither side has studied the subject in some of its aspects.

The most common conclusion arrived at by readers will probably be that whether we are racially degenerating or not, it is the duty of the nation, if possible, to get rid of slums and all conditions adverse to the individual; and the majority hold that by doing this we may leave the race to take care of itself.

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**Systematic Examination of the Eyes of Defectives.**—F. Park Lewis shows that the nutritive, psychic, and mental processes are all unfavorably modified by eyestrain. In view of this fact he believes every dull and nervous child, every person with incipient tuberculosis, every delinquent child, every applicant for admission to State hospitals, every epileptic with reasonable intelligence, is entitled to examination of the eyes for relief of this form of nervous waste if defect is present.—*American Medicine.*

## CAPITAL PUNISHMENT.

To the Editor of The Medical Record:

Sir:—I do not intend to discuss the legal phases of a question of such importance as this, but I want to bring before the profession my views on the necessity of changing the methods of capital punishment. Whether society determines to protect itself by eliminating its dangerous members instead of choosing the wiser course of educating them, thus eliminating their dangerous qualities, is a question for the jurist and the humanitarian. But the selection of the methods of causing death concerns us most particularly as the best interpreters of the psychological needs of humanity. If the punishment of a criminal is not a revenge by society, but only a protection, why should we cause death by a method producing physical and extreme mental suffering? What is the object of hanging or electrocuting the criminal? Do we realize the intense suffering of this human being while waiting to be called to the scaffold or electric chair? If we have decided to suppress this human being our sentence is a sufficient punishment, without adding the horrors of mental agony. Let us be humane! But aside from the interest for the criminal, against whom society would revenge her *læsa majestatis* and does not consider mercy the right of the murderer, does society forget that the criminal might have a mother, a wife, a sister, a child, and perhaps friends? Does society forget the condition in which these innocent beings connected with the criminal are while awaiting the execution of their loved one, and the nervous shock that the knowledge of the accomplished fact will produce? We do not know how many of these innocent creatures, especially women, enter the door of insanity after this period of apprehension and sorrow has passed, or the heritage of shattered nerves these women will bequeath if they have issue, thus perpetuating tendencies that will in time force additional obligations upon society. We do not know, and for that reason we do not care. Society wants to revenge itself, and calls this revenge "example." It is an example of cruelty for which we are responsible. Can anyone imagine the condition of mind during the time preceding the death of a loved one when capital punishment has been decided upon and is about to be brought into execution? Have we the right to impose such a strain on innocent people?

If the existence of capital punishment has not diminished the number of crimes, the adoption of methods more humane would hardly tend to increase them. Crime is less where the supreme penalty is not death; this is not the but established fact, proven by statistics and experiment—among other places in Italy, where capital punishment was abolished a century ago. The ancients were more merciful; the drinking of cicuta among the Greeks, and venesection among the Romans were methods of death adopted, and the person sentenced to die was compelled to be his own executioner within a certain time limit. It was humane and rational—not only using painless methods, but allowing the criminal to prepare himself for the last moment with an easy mind. If we do not want the criminal to become better while living, let us allow him to become better while awaiting death. There is no human being without a soul, and if during an entire existence this soul has not shown itself it may be these few hours of reflection before death will bring out the best and only good part of this soul. The best part of us manifests itself at the moment of passing. Let us allow everybody to think and reflect before death; it is a right to which they are entitled, and of which they should not be deprived. If the spectre of a cruel physical struggle is confronting the condemned we take from him all the possibilities of a rational death. While we are forced in this world, still we are responsible to a certain extent for our actions, but many times we are the victims of circumstances. Napoleon used to say that every soldier had in his knapsack *le bâton de maréchal*, and we might say that every man has in his brain the seeds of crime. It is simply a matter of circumstances and education. If we think it is necessary to eliminate the dangerous beings, let it be so; but let us be humane in so doing. We do not educate by terrifying and by keeping before the world this example of barbarity. We destroy without pity not only the criminal himself, but all the unfortunate creatures bound to him by human ties. The dreadful shock to them is not brought by the fact of death, but by the fact of inhumane death.

Not long ago I heard of a poor girl, daughter of a man who had been condemned to be hanged, asking the Governor of the State mercy for her father, saying: "Do not kill him; he is the only thing I have." What will this poor girl's life be if not a physical and nervous wreck? We know nothing about her; we have not watched her restless nights and her terrified visions since she knew that her father was going to be hanged; we do not see her frail body growing frailer and her tortured mind becoming weaker. We have obeyed the law and our tendencies, and we know nothing about the rest. Such a rationalism is

brute injustice; I only ask the legislator to take into consideration this fact, so little remembered because it touches the Pariahs of society—because it deals principally with those elements of society that, being kept by circumstances and by deficient intelligence in the lower strata, have no opportunity to be raised to our level. Surely it is time to relegate to the past, where it belongs, the old vengeful Mosaic law, "an eye for an eye, a tooth for a tooth." That we can find no way to punish crime except by crime is a grave indictment on our so-called civilization. Let us teach that we are punished by our errors, not for them; that the punishment for crime is surely fulfilled in the crime itself. Men will continue to kill one another until taught it is better for them not to do so; and killing them in turn does not teach them, nor has ever prevented a man from killing another when the fancied provocation was strong enough.

I have a deep and unfailing belief in the fundamental good in humanity. In each man there is an impelling instinct to progress, to mount higher, to be something more than he is. Often his very crimes may be a blind, ignorant following of this impulse for each man to endeavor to make the most of his life as he understands it. Let us be honest with ourselves. We are all deficient in some part of our character, and our boasted virtues are often the result of environment and physical organization. Shall we condemn to death the unfortunate wretch to whom Nature has given a brain in quality and quantity inferior to ours, and which the circumstances of life have defrauded of an opportunity to grow and expand?

Is it right for us to remain acquiescent and indifferent? Each and every man of trained thought and intellect has a vital responsibility toward his more unfortunate brethren, and should be ashamed to shirk his duty. The old question, "Am I my brother's keeper?" rings false now as ever.

Do we expect to educate the so-called criminal classes by showing so plainly that their directive minds, their natural protectors, are deficient in sentiment and knowledge which, all comprehending, is all merciful?

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# Progress of Medical Science.

*Boston Medical and Surgical Journal, September 14, 1905*

**The Modern Conception of Tuberculosis of the Skin.**—C. J. White makes two distinct divisions of tuberculosis of the skin. 1st, the true tuberculosis in which the bacillus of Koch can always be found in greater or less abundance, and in which animal inoculation always gives positive results; 2d, the tuberculides, in which bacilli are absent, but in which animal inoculations may often give positive results, in which the pathological picture is usually highly suggestive of tuberculosis and in which evidences of the disease, tuberculosis in some organ or tissue elsewhere in the body, can frequently be detected; and, 3d, a subdivision of the above second group in which we find a constitution prone to tuberculosis, one which exhibits the so-called tubercular diathesis of our forebears. The first class contains the well-known affections: lupus vulgaris; scrofulodermia, including tuberculous gummata, tuberculous ulcers, tuberculous lymphangitis; cutaneous miliary tuberculosis; tuberculosis verrucosa cutis; and lastly verruca necrogenica. The second class comprises the less known diseases: lichen scrofulosorum, erythema induratum, follicliis acnitis, acne scrofulosorum, acne cachecticorum, and morbilliform or scarlatiniform eruptions in the course of acute pulmonary tuberculosis. The third class includes, possibly, eczemascrofulosorum, pityrias rubra of Hebra, certain dyschromias, lupus erythematosus, angiokeratoma and lupus pernio. These various dermatoses of the first two classes are studied by the author in detail with reference to minute pathology and symptomatology. He admits that the diseases mentioned in his third class are in more or less dispute, because in them no one has ever been able to demonstrate any absolutely definite tuberculous process or to isolate from them the tubercle bacillus. Moreover, animal experimentation has invariably proven negative.

**Ocular Vertigo of Interest to the General Practitioner.**—The personal experience of B. P. Crott leads him to group cases of ocular vertigo under three heads: (1) that form seen in paralysis of the ocular muscle resulting from an interruption of the latter's nerve supply; (2) that form seen in paretic states of the ocular muscles or as he considers it preferably stated an "ocular muscle unbalance" and (3) that form accompanying refractive errors and familiarly known as "eye-strain." Illustrative clinical histories are given under each of these three classes.

*New York Medical Journal September 16, 1905.*

**Floating Kidney Due to Colon Displacement.**—The patient of S. Chandler was a woman aged 35 years, whose symptoms appeared after the birth of her only child. The symptoms present at the time of examination were the following: tinnitus; some expectoration of frothy mucus; attacks of palpitation of heart; pain in right side anterior below ribs; anorexia with periods of vomiting concurring with cardiac symptoms; flatulence and soreness in umbilical region; after an attack, headache and aching along right leg; frequency and hesitation in urination; depression and discouragement after an attack; bad leucorrhæa, bearing down pains, and pelvic discomfort; noticed at times a lump in the abdomen which she could, by pressure, move; stated that on some occasions she passed blood with urination. The attacks of cardiac, stomachic disorders, etc., appeared irregularly; on an average about every five weeks. The right kidney was absent from its normal site and was believed to be attached to the first portion of the large bowel. Abdominal incision revealed the kidney attached to the ascending colon and free in the anterior abdominal cavity. The bowel in being displaced by the pregnancy had drawn the kidney with it, and the peritoneum had gradually closed behind, carrying the vessels and ureter. The author comments on the impossibility of making an accurate diagnosis under such anatomical conditions. Operation consisted of opening the abdominal cavity posteriorly, replacement of kidney and bowel, care being taken not to twist the vessels, and suturing of the peritoneum so as to leave the organs one intraperitoneal and the other extraperitoneal. Recovery was uneventful, and all former symptoms disappeared.

**Epilepsy and Eye Strain.**—The brief paper of W. P. Spratling is an additional note to a contribution appearing in *American Medicine* April 9, 1904. It concerns a man whose epileptic seizures bade fair to cease after he had been fitted with glasses. The later history, however, did not bear out this promise. He went without seizures from September, 1902, till January, 1904. In the latter month his glasses were broken, and while not wearing them he had several attacks, four in January, six in March, and four in April. The six in March and the four in April occurred *after* he had again put on glasses. After April he had no more attacks during 1904, but they recommenced in January, 1905. In that month he had one; in February, five; in March eight; in April, four; in May, seven; in June, four, and in July, five. He had worn glasses constantly. The point to which the author wishes to call attention is that the glasses in this case seemed to *repress* the epileptic attacks in a manner not unsimilar to the repression that is often secured by the use of the bromides, and that like the bromides, while they may mitigate the disease, they are without power to cure.

**A Convenient Method of Leucocyte Counting, and the Value of this Sign in Appendicitis.**—E. L. Gros makes use of the following solutions: Aqueous solution acetic acid 5 to 1,000, 30 grammes; saturated alcoholic solution of gentian violet, 10 drops. For the count he prefers Hayem's hematimeter. In addition one must have a pipette for measuring 20 cubic millimeters of blood; also one for measuring ½ cubic centimeter of the acetic gentian violet solution. Another necessary accessory is a small glass-stoppered tube, containing about 1 c.c., in which the mixture is kept to be examined either at the bedside of the patient or at the doctor's office any time between one half hour to three hours after the blood has been drawn. The acetic acid dissolves the red blood corpuscles and the leucocytes alone appear in the microscopic field. The gentian violet is not strong enough to strongly color the whole leucocyte, but it makes the nuclei very visible and allows one not only to readily make the count, but also to rapidly determine the relative number of uninuclear and multinuclear cells.

**Mixed or Secondary Infection, With Some Consideration as to Treatment.**—E. A. Gray discusses this question in its relation to pulmonary tuberculosis, and gives the histories of seven personal cases. His special point as to treatment concerns the use of antistreptococcic serum. He has found records from 150 cases in which this remedy has been employed. In his own cases the serum seemed to be of benefit; but the small number of the patients and the fact that the benefits following the injections were only such as might have followed without them under the hygienic and other conditions maintained, make only a plausible but not conclusive argument for this adjuvant to treatment.

*Medical News, September 16, 1905.*

**A Test of Condition; Preliminary Report.**—The test advised by C. W. Crampton consists in the comparison of the systolic blood pressure and the heart rate of the recumbent with those of the standing position. It is well known that

variations of the combined area of the splanchnic system of vessels quickly show themselves in variations of peripheral vascular pressure. This splanchnic variation is caused not alone through the vasomotor nerves, but also through mechanical causes such as external pressure tone of abdominal walls, thoracic aspirations, and respiration. A long series of observations between the relative blood pressure of the standing and recumbent positions respectively gives the normal ratio of the healthy individual, and by comparison therewith it is possible to decide whether a given case is doing well or not. The method of taking the pressures is described in full. The therapeutically abdominal massage, abdominal construction exercise cause a rise in pressure by constructing the splanchnic area, while any factor causing a decrease in splanchnic tone such as warm baths, fatigue, disease, exercise (second stage leads to a lessened venous flow, a decreased output of blood from the area and a lowered pressure. Results are given of some interesting experiments along the foregoing lines.

**The Diagnosis and Differential Diagnosis of Pulmonary Tuberculosis.**—H. F. Stoll declares that paroxysms of coughing that are followed by vomiting are pretty apt to denote either whooping-cough or pulmonary tubercle. Some patients present but few constitutional symptoms while local signs are marked. As regards differential diagnosis, "malaria" so-called is often made the scapegoat, while chlorosis is the name often given to a group of symptoms which are really the onset of tubercle. Uncompensated mitral lesions often lead to hemoptyses which have nothing to do with tubercle. Cases of bronchitis persisting more than a few weeks and attended by emaciation, sweating, etc., are always suspicious. Acute tuberculous pneumonia having as it does an onset identical with that of pneumocous pneumonia is rarely diagnosticated at first. Sputum examination will settle the question.

**Rod Auscultation.**—This method of auscultation is explained by E. Reichman. A small rod is firmly applied to the surface of the body and the top of the middle finger passed with moderate force over the rod while the latter is steadied with the thumb and index finger. This friction produces in the rod vibrations, sound waves which, in accordance with well-known physical laws, are transmitted in every direction. Hence they pass also upon the surface of the body, and, if sufficiently strong, into the subjacent organs from which they are again transmitted in every direction. If then a stethoscope be placed near the rod, we can, with the ear applied thereto, hear these sound waves, and we note a sound of a peculiarly grating character, resembling somewhat the noise produced when a finger is passed over silk or similar material. If the skin is soft and not tense, the sound waves can pass through the same for only a very short distance. If they encounter an underlying contracted muscle, or, for instance, a rib, they will naturally be transmitted into the same, and, according to its course, continue in it, becoming audible nearly over the full extent of this muscle or of this rib, provided that both stethoscope and rod are placed over the same structure; an internal organ will, therefore, under these conditions, not be able to influence the audibility of the sound waves. But the conditions are different if a muscle or a rib does not intervene between the internal organ and the stethoscope and rod, or if either the stethoscope or the rod is applied so as to avoid a muscle or a rib. In this case, then, it is impossible for the sound waves to be transmitted through the latter from the rod to the stethoscope, and the examination of the internal organ is no longer disturbed thereby. We shall, then, since the sound waves are transmitted in every direction in this internal organ, hear the sound produced by them as long as stethoscope and rod are over this organ, and cease to hear them when one or the other has left the organ. Reichmann claims that by the method described it is possible to make out the boundaries of the internal organs far more accurately than is done by the methods usually employed.

*American Medicine, September 10, 1905.*

**The Treatment of Nonmalignant Strictures of the Rectum.**—Howard A. Kelly says painstaking prophylaxis should guide us in the treatment of rectal strictures situated in the distal portion of the bowel. Careful investigation should be made in all cases of so-called diarrhea and dysentery. The treatments consist in rest, diet, keeping the upper bowel emptied, cleansing solutions and applications, healing applications, and packs. A stricture of moderate caliber may be cured by dilation with bougies; by the elastic pressure of a rubber bag, distended by air, and made to distend in a uniform manner by a silk covering (Sweetnam's plan); and by digital distention and massage. If a contracting bowel is watched and treated, the patient may go on for a long time, for years even, in great comfort, though the disease is not cured. Resection of the bowel may be practised even when the disease extends over an area as long as 20 cm. A posterior incision with the removal of the coccyx, and sometimes of the last sacral vertebra, with the preservation of the anal sphincters and ampulla when possible, and an end-to-end anastomosis of the bowel, is the best procedure. It is sometimes worth while in the attempt to save the bowel when the local process persists in advancing to make an artificial anus completely diverting the fecal current. The bowel may then heal and the extensive surrounding inflammation undergo resolution, when, after some months or a year or more, and generally after a successful resection, the artificial anus may be closed. In a high grade of tuberculous or syphilitic stricture, when an extensive area is involved, it is often best to make an artificial anus and extirpate the diseased bowel. Kelly prefers to do this by first amputating the bowel above and ligating such hemorrhoidal vessels of the lower end as are within reach, and then completing the extirpation from below by an incision from sacrum to anus. Advanced tuberculosis always demands extirpation, and syphilis calls, of course, for persistent specific treatment, in addition to whatever local means may be employed.

**Therapeutic Value of Bactericidal Serums.**—Herbert D. Pease reviews some of the recently published statements of the clinical results obtained by the use of the various antistreptococcic serums in streptococcus infections, scarlet fever, rheumatism, and smallpox, and the antipneumococcic, antityphoid, antituberculosis, antidysenteric, antiplague, and antianthrax serums in their respective diseases. He calls attention to the variability in the reports of different writers on their results from the use of these serums, and the necessity for taking the personal equation into consideration in passing judgment upon such reports. He concludes that it is evident that in no one of the diseases considered has there yet been demonstrated an entirely satisfactory serum therapy. However, he thinks sufficient beneficial results have been obtained with some of the streptococcic, dysenteric, plague, and anthrax antiserums to warrant at least some hope of better results when our knowledge of these infections and their etiological agents has become materially increased.

**Gastrojejunostomy for Benign Stenosis of the Pylorus.**—William H. Morrison reports the case of a man aged 44 who came under observation when he was suffering from a sudden attack of severe hematemesis. He reported three previous attacks at intervals of about one year; in the intervening periods he was fairly well and able to work. There had been considerable digestive disorder with frequent attacks of vomiting. Examination showed marked dilation of the stomach, the greater curvature extending two inches below the umbilicus. There was no tenderness and no tumor could be detected. The contraction of the pylorus increased until apparently nothing passed into the intestine, all food taken being vomited after a longer or shorter interval. The abdomen was opened in the median line and a communication established between the posterior part of the stomach and the jejunum, four inches from the duodenojejunal fold, a large-sized Murphy button reinforced by a continuous peritoneal suture being employed. Recovery was uneventful.

**Emotional Shock and Fright as Causes of Epilepsy.**—According to W. P. Spratling emotional shock and fright as causes of epilepsy do not receive the attention they should. Epilepsy may supervene immediately after the application of such a cause or be delayed for some time. The reapplication of the primary cause often induces successive attacks similar in nature. Predisposition usually exists in all such cases. In 1,323 cases the author found emotional shock or fright to have been the cause in 62, equal to 5½ per cent. Of these 22 were males in a total of 814, and 40 were females in a total of 500, being 3 per cent. of the former and 8 per cent. of the latter. This shows such causes to be nearly three times as active among men as among women. This greater susceptibility in women is present from childhood. During the first ten years of life there were 14 cases due to this cause among 814 males, and 15 among 519 females. After the twentieth year there was only one case in either sex. It appears from the studies in question that emotional shock or fright most often leads to epilepsy in the female sex and that they are most apt to be active about the age of puberty.

*Journal of the American Medical Association, September 16, 1905.*

**Colohepatopexy.**—E. Wyllys Andrews disagrees with R. T. Morris as to the cause of unpleasant symptoms from adhesions following gallstone operations; he has seen no cases of angulation of the cystic duct or of apparent dragging on the sympathetic nerves; the trouble he has seen has always been from gastric disturbance, and then only when the anterior wall or one border beyond the pylorus was involved. He, moreover, does not believe in the efficacy of Cargile membrane or of aristol to prevent the reforming of these adhesions. He does not consider them

disadvantageous in themselves, but only so on account of their situation, and the method he has devised for the relief of the symptoms is based on the possibility of their replacement in a more advantageous position. After carefully separating the adhesions, he pulls up the transverse colon, with any loose omentum that may be present, into the space between the liver and pylorus, and stitches the omenta to the gastrohepatic ligament, liver surface, or such adhesions as form the angle between pylorus and liver. Five patients thus operated on are reported, and he summarizes his conclusions as follows: "1. Gall-tract adhesions are inevitable after disease and operation. 2. They are beneficent, harmless, and symptomless in all but a few cases. 3. These few represent malposition rather than trouble from adhesions *per se*. 4. The colon, gall bladder, duodenum, and pylorus can adhere to each other without impairing their function. The other parts of the stomach cause trouble if involved. 5. Such adhesions will reform when separated, unless the colon be substituted for the stomach. 6. The causing of colon adhesion to the liver does not perceptibly disturb its function. 7. Probably certain vague gastric disturbances have been treated by gastroenterostomy when the patients would have had more benefit from this operation."

**Treatment of Antral Disease Through the Nose.**—In cases of antral empyema, G. L. Richards would first determine whether the case is of dental or nasal origin. If the former, he would treat it accordingly, but would not continue, by tube or otherwise, any lengthy course of treatment through the mouth. If of nasal origin, determined by exploratory puncture if necessary, he would see whether simple washing out of the antrum through the natural opening in the nose might not be sufficient to produce a cure. If not, he would endeavor to secure better drainage by making an opening below or above the lower turbinate, or both below and above. It is desirable to make the opening low for better drainage. He prefers not to remove any of the lower turbinate bone unless it is enormously large and swollen, and usually a sufficiently large-sized opening can be made above or below it. The opening can be enlarged sufficiently to permit packing with gauze, and a good portion of the mucous membrane can be curetted. If there is polypoid degeneration, or if the condition does not improve after a reasonable trial of this method, any purely nasal treatment will fail, and the radical operation by way of the canine fossa and removal of the entire mucous membrane of the antrum will be required. Most patients, however, can be treated successfully through the nose. If necessary, the anterior portion of the middle turbinate can be removed to make a larger opening, and if a tooth is in the way it can be removed without abandoning the nasal method of treatment. Note also should be taken as to whether there is an empyema of the frontal sinus draining into the antrum. The nasal method does not in any way prejudice further operations if found necessary, but, rather, prepares the way for them. Several cases are briefly reported.

**Uncomplicated Tropical Amebiasis.**—W. E. Musgrave discusses the subject of tropical amebic dysentery under four heads: 1. Latent and masked infection. 2. Mild and moderately severe forms. 3. Severe cases, including gangrenous and diphtheritic ones. 4. Infection in children and in the aged. He gives the symptoms, and reports briefly two cases illustrating the insidious nature and the lack of characteristic symptoms in the latent type. The mild or moderately severe cases form the great majority of those seen in Manila at the present time, and most of these develop from the latent cases before mentioned. If early recognized and properly treated, they rarely pass beyond the diarrheal stage, and many, even without treatment, never become dysenteric in the common acceptation of the term. The severe cases develop from these and from the latent ones and their characteristics are well known. Children and old people seem to manifest a decided natural immunity, but while in children the infection, when it does occur, usually is of a mild type and very amenable to treatment, the reverse is true of the aged. A striking peculiarity in both classes, as well as in Filipino natives, is the absence of liver abscess. Musgrave has not seen a case of this in a thousand clinical cases, and one hundred autopsies of natives of the Philippine Islands. The chief point made in the article is that the disease manifests itself in a much broader and more comprehensive clinical picture than that generally allotted to it. Waiting for actual dysenteric symptoms before making a diagnosis, he thinks, is responsible for a large percentage of the present mortality from this cause in Manila. Bloody stools may occur early, but usually are not seen until considerable damage has been done, and may be absent till near a fatal termination or recovery. Prompt treatment of every patient in whom motile amebas are found, without waiting for clinical dysentery, is the safe course to follow.

**Thyroid Disease in California.**—H. C. Moffitt writes on thyroid disease in California. Observation has convinced him that thyroid disease is more common in San Francisco than in many other cities, and he has studied the subject by correspondence with other physicians throughout the state. Goiter is more common, especially about San Francisco Bay, and less frequent in the southern part of the state and in the mountains, and is endemic in certain portions of the northern section. Myxedema seems to be more frequent in San Francisco, perhaps because most patients drift there. He has reports of 53 cases in that city and 33 throughout the state, excluding *formes frustes*, of which he has notes of 11 cases. These are characterized by dry skin, scaling of the scalp, thinning of the eyebrows and loss of hair from the neck and in the axilæ, pains in the knees and ankles and between the shoulders, and fat pads about the upper back and clavicle are characteristic. Of sporadic cretinism, he has collected 61 cases altogether, 35 of them in San Francisco. Exophthalmic goiter seems to be much more common in Bay counties than elsewhere in the state, and he remarks on the danger of the use of the iodin preparations, especially when a goiter exists, however small. He has had several cases of iodism in patients with small goiters, and he suggests the possibility of the strong sea winds in San Francisco affecting the frequency of cases. The therapy of thyroid conditions is discussed at some length. The reports as to thyroid medication in myxedema and cretinism are enthusiastic; large doses are not required, and they may produce unpleasant symptoms in myxedema. He has seen good results in exophthalmic goiter from long-continued faradism. He thinks many cases of exophthalmic goiter are amenable to surgery, and that more attention should be given to the statement of Horsley that division of the isthmus alone leads to retrogressive changes and shrinking in the rest of the gland.

**Objectionable Advertising.**—C. S. N. Hallberg, H. W. Wiley, and H. C. Wood, Jr., give accounts of cases illustrating fraudulent claims of patent medicines, complexion powders, etc., and notice certain rulings of the Postoffice Department and of the law officers of the Government. For a time the Postoffice Department prohibited the sending of poisons through the mail. Influence has been brought to bear, however, and the ruling was changed so that it is possible to send any poison through the mail, provided it carries the label or superscription of the manufacturer or dealer. The authors call the attention of the Department to the fact that in almost every State poisonous remedies must be marked with poison labels indicating their dangerous character, and it would be well for the Postoffice Department to follow their example. The ruling of the Department of Justice in regard to the withdrawal of mail privileges is rather loose, and many fraudulent medical concerns are working under it with impunity. The difficulty of obtaining legislation to mend the matter is chiefly in the fact that many of the senators and representatives are themselves the dupes of these concerns, believing that their wares really have some virtue.

*The Lancet, September 9, 1905.*

**The Pathology and Treatment of Eclampsia.**—J. W. Byers declares that the old theory of causation of eclampsia, viz., that it depends on poisoning of the nerve-centers by certain by-products which the kidney fails to eliminate, tendency to look upon the liver as the faulty organ, for autopsies in fatal cases have shown a pretty constant occurrence of irregularly-shaped red or white areas of necrosis caused by degenerative changes following thrombosis of the smaller portal vessels. A second theory is that eclampsia results from the accumulation and non-elimination of toxins manufactured by mother and fetus, but no one has ever been able to isolate the setoxins, and scientific proof of their existence is still wanting. We do not yet know why eclampsia is so common in primiparæ, especially the young and the old, why it is more common in some districts than in others, why it is more common in certain years, and just what part in the production of the malady is played by the fetus. The author's views on treatment are thus summarized; Assuming that the attack cannot be averted (1) Treat the convulsions with morphine used subcutaneously. Keep the patient on her side, purge freely in the method recommended, use saline infusion, allow no liquids; in a word, as Gooch advised long ago, "take care of the convulsions, and let the uterus take care of itself." (2) Make an effort to eliminate the poison by purgation, hot packs, and by saline infusion. (3) If labor has not set in treat the convulsions but do not induce premature labor of the uterus. If labor has begun and the patient is in the second stage and the os dilated give chloroform and deliver by forceps if possible, or by turning. If, however, morphine and purgation with saline injections have been tried and the patient is not improving, dilate the cervix and deliver. (4) For the convulsions after delivery use morphine, purgatives, and saline infusion. (5) In the prophylaxis of eclampsia, rest, milk diet, warm baths, and purgatives are the best methods.

**One Hundred and Twenty-nine Consecutive and Successful Operations for Appendicitis During the Quiescent Period, in Twelve Years.**—J. L. Thomas writes interestingly of his personal experiences. For five years up to 1898 he operated under wet antisepsis, but since then has followed the dry aseptic plan, both operator and assistants wearing thread gloves, and gauze pads replacing sponges. Two facts have impressed him as the results of this change of method: first, that shock and reaction after operation is very much less under dry aseptic methods, due in some degree to the fact that the patient's system is not poisoned by the absorption of carbolite or bichloride, and, second, the disappearance of suppuration and stitch abscess. Formerly the abdominal wound was closed by sutures *en masse*, now with buried sutures, the number of layers varying with the thickness of the abdominal wall. Dressings are discarded, the wound being sealed with gauze and collodion. As a rule, patients are allowed up in from eight to twelve days after operation. The author advises the removal of the appendix in cases of, first, operation for ventral hernia following the opening of a perityphiltic abscess, and second, persistent thickening or induration after a first attack of appendicitis. Occasionally he has removed, at the patient's request, the appendix after the first attack has run a normal course, and he advises its removal after two definite inflammatory attacks. In one case he found instead of appendical inflammation a salpingitis simulating enteric fever, and in another concretions in a misplaced appendix, simulating persistent biliary colic.

**Family Tabes Dorsalis.**—E. F. Trevelyan records an instance in which this disease was present in husband, wife, and daughter in the same family. The husband showed symptoms at 33 and died at 58. The wife, now living at 55, was married at 19 and showed symptoms at 29. There was a practical certainty of syphilitic disease. The daughter first showed symptoms at 27 and is now living at 43. The author has been able to find but very few recorded cases of tabes in husband, wife, and offspring. Sometimes general paralysis has replaced the tabes in one of these family groups. Cases of tabes in one parent and offspring are fairly numerous. The acceptance of the theory of syphilis as the cause of the disease in the child does not imply that the latter must necessarily bear the stigmata of congenital syphilis. Trevelyan says that in his own cases the question may be fairly put in the following form. Did the tabetic couple merely hand down to their daughter a general vulnerability of nervous tissue to certain noxæ (whether in the form of the syphilitic virus or stress, strain, etc.), or did they transmit to her the actual virus which would bring about with little or no further provocation the eventual degeneration of the afferent sensory neuron? He is inclined to the latter hypothesis.

*British Medical Journal, September 9, 1905.*

**Remarks on Poisoning by Fungi: Amanita Phalloides.**—Charles B. Plowright declares that the majority of fungi may be eaten without consequent illness, provided they are suitably cooked. The really poisonous species are very few in number. The particular species which causes so many deaths owes its lethal power not to an alkaloid, but to a toxalbumin-phallin. This fungus is *Amanita phalloides*. In France alone eighteen deaths have been traced to this fungus and its varieties since 1900. The period which usually elapses between the ingestion of the fungus and the appearance of the first symptom averages between ten and twelve hours. In the cases referred to above, the average period in which it proved fatal was seventy-two hours. The six cases treated by atrophine proved fatal, as did the three others in which belladonna was given. Half of the cases were under twenty, and a third under ten years of age. Phallin is very similar to the toxalbumin ricin contained in the seeds of the castor-oil plant, and abrin in the scarlet and black beans of *Abrus precatorius*—jequirity. The most common symptoms of poisoning from the ingestion of phallin are, vomiting not occurring for several hours after the fungus has been eaten, diarrhea, pain in the abdomen, cramps of the stomach and diaphragm, intense thirst, cold sweats, collapse, sometimes headache, delirium, more or less complete suppression of urine, slight but distinct jaundice in the latter stages of severe cases, subnormal temperature, and sometimes cramps in the limbs. The post-mortem signs are absence of rigidity, marked hypostatic discoloration, inflammation of the gastrointestinal mucous membrane, localized ecchymoses of the liver, alimentary canal, pleura and lungs, enlarged solitary glands, fatty degeneration of the liver, fluidity of the blood and hyperemia of the meninges. The stomach and intestines should be emptied in those cases only which are seen in the early stage. A dose of castor oil may be required. Morphine is almost always required to relieve the intense suffering. It has been suggested that permanganate of potassium will decompose any phallin left in the stomach. The subcutaneous administration of normal salt solution has been successful. In the recognition of these plants, it must be remembered that Amanita phalloides is never anything else but white beneath the cap, where the mushroom is pink, purplish-brown or almost black. On the top phalloides is often nearly white, though there are nearly always traces of yellowish-green, especially about the margin. Its stem is always bulbous and has a cup-like base. The stem of the mushroom is nearly cylindrical. Phalloides never grows far away from trees, especially oak trees. One further point about this poisonous plant should be remembered: it will "peel" almost as well as the common mushroom.

**A Case of Empyema of the Gall-Bladder, with Unusual Symptoms.**—R. Atkinson Stoney calls attention to the general statement that the dullness caused by a tumor of the gall-bladder is continuous with the liver dullness, and that the intestine is never situated in front of an enlarged gall-bladder. He reports a case of empyema of the gall-bladder, the result of the obstruction of the commencement of the cystic duct by a calculus. The liver was enlarged so that the anterior edge reached almost to the level of the umbilicus. A dull percussion note, however, was obtained for only one and one-half inches below the costal margin. The tumor was situated below the level of the umbilicus. The transverse colon was adherent to the under surface of the liver between its anterior sharp margin and the fundus of the gall-bladder, causing a resonant note to be obtained on percussion between the hepatic dullness above and the gall-bladder dullness below. On account of these unusual signs a wrong diagnosis of appendicitis was made. At operation it was found that both appendix and cecum were normal. A perforation in the neck of the gall-bladder was found. About four ounces of pus and mucus which welled up in the wound were swabbed up. The neck of the gall-bladder and cystic duct were freed, ligated, and divided, and some strips of gauze were passed down to the bottom of the wound. After its removal the gall-bladder was found to have a capacity of four ounces. The wall was nearly one-half cm. thick, and was very soft and friable. There was a small perforation in the neck, and a soft, round stone was discovered in the commencement of the cystic duct. The fluid in the fundus of the gall-bladder was a clear, thick mucus, but in the neck of the bladder was a thick, odorless pus of a light greenish color. The infection was proved to be one of the bacillus coli communis.

**The Rational Treatment of Capillary Hemoptysis in Phthisis.**—Charles Gaskell Higginson as a matter of routine, in treating the morning hemoptysis of phthisis, considers hypostatic congestion as the root of the evil. He still tries to quiet the cough and keep the bowels moving, but he has renounced hamamelis and ergot, and depends upon altering the patient's position from the supine to the semi-sitting—an angle of between thirty and forty-five degrees with the horizontal plane—by day and by night. He believes this to be the far more rational and effectual method of treating such cases. His experience has convinced him that the supine attitude is a strongly predisposing cause of the blood-spitting. In these cases the writer uses a bed-rest padded with stout pillows.

**Infantile Convulsions.**—J. Reid quotes Churchill's statement that anemia is probably the first state of the brain in convulsions. A hot bath with cold affusion to the head would bring blood to the surface of the body and probably still further deplete the brain. Post-mortem there are ischemic states in liver and brain, and the writer declares that he considers the bath of doubtful utility. He concludes by saying that the occurrence of convulsions is probably due to the unequal distribution of blood in the system, caused by inflamed foci in many cases. In his hands poultices to consolidated lungs with suitable treatment have given good results. Baths are successfully used in reducing temperature, but caution is necessary in their use. He believes that further inquiry is necessary to determine whether the cause of death in such cases is to be sought for in the unstable nervous system of the child or elsewhere.

*Berliner klinische Wochenschrift, August 28, 1905.*

**The Elastic Tissue of the Stomach Wall, and Its Relation to the Pathology of the Stomach.**—Mironescu ascribes an important part to the elastic tissue present in the gastric wall in the maintenance of the normal motility of this organ. This tissue is distributed in two bands. One lies in the form of a network between the fibers of the muscularis mucosæ, sending prolongations between the glands along the blood vessels supplying the mucosa. The other layer lies between the submucosa and the muscular coat of the stomach in the form of a distinct membrane. In a seven months' fetus these two strata were already differentiated. The function of the internal layer of elastic tissue is to furnish a support for the contraction of the muscularis mucosæ: that of the outer layer is to prevent excessive dilatation, and through its elastic char-

acter to enable the stomach to resume its normal form after the changes due to the contraction of the muscular coat. The elastic tissue is least highly developed at the fundus, the point, namely, in which the contractions are least forceful. To the congenital non-development of the elastic tissue the writer attributes some of the cases of disturbance of motility for which no cause can be ascertained. That such a congenital deficiency can occur is shown by the examination of stomachs of fetuses. Atony and dilatation of the stomach, either acute, occurring after dietary indiscretions, or chronic, without stenosis of the pylorus are also traceable to this abnormal condition of the elastic tissue. Where such conditions obtain operative interference naturally yields incomplete relief, unlike the cases of dilatation secondary to pyloric stenosis in which the elastic tissue is but secondarily affected. On the other hand, the writer's theory explains the efficacy of a cure based upon the limitation of the amounts ingested. Over-distention is thereby prevented, and the stomach thus enabled to regain its normal form.

**Some New Theories of Cardiac Neuroses and the Superposition of Dilatation upon Them.**—Franze deals in this article with cases of dilatation of the heart occurring in young and middle-aged adults, and dependent pon cardiac neuroses. Sexual neurasthenia preceded the cardiac disturbance in all the writer's cases. The de rangement of the nervous system in neurasthenia may lead to abnormalities in metabolism in consequence of which the nutrition of the heart and its ganglia suffers. The result is arhythemia and lessened power of contraction. But the heart may also be affected through the nerves distributed to it; viz: the vagus and branches of the sympathetic system. Of the cardiac neuroses, paroxysmal tachycardia depends directly upon a paresis of the vagus. Reflex digestive neuroses and bradycardia arise from disproportionate activity in the inhibitory and stimulating vagus centers. The association of sexual neurasthenia with cardiac neuroses is explained by the intimate relation of the sympathetic system with the genitourinary organs, and in affections of these viscera the cause of functional cardiac disease is most often found. Whether the neurosis is due to disease of the cardiac ganglia, the vagus or the sympathetic nerves the result is a muscular insufficiency preventing the complete emptying of the ventricle during systole. Under the pressure of the blood not ejected into the arteries, the heart wall gives way. That this is a dilatation and not a hypertrophy is proven by the disappearance of the enlargement under appropriate therapy. The treatment consists in the regulation of the diet and in electrotherapy. Most efficient are the alternating current and galvanic baths, together with $CO_2$ baths.

**The Hemorrhagic Form of Cirrhosis of the Liver.**—v. Aldor groups under this name those cases of hepatic cirrhosis in which the most prominent symptom is recurrent hemorrhage appearing in the preascitic stage. In two of the cases reported by the writer the bleeding proceeded from the stomach, in a third from the intestine; in the fourth from the nose. A hepatic and a splenic tumor were present in all the cases, but the symptoms of the later stages of cirrhosis—ascites, diarrhea, meteorismus—were lacking. The hemorrhages appeared without premonitory symptoms, or were preceded by mild digestive disturbances. The amount of blood lost may be sufficient to cause exitus, or, as in v. Aldor's intestinal case, small amounts of blood may be constantly present in the feces. A rapid recovery after the hemorrhage is characteristic, but a high grade of anemia persists. Owing to the obstruction in the liver a collateral circulation is established between the portal system and the vena cava inferior through the esophageal and gastric vessels. These vessels are in a varicose condition, and the sudden hemorrhage is due to rupture of such a varix. In the intestinal hemorrhage the blood probably proceeded from a hemorrhagic erosion following inflammation and neurosis. The anatomical lesions are identical with those in the ordinary form of cirrhosis and in the so-called Banti's disease. v. Aldor believes it not impossible that his cases may be a form of the latter

*Munchener medizinische Wochenschrift, August 29, 1905*

**The Formation of Specific Antibodies in the Host of Tæniæ.**—Langer tested the blood serum of two series of cases, one of normal and diseased individuals not infected with taenia, the other of patients in whom either taenia mediocanellata or taenia saginata had been determined, with an extract made by rubbing up T. mediocanellata in salt solution. In no instance was a precipitate formed. From a rabbit injected subcutaneously with 100 c.cm of such an extract in divided doses a serum was obtained that in a solution of 1:15,00 gave a precipitate not alone with the extract of T. mediocanellata, but also with that of T. solium. T. cucumerina and ascaris lumbricoides. Even with this immune serum, however, the blood serum of patients, the hosts of tæniæ, gave no precipitate. Equally negative results were obtained with the blood serum from a case of echinococcus infection, while with the fluid from one of the daughter cysts a precipitate was present in a dilution of the serum of 1-80. Langer believes that this reaction may be utilized in establishing a diagnosis of echinococcus infection when the absence of hooklets and scolices leaves the observer in doubt. Langer is unable to corroborate the conclusions of Fleckseder and Stejskal that homologous immune serum exerts an inhibitive action upon the tæniæ. He further demonstrates the inability of these cestodes to assimilate heterogenous albumins among which the antibodies must be classified. The introduction of an immune mediocanellata serum either subcutaneously or directly into the duodenum of dogs infected with tænia also gave negative results. The writer therefore concludes that such an immune serum possesses no therapeutic value.

**A Mild Type of Phlegmon Ligneux.**—Fichtner describe a series of cases characterized by the sudden appearance of a firm, hard mass on the submaxillary region, due to the enlargement of the cervical lymph-nodes, and in some cases to inflammation in the periglandular tissue. The swelling is neither painful nor tender. The course of the disease is subacute, extending over an average period of two months, and ends in resolution without the formation of an abscess. In two of the cases the tonsils were simultaneously inflamed, in one other a mild gonarthritis was present. Constitutional symptoms were confined to a mild, irregular temperature that was not a constant feature in all the patients. The nodes of both sides were affected, but one side was always more extensively involved than the other. Etiologically Fichtner considers the inflammation to be caused by the entrance of an organism (streptococcus, staphylococcus) of diminished virulence through the tonsil or through a carious tooth. The occurrence of rheumatic inflammation of the knee in one case, of a preceding facial erysipelas in another, and of tonsillitis in still two others seems to support this view. From the typical phlegmon ligneux of Reclus this disease differs only in the suddenness of its onset, its mild course, and the lesser involvement of the subcutaneous tissues. Therapy exerts no apparent influence upon the course of the infection.

**The Etiology of Carcinoma.**—Fuchs bases his theory of carcinoma upon an abnormality in the physiological cornification and desquamation of the epithelial cells of the skin and mucous membranes. The fixed cells of the corium send prolongations between the cells of the stratified epithelium; wandering cells are also found in the same situation. Both the fixed and wandering cells are capable of producing fibrin. Under the stimulus of irritation this fibrin may be thrown out in considerable quantities, while at the same time the cells themselves proliferate, forming a layer of granulation tissue between the germinative and other strata of the epithelium. The ultimate result is a fine scar. Normally the cells of the germinative layer are constantly proliferating, the older cells being pushed toward the surface where, under the influence of the fixed and wandering cells, their protoplasm undergoes a change resulting in the cornification of the cell. The presence of the fibrin, granulation tissue, and fine scars just described offers a hindrance to the advance of the young epithelial cells toward the surface, and they are pushed along the path of least resistance; *i. e.* into the lymph spaces of the corium, where further unitotic division occurs.

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**An Error to Be Avoided in the Diagnosis of Ascaris Lumbricoides.**—De Nabias calls attention to the fact that in certain cases the pollen grains of the artichoke, when found in the stools, are mistaken for the eggs of the ascaris lumbricoides. He then gives the differential points to be observed in making the diagnosis. The pollen grains are all very similar. The shape is regularly spherical in place of being variable—sometimes round, sometimes ovoid, sometimes elliptical, as is the case with the pollen grains as found in the stools. The dimensions of the pollen grains are uniformly 45 μ by 45 μ. As to the eggs, the dimensions vary with the form. It must be remembered, however, that the round eggs have the same measurements as the pollen grains. In such a case when any doubt arises, the color reaction should be the test. A saturated solution of fuchsin in alcohol decolorized by ammonia, is used. By it the pollen grains are instantly colored a vivid red, especially noticeable in the center. The peripheral part preserves a blackish aspect. The eggs, however, when placed in this solution, are not colored but they break up under the action of the ammonia, allowing either a part or the whole of the contents to escape. The differences between these reactions are very definite.—*Journal de Médecine de Bordeaux.*

# Book Reviews.

A Text Book on the Practice of Medicine. For Students and Practitioners. By James Magoffin French, A.M., M.D., Formerly Lecturer on the Theory and Practice of Medicine, Medical College of Ohio. Second, Revised Edition. Illustrated by 11 full-page plates and 50 wood engravings. New York: William Wood & Co., 1905.

The second edition of this valuable text-book is much like its predecessor in size and arrangement. The author has wisely placed the acute infectious diseases in a group, arranged clinically rather than from the etiological standpoint. The additions to the work have been brief and to the point, and include such topics as actinomycosis, the Leishman-Donovan bodies, and trypanosomes. In short, the volume has been brought fully up to date and represents a work which is particularly fitted for students on account of the conciseness, simplicity of language, and the author's capacity for imparting knowledge. The arrangement of the work fits the lecturer's needs as well, there being a preliminary section on the principles of medicine in general; followed by chapters on the infectious diseases, and diseases of the different systems and organs. The final portion is given up to clinical methods of examination, including blood, stomach contents, intestinal discharges, urine, and bacteria. For a one volume text-book, portable and readable, it contains an unusual amount of accurate and helpful knowledge, and can be recommended without hesitation.

Paralysis and Other Diseases of the Nervous System in Childhood and Early Life. By James Taylor, M.A., M.D., F.R.C.P., Physician for Out-patients to the National Hospital for the Paralyzed and Epileptic, Queen Square; Physician to the Northeastern Hospital for Children, and to the Moorfields Eye Hospital. Philadelphia: P. Blakiston's Son & Co., 1905.

The author of this work has done well to mark off from the great subject of neurological pathology those affections of the nervous system to which children are especially prone. It may be objected that this is carrying the principle of specialism too far, but we think not. The pediatrist should of course have studied the diseases of the nervous system in general and should be familiar with the basic principles of neurology, but in his daily work he has occasion for special knowledge of the diseases of the nervous system as they affect his little patients more particularly. It is in meeting the wants of such as these that the book finds its justification. The several chapters deal with meningitis, paralyses of cerebral origin, intracranial tumors, chorea, and allied diseases, diseases of the spinal cord, and "other diseases," under which indefinite title are included convulsions, night terrors, epilepsy, cretinism, achondroplasia, microcephaly, and various other affections incapable of classification under the other heads. In treating these subjects the author notes particularly the points wherein the disease as it occurs in the child differs from that in the adult, when the affection is one common to all periods of life. The illustrations are quite numerous and good. One most commendable feature of the book is the absence of references to the literature. It appears to be a failing of neurologists especially to back up all their assertions with long lists of authorities, as though they feared their unsupported statements would be disputed. That gives an appearance of compilation to much of their work, which detracts greatly from its interest, if not from its value. The present author has discarded all such props, and one reads the book with the feeling that he is getting original views based upon the author's own experience. It is much more pleasant, and the statements of the writer make a much deeper and more lasting impression upon the mind of the reader.

The Diary of a Late Physician. By Samuel Warren, D.C.L., F.R.S. Being a New Edition of Selected Passages. Arranged by Charles Wells Moulton. New York, Akron, O., Chicago: The Saalfield Publishing Co., 1905.

This is the sixth volume of "The Doctor's Recreation Series," published under the general editorial supervision of Charles Wells Moulton. "The Diary of a Late Physician" was one of the most popular books of the first half of the last century. It was published first as a serial in *Blackwood's Magazine* in 1830-31, the same periodical in which the author's even more celebrated work, "Ten Thousand a Year," appeared about ten years later. Dr. Warren was born in Wales in 1807 and died nearly thirty years ago at the age of seventy years. He studied both law and medicine, though not practising the latter, and his two chief works have to deal with these two professions. The present work, the full title of which was "Passages from the Diary of a Late Physician," was published in book form, after its completion in *Blackwood's*, both in England and in America, and enjoyed an immense popularity in both countries, running through many editions. The work consists of a number of tales having to do mostly with the tragic side of a physician's life, with the misery and suffering of which he is so often a witness, but powerless to relieve. The stories are rather uneven, though all are powerfully told, and charm by their literary excellence while at times they almost repel by the somber hue and morbidness of the subject. The present edition has been judiciously edited, the stories being shortened by careful pruning of the parts not essential to the tale, while nothing of real interest or necessary to the continuity of the narrative is omitted. The book has been long out of print and its republication in the present collection constitutes a welcome addition to this interesting series intended for the nonscientific shelf of the doctor's library.

Moustiques et Fièvre Jaune. Par A. Chantemesse, Professeur d'Hygiène à la Faculté de Médecine de Paris, et F. Borel, Directeur de la Deuxième Circonscription Sanitaire Maritime. Paris: J. B. Baillière et Fils, 1905.

In this little monograph the authors discuss the sanitary regulations necessary to be enforced, in accordance with the theory of mosquito propagation of yellow fever, to protect Europe from an epidemic of this disease. The normal habitat of *Stegomyia fasciata* being quite distinctly limited by the forty-third parallels of north and south latitude, France is practically outside of the dangerous zone, but Algeria and many of the colonies of France are within the limits of the range of this insect. The subjects treated of are the modern doctrine concerning the spread of yellow fever, history of the disease in Europe, an explanation on the mosquito theory of the epidemics which have occurred at Marseilles, St. Nazaire, Swansea, Oporto, Barcelona, and other places north or south of the forty-third parallel, ship epidemics of yellow fever, etc. The brochure is a not very important addition to the literature of the subject, for it is too large a subject to be treated of satisfactorily in an 18mo book of 96 pages; yet the matter is clearly presented, and the book may be found useful by those who have not the time to study more extensive treatises.

A Text-Book of Diseases of the Chest, Pericardium, Heart, Aorta, Bronchi, Lungs, Mediastinum, and Pleura. By Egbert Guernsey Rankin, A.M., M.D., Professor of Theory and Practice of Medicine, New York Homœopathic Medical College, Physician to the Metropolitan Hospital, Department of Public Charities, and to the Flower Hospital, New York. With 63 illustrations. Philadelphia: Boericke & Tafel, 1905.

The author follows the usual arrangement in a work of this kind, devoting the first section to diseases of the heart, the second to the thoracic aorta, the third to the bronchi, lungs, and pleura, the fourth and fifth to the mediastinum and diaphragm, then a short section on clubbing of the fingers and pulmonary osteoarthropathy, and a final part devoted to the diagnostic and therapeutic uses of the *x*-ray. There are numerous diagrams and plates which are carefully selected and useful. The clinical pictures of the diseases are well drawn and show evidence of experience and a knowledge of the literature. The book being intended for the use of homeopathic practitioners, the treatment recommended includes that of the regular and homeopathic schools, with their appropriate drugs and doses. The text is well written and clear throughout, and the volume is well printed and neatly bound.

Dietetics for Nurses. By Julius Friedenwald, M.D., Clinical Professor of Diseases of the Stomach in the College of Physicians and Surgeons, Baltimore; and John Ruhräh, M.D., Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Philadelphia and London: W. B. Saunders & Co., 1905.

This little book gives the essentials of dietetics. After an introductory chapter on the Chemistry and Physiology of Digestion, the authors discuss the different classes of foods and the various factors that have a bearing on diet. The feeding of Infants and Children, in health and also in disease, takes up two chapters. This is followed by a short chapter on Diet for the Aged. Rectal Feeding is thoroughly discussed; and general rules are given for the feeding of the sick. The greater part of the book treats of the diet in the different forms and classes of disease, including the infectious diseases, diseases of the stomach, intestines, liver, respiratory organs, circulatory system, genitourinary system, and nervous system. There is also a valuable chapter on the dietetic management of surgical cases. The book is well and pleasantly written and, though designed primarily for nurses, will be a welcome addition to the library of the busy physician. It is not an encyclopedia, but a handy compendium of information on a subject which is of prime importance in the treatment of disease. The authors have shown skill both in the selection of their material and also in the manner in which they have presented it.

# Society Reports.

## THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL SOCIETY.

*Eleventh Annual Meeting, Held in Boston, Mass., June 5, 6, and 7, 1905.*

(Special report to the MEDICAL RECORD.)

THE PRESIDENT, DR. FREDERIC C. COBB OF BOSTON, IN THE CHAIR.

AN address of welcome was delivered by Dr. Frederick Cheever Shattuck, of the Harvard Medical School, on behalf of the local medical profession, after which the President, Dr. Frederic C. Cobb, delivered his address.

**Presentation of Cases.**—Dr. FRANK B. SPRAGUE of Providence, R. I., exhibited a case of tympanomastoid exenteration, showing healing of cavity by blood-clot, and wound by subcutaneous silk suture.

Dr. O. B. Douglas, of Concord, N. H., showed a case of angioneurotic edema in a man forty-one years old. The swelling had first involved one edge of the tongue, and gradually extended to the other, subsiding on the side first affected as it increased on the opposite side, and usually disappearing in the course of twelve hours. The case was interesting, Dr. Douglas said, on account of the possible occurrence of edema of the glottis during one of these attacks.

**Obstruction of the Eustachian Tube a Factor in Post-Operative Mastoid Fistula, and in Chronic Suppuration of the Middle Ear.**—Dr. THOMAS HUBBARD of Toledo, Ohio, read a paper on this subject, in which he offered the following conclusions: Obstruction of the Eustachian tube was a common sequence of acute purulent otitis media and purulent mastoiditis. It was a factor in causing chronic otorrhea, and post-operative mastoid fistulæ. Permanent occlusion gave one indication for the radical operation in chronic purulent otitis.

Dr. EDWARD B. DENCH of New York emphasized the absolute uselessness of depending on drainage through the Eustachian tube, and said that in any case where the otologist had to deal with a foul, persistent discharge resulting from the presence of dead bone, there was only one thing to do, and that was to remove the cause of the suppuration by surgical intervention.

**Carcinoma of the Larynx.**—Dr. S. E. SOLLY of Colorado Springs reported this case. The patient was a woman, 43 years old, who came under observation in September, 1904. Two years before that date she had first complained of hoarseness, which gradually became more severe until her voice was completely lost. Three months ago she had begun to suffer from gradually increasing dyspnea. Inspection of the larynx showed a nodular tumor growing from the anterior wall, and involving about two-thirds of its circumference. Upon microscopical examination of a section of the growth it was demonstrated to be carcinoma. A tracheotomy became necessary to relieve the dyspnea, and subsequently Dr. W. W. Keen of Philadelphia did a total laryngectomy. About a month later some enlargement was observed over the right lobe of the thyroid. The patient refused further operative interference, and died about two months after the operation, the direct cause of her death being obscure, even after a thorough post-mortem investigation. One theory advanced was that the direct cause of death was a lack of parathyroid secretion, one of the parathyroids having been removed at the operation, while the remaining three were involved in the recurrent carcinoma.

Dr. CHEVALIER JACKSON of Pittsburg, Pa., thought it was a good idea to have these patients sit up as early as possible after the operation, as many of the pulmonary complications were the result of keeping them in bed too long, especially if supine. He regarded a preliminary tracheotomy unnecessary. Nutrient enemata he looked upon as a delusion and a snare, and he did not believe they were of any value as a means of prolonging life.

Dr. JOHN F. WOODWARD of Norfolk, Va., reported a case of carcinoma of the larynx and thyroid in which eventually the pneumogastric nerve showed evidences of involvement by pressure, and the patient died by being drowned in his own secretions. The speaker doubted the value of late operations in these cases, inasmuch as tracheotomy seemed to promise most in the way of comfort and prolongation of life.

Dr. E. FLETCHER INGALS of Chicago said the rule should not be lost sight of that laryngectomy should not be done in extrinsic cases; that was to say, when the disease had extended outward beyond the walls of the larynx. In intrinsic cases the results were often very favorable.

**Killian's Inspection of the Trachea and Esophagus.**—Dr. H. P. MOSHER of Boston demonstrated this on the dead subject. Instead of attempting the operation with the patient in a sitting position, as was usually done, Dr. Mosher said that a much better view of the parts could be obtained by placing the patient on his back, with the head hanging down over the edge of the table. If Killian's method failed after a short trial, he advised doing a tracheotomy and then inserting a pair of bent forceps and seizing the foreign body under the guidance of a Kelly cystoscope.

**Symposium.—Intracranial Complications of Middle Ear Suppuration.**

(1) **Meningitis: Its Symptomatology, Diagnosis, and Treatment, with Report of a Case.**—Dr. S. MACCUEN SMITH of Philadelphia said that meningitis from aural disease differed from that due to other causes chiefly in that the symptoms were more severe, and might be relieved by operation. Pachymeningitis externa purulenta was the most common variety. It occurred twice as frequently with chronic disease of the tympanum as it did with the acute form. Localizing symptoms were rare. The most common mode of extension was either through the inner wall of the mastoid, or through the roof of the antrum or tympanum. Leptomeningitis often occurred with sinus phlebitis, brain abscess, or pachymeningitis, but it was usually complicated only by encephalitis. Meningitis manifested itself in a protean manner. Occasionally the symptoms were so typical that it was impossible to mistake the affection; at other times they developed in such a latent form that only with the greatest difficulty could a tentative diagnosis be made. The general symptoms which might precede or accompany the focal symptoms were headache, fever, vomiting, slow pulse, respiratory disturbances, jactication, epileptiform convulsions, general hyperesthesia, delirium, involuntary discharge of urine and feces, and phenomena which were almost focal, such as tetany, grinding of the teeth, rigidity of the extremities, and retraction of the muscles of the neck. Headache was the most common symptom. The focal symptoms related to paralysis of the cerebral nerves, and the symptoms naturally varied according to the principal situation of the meningitic inflammation. The convex portion of the brain was generally affected by suppurative disease, while basilar meningitis was more likely to be of a tubercular nature. As to the treatment, apart from employing general methods, such as the use of rest and the application of cold, very little could be accomplished. If there was reason to suspect disease of the ear, surgical interference was naturally indicated. A recent addition to our therapeutic resources was the operation of lumbar puncture. According to Quincke, the inventor of the method, the operation was indicated in the following conditions: 1. In cerebral pressure, with threatening symptoms, where it was desirable to relieve the pressure. 2. In moderate, long-continued pressure. 3. In conditions in which increased pressure was assumed or suspected. 4. In cases in which it was desirable to examine the cerebrospinal fluid, independent of the cerebral pressure, and thus obtain an opinion as to the nature of the meningitis. 5. In cases in which the fluid was to be examined for diagnostic purposes (blood, toxins, agglutinins, etc.). 6. For the purpose of injecting fluids into the spinal canal as therapeutic agents.

(2) **Symptomatology, Diagnosis, and Treatment of Encephalitis and Brain Abscess.**—Dr. Frederick L. Jack of Boston, Mass., discussed this phase of the subject. He stated that the term encephalitis seemed to have several distinct meanings. In the first place, there was the so-called polioencephalitis, superior and inferior, in which the cranial nerve nuclei of the pons and medulla, respectively, were destroyed either suddenly (acute polioencephalitis), or gradually (subacute and chronic polioencephalitis). In the second place, there was the acute exudative form (hemorrhagic encephalitis), described by Dana as following influenza, cerebrospinal meningitis, typhoid fever and other infectious diseases. This apparently never resulted in suppuration. Thirdly, and of special interest to otologists, came the acute suppurative encephalitis, a term synonymous with cerebral abscess. This form of encephalitis was the result of extension from the ear cavities of pyogenic microorganisms, either directly, or along the blood vessels, and together with meningitis, which was the diffuse result of a similar infection, it furnished the principal cause of a fatal outcome in the cases with which the otologist had to deal.

(3) **Symptomatology, Diagnosis, and Treatment of Sigmoid Sinus Thrombosis.**—By Dr. James F. McKernon of New York. In the symptomatology of the typical cases the speaker said he considered temperature by far the most important feature. Chills were present in only a certain proportion of the cases seen. In most of the cases of thrombosis coming under his notice the degree of pain was greater than that complained of with an ordinary mastoiditis or that following the average post-operative case. The pain was usually referred to the side of the head and to the occipital region, and very frequently was localized in the region of the torcular. Nausea and vomiting were usually present at some stage of the disease, to a greater or lesser degree. Vertigo was observed only when the meninges were involved. Cerebration had been normal excepting in advanced cases. Among the local symptoms, edema in the mastoid region and over and around the exit of the emissary and occipital veins was occasionally observed. The so-called Gerhardt symptoms he had never seen demonstrated. In a fair proportion of the adult cases there was a marked stiffness of the muscles of the neck on the affected side, and in several instances a marked rigidity. Constipation was present in all his cases, but only in the earlier stages of the disease. Among the general symptoms at the outset might be mentioned malaise, loss of appetite, a dry and heavily furred tongue, and a foul breath. The face usually wore an anxious and pallid look, the skin was dry and later presented the yellowish tinge indicative of sepsis. The hard cord-like swelling in the neck along the course of the internal jugular vein was a very infrequent sign, and the speaker said he had never been able to demonstrate it. Bacteriological examination of the discharge was of value only in that it gave the character of the infection. Another valuable aid in the diagnosis was the blood-count, not so much for determining whether a leucocytosis was present, but to ascertain the polynuclear percentage.

(4) **Pathological Findings of Intracranial Complications of Middle Ear Diseases.**—Dr. Thomas J. Harris of New York read this paper, in which he called attention to the lack of material relating to this phase of the subject upon which to base reliable conclusions, and he emphasized the importance of greater attention on the part of the surgeon in charge to the taking and preservation of the histories of his mastoid cases.

Dr. Edward B. Dench of New York opened the discussion on this subject, and gave the following personal statistics: He had observed twelve cases of brain abscess (9 temporosphenoidal, 3 cerebellar); 38 cases of sinus thrombosis, in 13 of which the internal jugular was excised; 28 cases of epidural abscess, and 4 cases of meningitis. These statistics were fairly accurate, excepting those for meningitis. Under that heading many cases escaped observation, as only those operated upon had been recorded. From these statistics it appeared that the relative frequency of the various intracranial lesions had been as follows: Epidural abscess, 34.1 per cent.; brain abscess, 14.6 per cent.; sinus thrombosis, 46.3 per cent.; general meningitis, 4.8 per cent. Of the sinus thrombosis cases, the jugular was tied in 36.8 per cent. Regarding the mortality of the various conditions, of the 12 cases of brain abscess 3 were cured and 9 died; of the 38 cases of sinus thrombosis, 32 were cured and 6 died. In 25 cases the internal jugular was not excised, and of these 22 were cured and 3 died. In 13 cases the jugular was excised, and of these 10 recovered and 3 died. Of the 4 cases of meningitis operated on, 1 was cured and 3 died. From these statistics it appeared that the two classes of cases that were attended by the highest mortality were brain abscess and diffuse meningitis, either of the purulent or serious variety. Epidural abscess and sinus thrombosis, including those cases where the jugular demanded excision, need not be looked upon as being of such a very serious character if the cases were operated upon early.

Dr. Wendell C. Phillips of New York said statistics showed that injuries to the head were quite frequently associated with attacks of meningitis from middle ear suppuration. Such a sequence was not difficult to understand. The only barrier between the suppurative process in the ear and the brain was a rather thin plate of bone, and it was quite probable that a severe injury to the head might be the actual exciting cause of the intracranial complication. The fact could not be too strongly emphasized that serious intracranial complications were more frequently observed in connection with chronic than with acute middle ear disease.

Dr. Charles W. Richardson of Washington, D. C., said that in the treatment of the radical mastoid wound he did not look with favor upon the application of skin-grafts to the freshly exposed dura, as this was apt to give rise to the development of granulation tissue, and cause unpleasant symptoms. He was also opposed to the treatment of the wound by the formation of a blood-clot, as that was another method by which infection could be readily carried into the cranial cavity.

**Tinnitus Aurium and Hallucinations of Hearing; or, Relation of Ear Disease to Auditory Hallucination of the Insane.**—Dr. W. Sohier Bryant of New York read a paper on this subject. He stated that hallucinations of hearing were much more common and of greater psychological importance than other hallucinations, and that they were usually the primary ones. In the order of their importance, hallucinations were classified as hallucinations of hearing, of sight, of smell, and of touch. There was considerable evidence showing the association of ear disease with auditory hallucinations. The results given by a number of observers showed that in the majority of cases the patients were also suffering from ear disease. In many of the hallucination cases, tinnitus was also complained of; in fact, very few of the cases were free from disturbed aural function of the kinds which were usually accompanied by tinnitus. Without exception, unilateral auditory hallucinations occurred on the same side as the ear lesions. There was therefore good evidence that auditory hallucinations were often dependent on ear disease, and that some of the cases were due to stimulation of the auditory centers by peripheral tinnitus aurium. The gravity of the pathological impressions depended chiefly on the degree of psychical instability; they varied from mere conscious illusions to hallucinations under the patient's control, and from hallucinations to dominant delusions.

**Frontal Sinusitis; Diagnosis, Treatment, and Results.**—Dr. C. G. Coakley of New York in this opening paper of a symposium on "Diseases of the Accessory Sinuses," said the indications for the external operation upon the frontal sinus were: 1. Chronic suppurative frontal sinusitis, associated with multiple polyp formation in the nose. These cases were always combined with an ethmoiditis. 2. In

severe acute exacerbations of the chronic disease. 3. If intranasal treatment of the frontal sinus did not suffice to prevent the discharge from passing to the antrum, and the odor and taste of the fetid discharge from the latter cavity annoyed the patient. 4. Very large frontal sinuses, with multiple septa, particularly those with recesses extending back over the roof of the orbit, could be but imperfectly irrigated. 5. Patients with narrow nasal cavities offered great difficulty in carrying out the intranasal treatment. 6. Patients who desired a rapid and permanent cure, neurasthenic patients, and cases into which a fistula leading into a frontal sinus had formed. Dr. Coakley said he had performed the Ogston-Luc operation twenty-five times, and in fully one-half of these there had been a recurrence of the sinusitis, as well as of nasal polypi. The deformity resulting from this operation was practically only a linear scar, which after a few months was scarcely visible. The objection to the operation was the great number of recurrences, owing to the fact that the mucous membrane in the frontal sinus was not removed. Dr. Coakley then described in detail the so-called "open method," which consisted in removing the entire anterior wall of the frontal sinus, thorough removal of the mucous membrane from all parts of the cavity, and the exposure and removal of the mucous membrane from the ethmoidal cells surrounding the nasofrontal duct. Granulations were then allowed to fill the lower portion of the nasofrontal duct, and the upper portion was packed with gauze until the cavity was completely obliterated. The speaker said his results with the "open method" had been so satisfactory that he had not as yet attempted the Killian operation. From May 16, 1901, to January 1, 1905, he had performed the "open method" operation on 104 patients; of these, nine had a double frontal sinusitis. Of the 104 patients, 101 had their frontal sinuses obliterated as a result of a single operation. One patient, with double frontal sinusitis, operated on over two years ago, still had a fistula, with slight secretion. Two patients had each been operated on twice. Two were dead—one from chloroform narcosis, the other from pneumonia.

**The Intranasal Route in Operating Upon the Nasal Accessory Sinuses.**—Dr. Walter A. Wells of Washington, D. C., discussed this phase of the subject. The objections that had been raised against employing the nasal route in the treatment of the accessory sinuses might be summarized as follows: 1. That it was not always practicable. 2. That valuable time was lost in postponing radical measures. 3. That the nasal methods were generally slow and tedious. 4. That they were uncertain as to results. After answering these objections, and emphasizing the importance of limiting the conservative methods to properly selected cases, the author discussed at length the various methods that had been devised to treat the nasal accessory sinuses through the nose. The nasal route to the antrum of Highmore included: 1. Irrigation through the natural opening. 2. Irrigation through an artificial puncture with trocar in either the middle or inferior meatus. 3. A large opening in the outer wall of the nose. In disease of the ethmoid cells, most authors were agreed as to the advisability of attempting a cure by operation through the nose when there was but a mild state of inflammation present, or when the disease was circumscribed and limited to but a few cells. The advantages of the nasal route, when feasible, was that it opened the cells at their most dependent situation, it was attended with a minimum of surgical intervention, and it avoided disfiguring external scars. The external operation upon the frontal sinus, especially when it aimed at a complete obliteration of the sinus, was sometimes attended with such a hideous deformity that the patients frequently decided to refuse to consent to it. Three methods had been used of approaching the frontal sinus by way of the nose: 1. Simple irrigation through the natural opening. 2. Drilling through the anterior superior wall. 3. Enlarging the nasofrontal canal. Among the methods devised for attacking the sphenoidal sinus, Dr. Wells mentioned and described the frontoethmoidal, the orbitoethmoidal, the maxillary, the intranasal, the nasopharyngeal, and the various operations of Rouge, Oelier, Moure, Jansen, and others. The intranasal route commended itself as being the most direct and conservative; it avoided deforming cicatrices and the exposure of other healthy sinuses to possible infection.

**Further Experience with Radical Operations for Frontal Sinus Disease.**—Dr. Wolff Freudenthal of New York said that since his last report on the radical operation for empyema of the frontal sinus a year ago he had operated on four additional cases. As to the indications for a radical operation in dealing with that condition, there were still strong differences of opinion, and extremists were found on either side. While some operated far too often, we were not justified in saying, as some did, that in former years, when radical operations were unknown, frontal sinus disease was treated without fatal results. The main question to decide was, could we by operating save a given case which would otherwise be doomed? The answer to this was yes, because we were now able to make a diagnosis of frontal sinus affections more readily than we could ten years ago. In some instances, the possibility of meningeal infection was invited by postponing surgical intervention. On the other hand, there were thousands of cases of chronic empyema of one or more of the accessory sinuses for the relief of which a radical operation was unnecessary. The fact should not be lost sight of that these radical operations were always dangerous, and had resulted in many serious and even fatal accidents. Still, there were cases in which such an operation was absolutely imperative.

**Results of Operations by Way of the Maxillary Route for Combined Disease of the Maxillary Antrum, the Ethmoid Labyrinth, and the Sphenoidal Sinus.**—Dr. T. Passmore Berens of New York described this operation as follows: A postnasal tampon was first inserted, and the tongue held forward by a ligature passed through its tip. An opening was then made into the antrum through the canine fossa, and enlarged until the anterior lateral wall was almost completely removed. The bony nasoantral wall was then entirely removed, the mucous membrane on its nasal side being as far as possible preserved. The ethmoid cells and the turbinate process of the ethmoid were then removed. The sphenoid was opened, either through its ostium or through the posterior ethmoid cell: this opening was then enlarged until as much as possible of the anterior wall had been removed, and the cavity of the sphenoid was examined and its diseased contents removed. The field of operation was illuminated by means of a headlight worn by the operator. Instrumentation was further aided by the insertion deeply into the nostril of the little finger. This combination of the sense of sight with the sense of touch did much toward removing the feeling of uncertainty with which operations on the deeper structures of the nose were usually approached, and was a strong recommendation for the selection of this rather than the intranasal route. Bleeding during the operation was usually controlled by gauze tampons dipped in adrenalin solution, although a resort to artery forceps to catch the spheno-palatine vessels was occasionally necessary. Dr. Berens emphasized the fact that this operation was designed especially for the relief and cure of those cases of chronic multiple sinusitis involving the antrum and ethmoid, or antrum, ethmoid, and sphenoid, and was not meant to be commonly performed for disease limited to the ethmoid or sphenoid, or for mild or ordinarily acute conditions.

**The External Operation for the Relief of Ethmoiditis.**—Dr. Lewis A. Coffin of New York said his preference for the external operation over the intranasal operation was based on the following reasons: 1. By the intranasal method the middle turbinate had to be sacrificed. 2. The intranasal operation was long drawn out and painful. 3. There were certain parts of the ethmoidal tract that could not be reached by the intranasal method.

**New Operation and Instruments for Draining the Frontal Sinus.**—Dr. E. Fletcher Ingals of Chicago described an operation which consisted, in brief, of passing a steel pilot through the natural canal into the frontal sinus, and running in over this a hollow burr, by which a canal six mm. in diameter was made, and then inserting into this canal a self-retaining gold tube so large that the pus would necessarily drain, and that the patient might easily wash out the sinus. The advantages of this operation were the following: 1. It caused no scar, afforded efficient drainage, and enabled the patient himself to easily cleanse the sinus. 2. It was much safer than any other intranasal method. 3. It could be done early, before permanent pathological changes had taken place, and in such cases it might be expected to effect a cure. 4. The early establishment of free drainage usually prevented serious pathological changes. 5. It was no bar to a later external operation, if that should become necessary; indeed, it rendered the external operation less formidable. 6. It would cure a large percentage of the chronic cases.

**Two Successful Cases of Obliteration of the Frontal Sinus After Repeated Operations.**—Dr. H. Holbrook Curtis of New York reported two cases of long-standing frontal sinus disease that were successfully treated by the open method.

Dr. George L. Richards of Fall River, Mass., showed three cases of double and one case of unilateral frontal sinus disease successfully treated by the obliteration method. He also exhibited a number of anatomical specimens showing abnormal conditions of the accessory sinuses.

Dr. Joseph Payson Clark of Boston spoke of the deformity that often resulted from the radical operation for frontal sinus disease. He favored improvements in the Ogston-Luc method, which showed fifty or more per cent. of cures. He urged that each case be carefully studied, and the most conservative treatment adopted that seemed applicable to the case in question.

Dr. Lee M. Hurd of New York said he had done conservative work in fifteen cases of frontal sinus disease, and had secured perfect drainage.

Dr. Thomas J. Harris of New York said the most important feature in any method of operation on the frontal sinus was to secure free drainage. He thought there was room for an operation that would give rise to less deformity than that practised by Dr. Coakley, and called attention to the fact that the radical operation was not unattended with risk to life. The majority of these patients would be benefited by and satisfied with conservative methods of treatment.

Dr. H. P. Mosher of Boston showed two patients who had been operated on by the open method, and said that the more he studied the anatomy of the frontal sinus in the dissecting-room, the more he felt like getting a view into the sinus in the cases he had to deal with clinically. He even favored opening the sinus for exploratory purposes.

**Report of a Case of Inflamed Dentigerous Cyst Simulating Abscess of the Antrum of Highmore, Caused by an Odontoma.**—Dr. William H. Haskin of New York reported this case, and showed the specimen.

**A Case of Infective Thrombosis of the Sigmoid and Lateral Sinuses After Acute Mastoiditis; Death from Meningitis; Autopsy Report.**—Dr. Arnold Knapp of New York reported this case.

**An Unusual Case of Laryngeal Syphilis, Requiring Tracheotomy.**—Dr. Clement F. Theisen of Albany, N. Y., reported this case.

**Nose and Ear Complications in Diphtheria, Scarlatina, and Measles.**—Dr. John H. McCollom of Boston, in this paper, emphasized the following points: 1. The frequency of otitis media in diphtheria, scarlet fever, and measles. 2. The importance of early operation in mastoiditis occurring in these diseases. 3. The necessity of frequent examination of the ears, even when there were no symptoms referable to those organs. 4. Early incision of the drumhead in the acute infectious diseases, as soon as there was any bulging. Dr. McCollom also suggested that if adenoids were to be removed, cultures should be taken from the nostril in every case before the operation was done, as it frequently happened that a child who had a profuse discharge from the nose, immediately after the removal of the adenoids, or after ablation of the tonsils, developed a severe attack of diphtheria.

Dr. Thomas Hubbard of Toledo, Ohio, thought the suggestion made by Dr. McCollom to have the nasal secretions examined bacteriologically before operating on the tonsils or adenoids was a very important one; it was a well-known fact that cases of latent or very mild nasal diphtheria were comparatively frequent, and in fibrinous rhinitis it was impossible to determine positively the character of the infection without a bacteriological examination. These mild cases were a prolific source in spreading the disease among children.

Dr. George A. Leland of Boston said that in the management of aural complications during the acute exanthemata he strenuously insisted on not delaying examination for the secondary rise of temperature. The ears should be examined as a matter of routine from the onset of the disease.

Dr. McCollom, in reply to a question, said he would not hesitate to advise operating on the mastoid, even in the height of an attack of one of the exanthemata. The danger of postponing the operation was greater than that entailed by the operation itself.

**Scarlatinal Otitis.**—Dr. Frank B. Sprague of Providence, R. I., said that otitis media was the most frequent complication of scarlet fever, and, everything considered, the most serious. Like the general infection, its severity varied with the epidemic, the climate and the seasons of the year. It was more common in the winter and spring months, and in the colder climates. Statistics showed that from three to nine per cent. of the cases of scarlet fever had ear complications, and in about fifty per cent. of these cases both ears were affected. Statistics further showed that of 5,613 deaf mutes in New York, 572, or nearly ten per cent., owed their condition to otitis complicating scarlet fever. In view of the serious consequences of this condition, Dr. Sprague emphasized the importance of its early recognition. We should not expect and wait for the ear to "break and run," as was so often done, for this was but little short of criminal negligence. As soon as there was the slightest indication of inflammation in the middle ear, the tympanic membrane should be incised, so as to preserve, if possible, the function of one of the most important organs of special sense.

**The Indications for Operating in Acute Mastoiditis.**—Dr. Philip D. Kerrison of New York said the indications for operating in acute mastoiditis might be summed up as follows: 1. Sudden cessation of the aural discharge, other symptoms persisting; deep-seated pain in the mastoid region; marked sensitiveness to pressure upon the mastoid over an area extending well beyond the limits of the antrum. These symptoms, in the presence of a sudden and considerable rise in temperature, would justify an immediate operation. 2. In the absence of fever, the above symptoms, unless yielding promptly (within twenty-four to forty-eight hours) to abortive measures, would constitute a sufficient reason for operating upon the mastoid. 3. Marked tenderness over the antrum, persisting four or five days after free incision of Shrapnel's membrane would point to necrotic changes within the antrum calling for operative intervention. 4. Marked variations in the quantity of pus discharged, its maximum flow being apparently too great to be explained by the tympanic lesion, its periods of diminution being coincident with the development of mastoid pain or tenderness, or both. Such a combination of symptoms constituted one of the most positive indications for opening the mastoid. 5. Mastoid tenderness having been present and having disappeared, a discharge from the

tympanic vault which resisted all rational non-operative measures might, by reason of its persistence, justify the hypothesis of a necrotic area in the aditus or antrum. In such cases an operation was often the only means of saving the integrity of the organ and preventing serious impairment of function. 6. Evidences of mastoid involvement having been present, the development at any time during convalescence of symptoms of septic absorption would, in the absence of other concurrent disease, constitute a positive indication for immediate operation.

**The Larynx in Typhoid Fever.**—Dr. Chevalier Jackson of Pittsburg, Pa., gave a brief résumé of his observations of the larynx made in 360 cases of typhoid fever. Three separate types of laryngeal involvement were noted, namely, acute catarrhal laryngitis, ulcerative laryngitis, and perichondritis. Among the 360 cases examined, ulcerative laryngitis was observed in 68, of which 8 required tracheotomy; there was perichondritis, with necrosis, in 6, and without necrosis in 11; there was ulcerative trachitis in 9. Eleven were associated with acute purulent otitis media. Four died. The most important factor in the etiology of the condition was the typhoid toxemia. As regarded treatment, intubation was useless and dangerous, but tracheotomy, if done early, was a life-saving measure. Ulceration in even the worst cases healed in ten days after tracheotomy and treatment through the tracheal wound. Tracheotomy should be done under local (Schleich solution) anesthesia.

**Acute Purulent Otitis Media Complicating Typhoid Fever: Report of a Case, with Autopsy.**—Dr. Ewing W. Day of Pittsburg, Pa., reported this case, in which the autopsy findings indicated that the otitis media was due to embolism or thrombosis of the tympanic and mastoid blood vessels.

**Report of Seven Intracranial Operations Within a Year.**—Dr. George F. Cott of Buffalo, N. Y., read a paper with this title.

The following papers were also read and discussed: "The Serum Treatment of Hay Fever," by Dr. Hanau W. Loeb of St. Louis, Mo.; "Syphilis of the Nose and Accessory Sinuses," by Dr. James E. Logan of Kansas City, Mo.; "Syphilitic Manifestations in the Larynx and Trachea," by Dr. Francis B. Packard of Philadelphia; "Report of a Case of Abscess in the Temporosphenoidal Lobe of the Brain Following an Acute Otitis Media; Operation; Recovery," by Dr. Thomas H. Halstead of Syracuse, N. Y.; "Orbital and Meningeal Infection from the Ethmoid Cells; Report of a Case; Death," by Dr. James F. McCaw of Watertown, N. Y.; "The Significance of Edema of the Pharynx," by Dr. Jacob E. Schadle of St. Paul, Minn.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, May 18, 1905.*

The President, Dr. Charles L. Dana, in the Chair.

**Presentation of Portrait of Andrew H. Smith, M.D.**—By Dr. George L. Peabody. (See page 182.)

**The Medical Examination of Immigrants, and What the Nation Is Doing to Debar Aliens Afflicted with Trachoma.**—Dr. George W. Stoner, of the Marine Hospital Service, Ellis Island, presented a paper on this subject, which, in Dr. Stoner's absence, was read by Dr. John McMullen. The author stated that New York was the gateway of about 75 per cent. of the total immigration into the United States. More than 600,000 aliens arrived at this port during the fiscal year ended June 30, 1904, nearly three times as many as at all other ports of the country combined. Eighteen per cent. were cabin passengers, and 82 per cent. came in the steerage. In addition to the 600,000 aliens, more than 100,000 cabin and steerage passengers arrived, who, after primary inspection, proved to be citizens of the United States. Dr. Stoner then described in detail the work of the medical officers at Ellis Island, and quoted the regulations governing the service under which immigrants might be excluded. This included all idiots, insane persons, epileptics, persons who had been insane within five years previous, persons who had had two or more attacks of insanity at any time previously, and persons afflicted with a loathsome or a dangerous contagious disease. Of these, trachoma was one of the most troublesome, and the eyelids of all arriving immigrants were everted and carefully examined. Trachoma was classified by the Government as a dangerous contagious disease, and all aliens suffering from it were excluded. All cases of chronic trachoma had not been placed in that category, for the reason that in some cases it was difficult to say that the disease was not quiescent or apparently cured at the time of foreign embarkation, and a competent medical examiner might have been honest in his opinion that the disease was cured. Among the thousands of arriving aliens at this port, all forms of inflammatory diseases of the eye were met with, from the simplest conjunctivitis to the most severe form of trachoma. The mild cases of conjunctivitis were not detained; others, somewhat more marked, were admitted to the hospital for further observation. Some cases of acute, follicular, or slightly granular forms of conjunctivitis were held for a further period of observation or treatment—a fortnight or longer, if necessary. In excluding persons suffering from trachoma, the object was not only to prevent the introduction into this country of a communicable disease, but also to keep out a class of immigrants from whom so large a proportion of the inmates of institutions for the blind, and recipients of public dispensary charity were recruited. Last year, according to the report of the Commissioner-General, 7,994 aliens were excluded at the seaports of the United States, including 1,560 afflicted with a loathsome or dangerous contagious disease, and 787 of these were excluded at the port of New York on account of trachoma. It was not until 1897 that trachoma was classified by the Government as a dangerous contagious disease.

**What Proportion of Blindness (and Defective Vision) in the State Is Due to Ophthalmia of the New-Born?**—Dr. Lucien Howe of Buffalo discussed this phase of the subject, and exhibited a number of charts and diagrams showing the relative proportion of blindness in different sections of the United States. He called attention to the fact that blindness was more common, proportionately, in sparsely settled sections than in the centers of population, and this he attributed to the more prompt and efficient medical service obtainable in the cities. To show the comparative value of the preventive treatment of ophthalmia of the new-born, Dr. Howe gave the following figures: Of 17,767 cases with no treatment, 9.2 per cent. became blind; of 24,724 treated with a two per cent. solution of silver nitrate, 0.65 per cent. became blind; of 1,223 treated with a one per cent. solution of silver nitrate, 2.4 per cent. became blind. While the population of the State had increased from five millions in 1890 to about seven millions in 1900, the number of the totally blind and the partially blind, taken together, had only increased from 4,389 to about 5,486 during the same period. Although these figures were encouraging, they should only serve to stimulate physicians to greater effort. Especially in public institutions it should be made compulsory to apply a solution of silver nitrate or something equally efficacious to the eyes of every new-born child. If this prophylactic measure was universally employed, ophthalmia of the new-born would practically be unknown in civilized communities.

**What Is the City Doing, Through the Regulation of Midwives, or Other Means, to Prevent Ophthalmia of the New-Born?**—Dr. H. W. Wootton discussed this phase of the subject. He stated that in attempting to prevent the more serious consequences of ophthalmia in the new-born, the New York Department of Health had required for some time past that midwives should register their names with the Bureau of Vital Statistics, and that they should report the occurrence of such cases. Upon the receipt of such a report by the Board of Health, an inspector visited the case and impressed upon the family the serious nature of the

disease, and the necessity for prompt and vigorous treatment by an attending physician, by daily visits to a dispensary, or by removal to a hospital. This method of procedure had been productive of considerable good, but as the cases reported had been few in comparison to the number that probably had existed, the Department recently decided that further steps were necessary. Circulars had been prepared, calling the attention of midwives to that Section of the Sanitary Code which required them, under penalty of fine or imprisonment, to promptly report to the Department of Health the occurrence of cases of ophthalmia neonatorum. Circulars similar in nature were also to be sent to physicians and hospitals, which were intended, for the most part, to aid in the detection of midwives who had failed to report their cases. In addition to the above measures, Dr. Wotton said he thought it might be wise on the part of the Department to call the attention of midwives to the preventive method of Credé, and to urge them to employ it.

**What Means Does the Modern Obstetrician Employ to Prevent Ophthalmia of the Newly Born?**—Dr. J. Clifton Edgar said that from the standpoint of the obstetrician there were two means at our command for reducing the frequency of, if not practically preventing, ophthalmia neonatorum. The first was the antepartum preparation of the maternal passages in cases where they were suspected of being infected; the second was to drop into each conjunctival sac immediately after delivery some antiseptic, such as the nitrate or some organic salt of silver. When the maternal passages were suspected, a preliminary course of treatment of the vagina should be instituted, beginning about two weeks before delivery. This should consist in daily or more frequent vaginal douching, first with a mild alkaline solution, and then with one of bichloride of mercury, 1-5,000. Just before delivery, a substitute had to be provided for the normal lubricating mucus which had been washed away by the douching process, and a one per cent. lysol solution would be found useful for that purpose. The scientific dictum of Bumm and Krönig, namely, that the vaginal secretion had a bactericidal action, had been misunderstood as applying to gonococcus infection. It had no such action in those cases. For the prevention of ophthalmia neonatorum, Dr. Edgar said he had every faith in Credé's method, and in both his hospital and private cases he was now accustomed to make use of this method without exception. After repeated experiments with the organic silver salts, he had found that they did not compare with a two per cent. solution of silver nitrate as a prophylactic. As soon as the child was born, its face was carefully washed with boric acid solution, separate pledgets of cotton being used for each eye, and the lids rubbed from the nose outward in each case. Then, whether infection was suspected or not, two drops of a two per cent. nitrate of silver solution were dropped into each conjunctival sac. The excess was washed away in about thirty seconds with a decinormal saline solution. In the speaker's experience, solutions weaker than two per cent. did not destroy bacteria, and while solutions of three per cent. were harmless, they were apt to cause "silver catarrh," and were not required. While antepartum cleansing in suspected cases, and Credé's nitrate of silver method after birth could not absolutely abolish gonorrheal ophthalmia, because of the occurrence of a small percentage of cases in which the infection was intrauterine, those two measures could reduce the morbidity to practically *nil*.

**What Is the Most Approved Treatment of Ophthalmia of the New Born?**—Dr. P. A. Callan said that in comparing the result of treatment of ophthalmia in the newborn with that of the adult, the difference was most striking. The outcome of the disease in the former was eminently satisfactory, while in the latter it left much to be desired. We had every reason to expect a good result in the treatment of the newborn, presupposing that the disease was recognized at an When seen early, ice-cold compresses should be applied. Cold inhibited the rapid development of the germ. After the cornea became involved, hot water compresses, at a temperature of 120° to 130° F., should be used instead of the cold. The eyes should be kept clean and free from pus. This was best accomplished by gently separating the eyelids, and flooding the eyeball with a 2 per cent. solution of borax, or a 4 per cent. solution of boric acid. All rough manipulation of the eye was to be avoided. The safest way to flush out the eye was to use a good-sized pledget of cotton, saturated with the solution. The cotton should not come in contact with the eyeball, but, if necessary, the edges of the lids might be wiped free from the adherent pus. The frequency with which the cleansing should be repeated depended on the amount of pus secreted; in some cases it was necessary every few minutes; in others, less frequently. The attendants should be warned of the danger of infecting their own eyes. All the cotton that came in contact with the eyelids should be burned. The best germicidal agent for this disease was nitrate of silver, in a one to two per cent. solution, applied to the everted eyelids once or twice daily, depending on the severity of the symptoms. The weaker solution could be used twice daily. It was not good practice to drop the solution on the cornea, but rather apply it directly to the swollen conjunctiva with a camel's hair brush, washing off the excess with salt solution. The chief objection to the use of silver nitrate was the pain it gave rise to. There were other silver preparations in use which did good service. The great majority of these patients could be safely looked after at their own homes.

Dr. Charles J. Kipp of Newark, N. J., stated he could add very little to what Dr. Callan had said regarding the treatment of these cases. In the mild cases he used a one per cent., and in the severe cases a two per cent., solution of silver nitrate, which he had found superior to the organic salts of this metal. Most of the cases of ophthalmia of the new-born that came under his observation were seen in private or dispensary practice; rarely in institutions. Many physicians still failed to use the Credé method, and the law compelling midwives to report their cases was usually disregarded.

Dr. Thomas R. Pooley said that while the law debarring the visually-defective immigrant was apparently sufficiently stringent in dealing with cases of trachoma, he thought its provisions should be extended so as to cover other forms of visual defects which could only be discovered by a careful examination of the fundus of the eye. Under this head he included retinitis pigmentosa, different forms of congenital cataract, and atrophy of the optic nerve, or any other visual defect which might permanently interfere with the earning power of the individual. Dr. Pooley said he had always had some doubt about the specific prophylactic treatment of ophthalmia neonatorum. During the earlier stages of labor the infant's eyes were tightly closed, and it was not until the head emerged from the vulva that there was great danger of infection. Careful ablution of the child immediately after birth, with thorough cleansing of the eyes with some aseptic solution, would have all the effects of a one per cent. solution of silver nitrate, without its disadvantages—and a two per cent. solution was still worse. Dr. Pooley said that at a recent meeting of the New York Ophthalmological Society there was a discussion on the relative value of silver nitrate as compared with the organic salts, and the consensus of opinion was that the silver nitrate was superior to the others. In treating a case of ophthalmia neonatorum, the speaker emphasized the fact that the manipulations should be made with the greatest gentleness, so as to preserve the integrity of the cornea.

Dr. Edwin B. Cragin gave the results of his experience with the different salts of silver at the Sloane Maternity during the past six years. During the first two years of that period nitrate of silver had been almost exclusively used as a prophylactic against ophthalmia neonatorum; during the second and third two years solution of two of the organic silver salts had been substituted. In the entire period of six years the sight of one eye was lost, and that

was during the time when one of the organic solutions was being used. There were no other bad effects from the use of these solutions, except in one instance, when a small ulcer of the cornea resulted.

Dr. Emil Gruening said he had recently paid a visit to Ellis Island, and could corroborate what had been said regarding the thoroughness of the medical officers there in excluding immigrants who were suffering from trachoma. In regard to debarring immigrants who were suffering from optic nerve atrophy, retinitis pigmentosa, etc., to which Dr. Pooley had referred, the distinction should not be lost sight of that those diseases could not be regarded as a menace to others, while trachoma was.

Dr. Richard H. Derby emphasized the importance of more strictly enforcing the law compelling midwives to report cases of ophthalmia neonatorum.

Dr. Alexander Duane thought that cases of ophthalmia of the new-born were best treated at home, in spite of poor hygienic surroundings. In the hospital they were usually subjected to a certain amount of over-treatment, particularly in the matter of cleansing the eye. The speaker cautioned against the forcible douching of the eye, and favored the use of moist pledgets of cotton, first wiping the exterior of the lids, and removing the discharge very carefully before applying the silver solution. He did not think cold applications subserved any useful purpose after the edema of the lids began to subside. He withdrew them as soon as there was any evidence of involvement of the cornea, and substituted hot applications. In cases that went on to intractable disease of the cornea, the patients were usually poorly nourished, and proper dietetic and hygienic measures should not be lost sight of.

Dr. J. Herbert Claiborne said he agreed with Dr. Pooley in regard to the importance of deporting immigrants who were visually defective. In addition to the class of cases mentioned by Dr. Pooley, which were quite as important as trachoma, he would also debar persons with a very high grade of myopia and extensive choroidal changes. In the treatment of ophthalmia neonatorum, Dr. Claiborne said he thought that silver nitrate solution was a much more valuable remedy than any of the organic salts. He had the greatest faith in Credé's method as a prophylactic measure, and any one who reviewed the statistics on the subject would surely be convinced of its value.

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SECTION ON SURGERY.

*Stated Meeting, Held May 5, 1905.*

Dr. Samuel Floyd in the Chair.

**Epithelioma of Lip.**—Dr. C. Am Ende presented this case. The patient had suffered from a tumor, which gave many clinical evidences of malignancy.

**Metastatic Tumor of Breast.**—Dr. Am Ende also presented this case. It occurred in a young woman. Each of these patients had been much benefited by the use of the author's method of treating cancer.

**Carcinoma of the Male Breast Cured by the Röntgen Ray.**—Dr. Sinclair Tousey presented this patient. The tumor had been typical of a benign condition in the very act of becoming malignant. The result was a perfect one.

**Fibroma of Sheath of Tendon.**—Dr. Franz Torek presented this patient. He said that he had been able to find but one case of fibroma originating in the tendon sheath. This case had been reported many years ago. Dr. Torek's case occurred in a young woman, and the result, although good, had left the finger somewhat enlarged.

**A Case Showing Author's Radical Operation for Carcinoma of the Bladder.**—Dr. Albert A. Berg presented this case.

**Volvulus of the Entire Omentum.**—Dr. Charles A. Elsberg presented this specimen. He said that the patient had been sent to the hospital with a diagnosis of acute appendicitis, and called attention to the distinguishing characteristics which are conceded to exist between the two.

**Operation for Congenital Goiter.**—Dr. E. W. Peterson presented this patient. The lesion had occurred in a baby, but operation had been deferred until the growth had become of such extent as to involve the trachea and cause considerable dyspnea. It was located in the extreme right side of the neck and was, therefore, naturally mistaken in its nature. After the entire removal of the growth, it was found to be a congenitally misplaced thyroid. The little child was profoundly sick after the operation, having pronounced dyspnea, temperature of 105.5°, convulsions, twitching of the extremities, and other manifestations of profound disturbance. Clinically the symptoms were of a definitely tetanoid character.

Dr. Peterson also reported a case of operation for large cystic goiter.

**Treatment of Cancer by Thyroid Gland Extract Combined with the X-Ray.**—Dr. C. Am Ende read this paper. He said that the majority of the cases reported were unfinished and as yet under treatment. He dwelt upon the fact that success in the use of these extracts depended entirely upon the utilization of absolutely pure material. He said that they might be administered either in substance, by capsules, or in a liquid form as the fluid extract. To this he recommended the addition of one per cent. of aromatic tincture. The individual susceptibility of patients to thyroid extract was well known, but he had found that the dose varied from four to six grammes a day. It was possible in certain instances to increase this to twelve grammes. Not all patients could be expected to respond equally to the treatment. Except in recurrent uterine carcinomata larger doses proved the best to begin with. The speaker referred to the curious fact that after the failure of either thyroid extract or the *x*-ray, occasionally their combined use had resulted favorably.

Dr. Aspinwall Judd said that out of twelve cases, nine had been improved and three cured. He stated that those epitheliomata which had an usual number of cell nests represented a class of tumors which had always proved most resisting to the *x*-rays. These growths were, in the speaker's opinion, particularly suited for treatment by the combined method. He said that primary carcinomata did not respond to the *x*-ray, whereas, as was well known, secondary carcinomata were almost always favorably affected.

**Advantages of Iodine Catgut and the Modification of Its Preparation.**—Dr. A. V. Moschowitz read this paper. It was a contribution from the pathological laboratory of the Columbia University, as well as a clinical report from the wards of the Mt. Sinai Hospital. The author presented a series of photographs which showed the results of his bacteriological experimentation with iodized catgut. He also demonstrated an ingenious machine for testing the tensile strength of the gut and comparing it with that of other makes. He stated that the only modification which he had introduced was a very simple, but at the same time, a most important one. It consisted in a step which successfully preserved the tensile strength of the gut. He would prepare it, as originally suggested, by immersing the commercial gut directly into one per cent. iodine and one per cent. potassium iodide solution. It should be left in this mixture for eight days only. His experimental work had demonstrated that absolute sterility was reached before that period, as well as the maximum tensile strength. On the ninth day the latter began to decrease and the gut, if left in the solution longer, rapidly became brittle. The modification which his experimental work had suggested then lay simply in removing the gut on the eighth day and wrapping it in a sterile towel, leaving it to dry until used. If at the time of operation it proved to be a little stiff, a few moments immersion in water would promptly soften it. One of the most remarkable facts demonstrated by the photographic display was that this iodine gut was not merely sterile, but actually produced in infected cultures a sterile zone about itself four times as large as gut prepared by the v. Bergmann method. It should, there-

fore, no longer be looked upon as only mildly antiseptic, but rather as a decidedly vigorous bactericidal agent. This was further proved bacteriologically by soaking iodine gut in virulent cultures of anthrax for twenty-four hours and then placing these infected strands beneath the skin of guinea pigs and rabbits. In no case did the animals die, whereas in every instance in which the v. Bergmann or other forms of prepared catgut were used, the animals perished. The average strength of the iodized catgut, if removed from the solution, on the eighth day was proved by a long series of experiments by the testing machine to be greater than that of the v. Bergmann or any other make. So far as the cost of preparing this material went, the speaker said that one gallon of the solution was worth forty-two cents. As to the disadvantages of iodized catgut, the speaker knew of none. He said it had been suggested that there might be enough iodine in it occasionally to produce toxic symptoms. He had, however, recently been utilizing iodine as a dressing in the wards, and had in every case far exceeded the amount of iodine which could possibly be absorbed by the catgut necessary for sutures in any given case. He had never seen any toxic conditions arise from such use of iodine, and had therefore concluded that this disadvantage was purely suppositional. His conclusions were as follows: Iodine gut prepared in the manner described was always certain to be sterile. It could not infect the tissues even if it were not sterile. It was cheap. It was absorbed at the right time. It was safe and satisfactory in every respect.

**One Hundred and Ten Operations for Femoral Hernia by a Single Method.**—Dr. W. B. DeGarmo presented this paper. He said that he had been working upon this technique for the past fifteen years. He expressed the belief that it was so simple that others must have used it, although he was not aware that any publications presenting it had been given out. Eighty-eight of his patients had single and eleven had double herniæ. Five had femoral and inguinal herniæ operated upon on the same side. The ages of his patients varied from less than ten years to over 80 years. He had had one death and one recurrence which had been caused by persistent vomiting. He emphasized the necessity of using kangaroo tendon and of placing the first stitch through the periosteum of the ramus of the pubic bone. The combined operation in which both femoral and inguinal herniæ were to be cured naturally required a longer incision. He advised that the femoral herniæ should be closed first. The paper was illustrated by a series of sketches which rendered the technique perfectly clear.

Dr. William B. Coley said that no single operator had been able to publish such an extraordinary series of cases of femoral hernia. He said that of his first fifteen cases, one had relapsed. He had in these instances utilized a technique not unlike that presented by the author and which, in his opinion, closely resembled that of Bassini. The remainder of his cases had all been operated upon by the purse-string suture method, and he had been so fortunate as to have no relapses. He recommended the use of an oblique incision, which, in his opinion, gave more liberal exposure of the parts than that endorsed by Dr. De Garmo. His youngest patient was but two months old, and he dwelt upon the fact that whereas every other form of hernia in a child tended to undergo spontaneous cure, if properly supported, femoral hernia had been demonstrated over and over again to be incapable of any cure save by operation.

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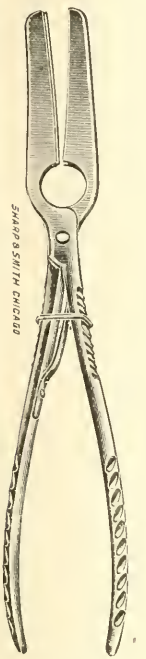
**Contraindications of Atropine.**—According to Brav, atropine in ophthalmic practice is contraindicated in glaucoma, in people over forty years of age, and in radial iridodialysis. It should be used with caution in impending perforation from ulcers of the cornea, and in terating children, as it may cause toxic symptoms, and idiosyncrasies are more likely to be encountered. When used locally the preparation should be pure, neutral in reaction, and the lacrymal duct should be closed by compression, or the lid everted, as toxic symptoms may arise through the escape of the drug through the duct into the nose.—*Clinical Review.*

## New Instruments.

### A NEW HEMORRHOIDAL CLAMP.

By HOWARD CRUTCHER, M.D.,
CHICAGO.




Heyworth Building.

In bringing this clamp to the attention of the profession, I do so because it seems to me to possess some qualities that will readily commend it to experienced operators over those now in general use. Of the security of the lock it may be said that it is precisely the same as that employed in the hemostatic clamp that was brought to the notice of the profession through the Medical Record of February 29, 1896. This lock may be operated very quickly, and from the fact that the clamp is generally applied when in the vertical position, is in nearly all cases automatic. It can be released in a fraction of the time required for the older instruments. With other parts of the instrument I have nothing to do; it is the lock that is new, and that consists merely in a steel ring working over serrated shanks.

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## Books Received.

*While the* Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

The Diagnosis of Internal Medicine. By Glenworth Reeve Butler, Sc.D., M.D. 8vo., 1168 pages, illustrated, muslin. D. Appleton & Co., New York.

Diseases of the Anus and Rectum. By D. H. Goodsall, F.R.C.S., and W. Ernest Miles, F.R.C.S. Part 2. 8vo. 271 pages, illustrated, muslin. Longmans, Green & Co., London and New York.

Exercises in Practical Physiology. By Augustus D. Waller, M.D., F.R.S. Part 2. Exercises and Demonstrations in Chemical and Physical Physiology. By Augustus D. Waller and W. Legge Symes. 8vo, 78 pages, illustrated. Longmans, Green & Co., London and New York.

Hysteria Neurasthenia. By J. Mitchell Clark, M.A., M.D., F.R.C.P. 12mo. 298 pages, illustrated, muslin. John Lane, London.

The Rheumatic Diseases. By J. Odery Symes, M.D., D.P.H., M.R.C.S., L.R.C.P. 12mo. 233 pages, illustrated, muslin. John Lane, London.

Practical Massage in Twenty Lessons. By Hartvig Nissen. 12mo, 168 pages, illustrated, muslin. F. A. Davis Company, Philadelphia. Price, $1.00 net.

Abdominal Operations. By B.G.A. Moynihan, M.S., F.R.C.S. 8vo, 695 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price, $7.00.

The Principles and Practice of Medicine. By William Osler, M.D. Sixth Edition. 8vo, 1143 pages, illustrated, muslin. D. Appleton & Co., New York.

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending September 16, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 72 | 2 |
| Diphtheria and Croup | 172 | 23 |
| Scarlet Fever | 38 | 4 |
| Smallpox | .... | .... |
| Chickenpox | 12 | .... |
| Tuberculosis | 444 | 136 |
| Typhoid Fever | 132 | 22 |
| Cerebrospinal Meningitis | 8 | 15 |
| Typhus Fever | .... | .... |
| Yellow Fever | .... | .... |
| Cholera | .... | .... |
| Totals | 878 | 202 |

**The Status Lymphaticus and the Ductless Glands.**—Roswell Park says that the status lymphaticus is a complicated pathological condition, having much to do with perverted function of the ductless glands, and disturbances of the internal secretions. This condition renders the use of an anesthetic dangerous in many cases, and contraindicates operations, even of a simple character. Sudden death may result from such operations. This condition has much to do with the thymus gland; as it diminishes, lymphoid tissue increases, and the latter tissue assumes the function of the thyroid gland. In marasmus in infants the thyroid is found to have disappeared. Hypertrophy causes more disturbance than atrophy, and when the thymus is enlarged sudden death from an anesthetic is likely to happen. Between the pituitary body, the thymus, thyroid, coccygeal body, testis, ovaries, and bone marrow the relationships are important and not understood. The parathyroids should be included, for their removal causes such symptoms as tetanus, etc., which are produced in experimental myxedema. Their function may be antitoxic. In cystic goiter, where secretion is in excess, the symptoms of exophthalmic goiter are absent, while they are present in other forms of enlarged thyroid. There is strong reason for believing that the secretion of the parathyroids has to do with the nutrition of connective tissue. In the testes are small collections of cells that probably have to do with the growth and development of the body. The testicles have a well marked triple function, production of a substance that has to do with development, a substance necessary to the psychical manifestations of sexual activity, and spermatozoa. The thymus and lymphatics have the most to do with the status lymphaticus. It is commonest in children and young adults, and there is reduced power of resistance to deleterious influences. The thymus begins its involution a few months after birth and should have disappeared at puberty. In the status lymphaticus no involution has occurred. The juice of the thymus contains many leucocytes, and it is credited with producing a secretion similar to that of the ductless glands. Its extract produces fall of blood pressure, dyspnea, and collapse. Enlargement of thyroid produces a peculiar thymic asthma, in which death occurs suddenly. There is always a general hyperplasia of the lymphatic system, spleen, and the Malpighian bodies are packed with cells. The heart may be enlarged and the blood vessel walls thickened. Narrowing of the aorta occurs from infiltration with lymphoid cells. Rickets is nearly allied to the status lymphaticus. The status lymphaticus produces enlargement of lymphoid tissues around the origins of embryonic canals, the appendix, the pharynx, the adenoids, faucial and lingual tonsils. Laryngismus stridulus has to do with this condition. Death occurs generally after a series of convulsions. Before operation we should be sure to eliminate all suspicion of this condition. The use of cocaine and adrenalin before operations on the throat is of value as a prophylactic, in order to deaden the impressions conveyed to the brain. Operation may be possible after appropriate fortifying treatment.—*Surgery, Gynecology, and Obstetrics.*

**On Breathlessness, Especially in Relation to Cardiac Disease.**—Sir Lauder Brunton states that the term breathlessness is sometimes used to signify increased breathing, and at other times distressed or painful breathing. Although these two conditions are essentially distinct, they are so nearly allied that the first easily passes into the second. It is when the heart and lungs fail to aërate the blood sufficiently in spite of all effort that a person becomes conscious of dyspnea. This imperfect aëration may occur either from the air being hindered in its free passage to and from the lungs or from the blood being hindered in its free circulation through the lungs. In dyspnea there are two conditions—the subjective and the objective. The writer then discusses the subject of fatigue. The sensation of fatigue, he declares, may be removed by certain drugs which act upon the nervous system. Cocaine is probably the best known of these. Tea, coffee, beef tea, and tobacco also lessen fatigue; so does alcohol, though its effects are only temporary. Proper massage will generally remove the sensation of fatigue. In discussing cardiac dyspnea the writer states that the great object in attempting to lessen this condition is to facilitate the pulmonary circulaion. The first means for this purpose is absolute rest; the next useful agency is massage. Amongst drugs the most important in its action on the heart is digitalis. The writer advocates its administration by means of the old-fashioned pill containing, besides digitalis, squill and blue pill. He refers to free purgation as a very important means of relieving dyspnea. As to diet, food which will not cause flatulence should be chosen; a milk diet is most useful. When wind is present carminatives must be used to bring it away.—*The Practitioner.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague have been reported to the Surgeon-General, Public Health and Marine Hospital Service during the week ending September 16, 1905:

SMALLPOX—UNITED STATES.

| | | Cases | Deaths |
|---|---|---|---|
| California, Los Angeles | Aug. 26–Sept. 2 | 1 | .. |
| San Francisco | Aug. 26–Sept. 2 | 2 | .. |
| District of Columbia, Washington | Aug 26–Sept. 2 | 9 | .. |
| Massachusetts, Lowell | Aug. 26–Sept. 2 | 1 | .. |
| Michigan, Grand Rapids | Aug. 26–Sept. 9 | 1 | 1 |
| New York, New York | Aug. 26–Sept. 2 | 1 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Africa, Cape Town | July 22–29 | 7 | .. |
| Brazil, Bahia | Aug. 6–12 | .. | *3 |
| Rio de Janeiro | July 27–Aug. 6 | 23 | 5 |
| Rio de Janeiro | Aug. 13–20 | 9 | 7 |
| Cuba, Santiago Province | Aug. 29–Sept. 5 | 2 | 1 |
| Ecuador, Guayaquil | Aug. 1–8 | .. | 4 |
| Guayaquil | Aug. 15–22 | .. | 1 |
| France, Paris | Aug. 19–26 | 17 | 0 |
| Great Britain, New-Castle-on-Tyne | Aug. 16–23 | 1 | .. |
| India, Calcutta | July 29–Aug. 5 | .. | 3 |
| Madras | July 29–Aug. 4 | .. | 0 |
| Mexico, City of Mexico | Aug. 12–26 | 15 | 0 |
| Russia, St. Petersburg | Aug. 6–19 | 7 | .. |
| Turkey, Constantinople | Aug. 6–20 | .. | 7 |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Florida, Pensacola | Aug. 29–Sept. 12 | 38 | 6 |
| Louisiana, Ascension Parish | To Sept. 10 | 44 | 3 |
| Assumption Parish | Aug. 26–Sept. 11 | 13 | .. |
| Caddo Parish | To Sept. 9 | 4 | 1 |
| East Baton Rouge Parish | Sept. 9 | 1 | .. |
| East Carroll Parish | Aug. 14–Sept 12 | 106 | 9 |
| Iberville Parish | To Sept. 11 | 14 | 0 |
| Jefferson Parish | To Sept. 11 | 215 | 27 |
| Lafayette Parish | To Sept. 12 | 7 | .. |
| Lafourche Parish | To Sept. 10 | 332 | 35 |
| Madison Parish | Aug. 14–Sept. 10 | 87 | 12 |
| Orleans Parish, New Orleans | July 21–Sept. 13 | 2,406 | 323 |
| Plaquemines Parish | To Sept. 11 | 54 | 7 |
| Rapides Parish | To Sept. 3 | 7 | .. |
| St. Bernard Parish | To Sept. 12 | 33 | 1 |
| St. Charles Parish | To Sept. 12 | 93 | 16 |
| St. James Parish | To Sept. 9 | 6 | .. |
| St. John the Baptist Parish | To Sept. 11 | 149 | 14 |
| St. Mary Parish | To Sept. 11 | 478 | 18 |
| St. Tammany Parish | To Sept. 11 | 2 | 1 |
| Terrehonne Parish | To Sept. 9 | 90 | 3 |
| Mississippi, Anguilla (vicinity of) | Sept. 6 | 1 | Imported |
| Gulfport | Aug. 15–Sept. 11 | 53 | .. |
| Gulf Quarantine | July 22–Aug. 26 | 57 | 1 |
| Mississippi City | Aug. 22–Sept. 11 | 40 | .. |
| Natchez | To Sept. 11 | 23 | .. |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | July 30–Aug 6 | 7 | 3 |
| Rio de Janeiro | Aug. 13–21 | 3 | 2 |
| Ecuador, Guayaquil | Aug. 1–8 | .. | 1 |
| Guayaquil | Aug. 15–22 | .. | 1 |
| Guatemala, Gualon | Aug. 19–20 | .. | Present |
| Honduras, Puerto Cortez | Aug. 18–25 | .. | 2 |
| Mexico, Tehuantepec | Aug. 27–Sept. 2 | 1 | .. |
| Tezonapa | Aug. 27–Sept. 2 | 2 | .. |
| Vera Cruz | Aug 27–Sept. 2 | 4 | 1 |
| Panama, Bocas Del Toro | Aug. 18–25 | 1 | .. |
| Colon | Aug. 19–20 | 2 | .. |
| Panama | Aug. 19–20 | 5 | 2 |

PLAGUE.

| | | | |
|---|---|---|---|
| Africa, Port Elizabeth | July 29–Aug. 5 | 1 | .. |
| Brazil, Rio de Janeiro | July 30–Aug. 6 | 8 | 2 |
| Rio de Janeiro | Aug. 13–20 | 2 | .. |
| India, General | July 15–27 | 2,578 | 1810 |
| Calcutta | July 29–Aug. 5 | .. | 1 |
| Panama, La Boca | Aug. 6 | .. | 14 |

CHOLERA.

| | | | |
|---|---|---|---|
| India, Calcutta | July 29–Aug. 5 | .. | 15 |
| Madras | July 29–Aug. 4 | .. | 6 |
| Japan, Kobe | July 29–Aug. 12 | 2 | .. |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 14. Whole No. 1821. | New York, September 30, 1905. | $5.00 Per Annum. Single Copies, 10c.

## Original Articles.

### A STUDY OF FAILURES IN OPHTHALMIC PRACTICE.*

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We are all so grateful for gratitude, so happy in our successes in curing, so hurt by our failures to cure, that we are prone to keep our failures out of sight and mind. We report our successes, but it requires a brave man to report his failures with utter frankness. The reporting, the gratitude, and the happiness, however, are by no means so instructive as a close study of the causes of the failures. Of my own cases and those of other oculists whose patients have consulted me, I have lately been making a careful examination, and the results, I think, should be openly confessed. The details of individual cases are too many to set forth, although if time and space permitted I should be glad to do so. But the gathering of them into classes and deducing the laws and lessons of each class will probably be more serviceable than to lose attention in a large number of individual instances.

By failure to cure I mean the failure to relieve those symptoms due to eyestrain. By symptoms of eyestrain I mean many local ocular diseases, such as blepharitis, conjunctivitis, pains in the eyes, asthenopia, heterophoria, choroiditis, retinitis, etc., when these conditions are not evidently due to other causes than eyestrain.

Glaucoma and cataract may be included in the list, although, of course, when established these diseases are not curable by glasses. Preventable, I believe they are. Of capital, cerebral, and mental affections, due usually to eyestrain, I list headaches or migraines of any kinds, localized "neuralgias" and spots of pain, scotoma scintillans, head-tilting, neglect of and disinclination to study, read, etc., foreboding, melancholy, irritability, nervousness, insomnia, illogical conduct, exaggerated desire for physical activity, hysteria, neurasthenia, etc.

Of physical disorders the chief are those classed as dyspepsia, liver disease, constipation, "biliousness," flatulence, vomiting, anorexia, etc. A vast majority of such general denutritional affections are caused by eyestrain, although textbooks on them make no mention of the fact. Attention to the matter with scientific mindedness will probably show that many cases of persistent vomiting, and many of the diseases of the female generative organs have been caused by eyestrain. A famous surgeon says his most brilliant cures of surgical diseases of the pelvic cavity, threatened appendicitis, etc., have been effected through the oculist and his own threatened operations thereby avoided. Almost all of the paroxysmal neuroses may have the same origin, chorea and epilepsy beyond a question. Many a case of functional cardiac disease would find its explanation in the eyes. Of exophthalmic goiter I have little doubt the same could be said. Eczema, hives and anomalous skin diseases certainly attend or follow migraine, and migraine is always due to ocular causes. Haig and his uric acid spook usually means eyestrain. Sometimes the connection, often existing, between circulatory or renal disease and the eyes will be established. Vasomotor ataxia is another name for the nutritional or vasomotor affections which may follow severe eyestrain. The terminal diseases are frequently the servant-executioners of the long-preceding disorders of denutrition, etc., set up by eyestrain.

1. *The want of a single good refraction-school in the world.* Helmholz said that ophthalmology was by far the most accurate and scientific of all the specialties of medicine. I should say that it is now the most inaccurate and unscientific. We all differ from each other. If a patient with a history of migraine, somewhat complicated, and with ametropia and heterophoria, should go independently to one hundred different oculists, I doubt if any two diagnoses and prescriptions would be alike. Only smallpox can vie with eyestrain as a cause of human suffering, but a million more times concern has been devoted to smallpox. Eyestrain causes a thousand times more personal suffering than tuberculosis, and yet the profession and world are a thousand times more interested in eradicating tuberculosis. From 25 to 50 per cent. of our own citizens are afflicted with eyestrain, and yet schools for the study of tropical diseases are multiplying everywhere, whilst there is not one, nor any signs of it, for teaching adequately the art of refraction. Morton's toe is apparently as important as astigmatism. Every refractionist is self-taught, has "picked-up" his science and art as best he could. The "six weeks' course" will no longer avail—except for the quacks. There are physicians out of their true calling in any attempt at refraction work, ill-fitted by nature, but worse-fitted by instruction for an art than which there is none demanding higher intellect or greater skill. The day also of the worship of the scissors or of the ophthalmometer is long in the past. The useful tests, the education of delicate senses and judgment of the student by at least several years of close and special post-graduate study—what Carnegie or Rockefeller, what general physician, has ever cared for this? And without such an institution there will never be an end of our one hundred different prescriptions by one hundred oculists for our patients' evil. The quacks are establishing "optical schools" by the dozen. It concerns us mightily to ask why; but we do not ask why.

2. *Bad case recording* is a source of failure to cure. It may at first seem an absurd *nonsequitur*, but I mean it literally. For many years I was a sinner in this respect, and when I hear or see the reports of others I judge that many are as negligent as I have been. It will not do to jot down the few vague complaints the patient makes. To be sure,

*Read at the meeting of the American Academy of Ophthalmology and Oto-Laryngology, held at Buffalo, N. Y., September 14, 15, and 16, 1905.

leading questions must not mislead. The great fault is not to elicit clear epitomizing statements of all the troubles of the entire life. Only the biographic clinic is valuable in seeking a diagnosis of or in getting a clue to the essential life-trouble or disease. Only that brings the seemingly unrelated phenomena into a clarifying unity. The patient does not dream that "dyspepsia," pain in the shoulders, amenorrhea, cardiac palpitation, inability to sew or read, truancy, "nervous breakdown," etc., may point to eyestrain, and so does not speak of them. When they are cured by glasses, as has taken place in unrecognized thousands, the oculist suspects as little as the patient what was the active therapeutic agent. When they are *not* cured by the oculist he does not reexamine the eyes, does not "stick to his case," until he actually does hit on the right glasses, etc., or until the cause is demonstrated to be of nonocular origin.

3. *The inexpertness, ignorance, or impertinence of the optician* may render all our work and hope of cure in vain. The number of ways in which this may come about is incredible. Examples are the right lens in the left side, or backside front, improperly centered glasses, toric lenses (which reflect 25 per cent. of the light and prevent full stimulus of the retina), and one thousand and one methods of ill-fitting and ill-adjustment. Instead of stiff and rigid spectacle frames, the sole condition of accuracy in position, many opticians have actually been so blunderful as to seek for the most limp and slimpsy thread-like templepieces. No frame should be lighter than 796½ of the American Optical Company. For the majority of noses, and minds behind the noses, eyeglasses are an abomination, even with the most expert optician. Patients will get the bearing in a new place and thus exaggerate instead of lessen eyestrain. In some cases, say two to five per cent., eyeglasses may even be preferable to spectacles. Of course no self-respecting oculist will allow a patient to wear spectacles and glasses he has not seen and pronounced correct. There is needed in every city and village at least one optician who understands his business, is able to do it, and limits himself to doing it. In many places where there should be several or many the incompetence of all is so amazing that to get rightly made and fitted glasses is an utter impossibility. The oculist in such cases does not care, he is not a refractionist, and his optician, of course, is appealing to the legislature to be allowed to become an oculist. The one scorns his proper task, the other aspires to his improper one! *Par nobile fratrum!* This will last just as long as we neglect our duty. We can end it whenever we will. The "eyes-examined-free" man, who cannot fit a pair of glasses any better than he could read the Rosetta stone, exists even in Philadelphia, but he descends lower and lower in disgrace all the time, and we have a large number of expert and honest opticians.

4. *Changes in the patient's refraction,* not followed by changes in glasses, also lead to failures. Once for years I had to change a boy's lenses every few months to keep up with the increasing astigmatism and conquer his pernicious vomiting. Many patients require changes every year, and none should wear the same lenses more than two years. Otherwise, reflexes will appear, one or both eyes grow amblyopic, or heterophoria begin to squint at the muscle-cutters. Constant warnings to patients are necessary to prevent their neglect. I think we should follow the example of the dentists and notify our patients to return for examination as often as we think best.

5. *Incorrect diagnosis of ametropia* appears to be the most frequent source of failure to cure the disorders caused by eyestrain. I do not speak only of those egregious blunderers who think the small error of refraction is not worth noticing, but to those who, although recognizing its astonishing significance, fail to measure the eyeball with mathematic precision, as regards the static errors, the exact amount of myopia, hyperopia, and astigmatism present, and the axes of astigmatism to within five degrees. When my blunder in this has become clear to me and it has cost the patient months or years of suffering I can never forgive myself for the crime. The grievousness of the mistake arises from the fact that the static error of refraction is the primary source, the enduring condition, and the chief cause of all the diseases of eyestrain. It is indeed eyestrain itself, as heterophoria is secondary, and effect, so that failure to measure the ametropia accurately is failure to be worthy of the name of ophthalmologist. If eyestrain plays the havoc in the lives of people which we believe, if from 30 to 50 per cent. of all school children, as we know, have harmful errors, then our failure to do this bit of expert work expertly is our failure to do what we pretend to do. Glaring mistakes in these measurements made even by "specialists in diseases of the eye" are sadly common. Is it not so? Just how common they are each must answer for himself.

6. *Head-tilting,* unless carefully guarded against, prevents the correct placing of the axis of astigmatism. All patients with spinal curvature, completed or organic, are pretty certain to tilt the head to one side, and probably over 25 per cent. of people have some lateral curvature. When the curvature is in the making, that is in the functional stage, the eyes are its cause, either through an axis of astigmatism in the dominant eye that compels the tilt of the head in order to see upright objects, letters of the alphabet, etc., plainly, or when writing to see the "writing-field" about the pen point. Astigmatism estimated with head tilted 10° or 20° to one side is incorrectly estimated by just that 10° or 20°, and will never give the patient relief. Correctly placed the astigmatic axes will tend to straighten the spine in young cases instead of accentuate it, and will relieve the other reflex phenomena.

7. *The morbid writing posture,* due directly to visual function, and inducing perhaps 80 per cent. of lateral curvatures of the spine, is a profound source of our failures. Orthopedists are now recognizing the true cause of this mystery and calamity. The eyes must see what is being written, and usually this is possible only by bending the head and body to the left. All lateral bending of the spine in any part absolutely produces rotation of the vertebræ, at first functional, and then organic curvatures. There result many types of disease and invalidism the cause of which is unrecognized because nobody examines the backs of such patients. In all this astigmatism greatly aids. In the common writing posture of school children the head is not only bent to the left, but it is also bent forward, and also rotated upon its own axis. So that there are three morbid factors in inducing functional malcurvature of the spine. Function always precedes structure; organic morbidity is the result of functional morbidity. Pathology is physiology gone wrong. The child must be taught to sit erect, with head erect; and school-desk, paper-placing must be so ordered that there will be no lateral bending of the head or body in order to see the "writing-field." The functional stage of lateral curvature persists even up to twenty years of age, sometimes later. It may be cured during this period, and may be helped even when, in later years, it becomes organic.

8. *Nonallowance for the patient's personal equations* may frequently account for nonsuccess. The static error found under mydriasis does not dictate the prescription. It is the chief datum, it is true, and any variation from it must be based upon it and kept in mind. But like all dead mathematics the static error must be converted into terms of life and function and modified by a large number of conditions. All vital statistics need vitalizing. The chief and always limiting factors leading to change in prescribing are: change of axis in the astigmatism by the mydriatic; the exophoria or esophoria present; the power, subnormal or supernormal, of accommodation; the age of the patient, the amount and kind and peculiarities of near-work and occupation compelled, the condition of the general health and vitality, the amblyopia from disuse, and others.

9. *The heterophoria-and-tenotomy error* will also sometimes account for failure to cure. One of the saddest tragedies for the implicated physicians, for the profession, for science, and especially for the patients, is the error of tenotomists who have operated for heterophoria. It cannot too often nor too strongly be urged that heterophoria in the vast majority of cases is refractional in origin and innervational in nature. It is generally nature's therapeutic method of obviating eyestrain by throwing one eye out of function. While it is in progress strain may very temporarily be lessened by an operation which partially lessens muscular imbalance. But this does not touch the cause of the mischief, and hence the heterophoria reappears if proper glasses are not ordered, and thus there is final failure. The permanent successes are those in which such ametropic correction is ordered after the operation. It is a crude error, or worse, to credit the operation with the cure, when it was really due to stopping the cause by glasses. Exophoria, or subnormal adduction, is always curable by prism-exercises and proper glasses; esophoria of high degree is not usually curable, but is rare, and I have never seen it cured by tenotomy. Hyperphoria is curable or neutralized by prisms worn permanently with the ametropic correction. Operation cures nothing, even if it reestablishes the muscular balance. But usually it does not do this. It succeeds admirably in one way—financially—for the operator.

10. *The "general-disease" obsession* kills lots of the oculist's patients, or at least confirms them in their pitiful plights. If the origin of their illnesses is eyestrain, all the drugs, rest-cures, travel, wet-packs, etc., at best bring only a temporary and partial relief. It flatters a certain class of minds that they can thank God they are not "hobby-riders," "specialist-exaggerators," etc., and with exquisite fatuousness they affect an immunity to such banal science. But in fact they are the most amusing and capital illustration of specialism gone mad. Of all in the world they discriminate least, and by their aid no patient will ever have the mystery of his disease solved. They walk in the cloudland of glittering generalities, filled with ghosts of "hysteria," "neurasthenia," "uric acid diathesis," "degeneracy," "the pace we lead," "nervous trouble," "dyspepsia," "inherited affection," and the rest, forgetful that such words are not even diagnoses, and surely never therapeutics.

Did the poet have the oculist or the neurologist in mind when he wrote:

> Serene I fold my hands and wait,
> Nor care for wind, or tide or sea;
> I rave no more 'gainst Time or Fate,
> For lo! my own shall come to me.

However, as many astute ones have learned, the oculist's patients will "come to him" only on condition that he "glass" them, and, for general treatment, send them back to the neurologist and general physician (who referred them), and with no hint that the origins of their troubles are, or were, ocular. If dieting, the "rest-cure" or the "trip to the watering-place," the "run to Europe," or "course of strychnine" does good, it is often because the glasses have also been worn, or use of the eyes interdicted. With resumption of ocular labor there is return of all the old troubles. This is because the spectacles were not wholly correct, were incorrectly worn, the refraction changed, or because of many other good reasons. It is of course very impolitic to show the dependence of these diseases upon eyestrain—"his own will cease to come to him"—but if there is one thing more than another that both the American people and profession need it is a flinging of policy to the everlasting bow-wows. Policy and politics are often a vile compound of cowardice and rascality. It can never reach the consciousness of the lay world that the source of so much of its mischief is due to optical defects unless we frankly avow the fact and prove it in the persons of patients. The practical recognition of the fact on the part of neurologists and general physicians seems generally beyond hope. To play the silent helper to them by oculists, and deceive the public, is neither humanly nor professionally honest. There are neurologists and general physicians who prove admirable exceptions to the rule, who still refer their cases to the oculist, frankly saying, "your chief trouble lies in your eyes." They may for a time be in error, as may we also be, but that does not much lessen the average of the truth. Such physicians are lovers of the truth and of their patients. The hope of professional progress lies in them. They also help us oculists to differentiate between true and simulated ocular diseases, and to them we must trust for help in curing the really existing complicating general diseases and in overcoming the terrible results of long-continued morbid function and habits. In most of his patients the specialist deeply needs the help of the general physician, and the two should work together for the good of the patient. But to conceal the truth and deceive the patient as to the real facts is unwise. And in the long run it is impolitic. The game has already been played too long. Anno Domini 1904, in the most famous of American hospitals, patients were treated for astigmatism and for gallstones by the most famous of American physicians, by means of wet-packs. There is hardly a day that patients do not appear in the oculist's office with the most atrocious astigmatism, and whose medical advisers have treated them for ten, twenty or thirty years with no thought or suggestion of eyestrain. They have endured the most awful sufferings, their nervous systems and nutritional organs are possibly wrecked, their eyes may be hopelessly injured, and life so far has been a melancholy tragedy, and all these years the evidence has been before the profession that such diseases might have been prevented if eyestrain had been corrected during youth.

11. *Subnormal accommodation* is one of the most frequent causes of failure to cure our patients of eyestrain glaringly present. The patient's symptoms are brought on by near-work, are not extinguished by the correction for distance, no matter how perfect it is, and the poor oculist is tormented by his inability to bring relief of what is evidently an ocular difficulty. I think a full half of my past failures have been caused by my stupidity in not recognizing the following facts:

The crystalline lens has no nervous connection

with the brain or body, and hence its inherent elasticity, upon which its function depends, fails from infancy to sixty years of age. If we may so speak of it, it fails normally and regularly, so that in comparative emmetropia its failure at forty-five is such that the near point is so far as to make the image of ordinary print and writing so small upon the macula that the retinal and sensation-making task is too great and becomes morbid. The nourishment of the lens is also by blood serum, by osmosis, instead of by red blood corpuscles, and this adds to the inevitable loss of elasticity. What we have failed to notice is that these conditions also make certain a variation in the rate of failure and a difference of primary endowment of elasticity. These two causes would be sufficient to account for the frequency of subnormal accommodation. But there is another source of the mischief more profoundly and commonly present, and this is the fact that in evolution, biology and human history the function of accommodation was brought into existence for only short moments or minutes, always interrupted and rhythmic, especially for the extreme required at a foeal distance of ten, twelve or fourteen inches. Suddenly come sewing, printing, school and literary life, commerce, and a thousand handicrafts which demand for many millions this close-range work and contraction of the ciliary muscle, almost without interruption or rhythm, for hours, for most of the day, for most days, and for most of the life. In no muscle of the body is such uninterrupted innervation and contraction demanded. By none is it possible. The maker of the eye never foresaw civilization. The present demands upon the nervous and muscular mechanisms of the eye in accommodation are beyond the limits of possible physiologic response, and hence eyestrain. The majority of the slaves of civilization require help, beyond the distance correction, in this task, and the need will depend upon the amount of near-work to be done, upon its kind, continuousness, light, etc., upon the initial power or vitality of the accommodation mechanism, etc. Even little children in this sense may be "presbyopic," and one of my most intolerable failures was in a boy of twelve who had persistent vomiting. Immediate and complete cure came at last with + Sph. 1.50 D. added in bifocals, to his distance, correction. I am also convinced that the rate of failure of accommodation varies in different patients, and the subnormality of the two eyes in one patient may differ greatly or even entirely. It is difficult to test the exact degree of subnormality in a given case, and often it is a matter of experiment and doubt. The rough rule has served me that where plus lenses over the distance sharpen the definition of the image of ordinary print at eighteen or twenty inches, subnormality is probably present. It is an elusive mischief, especially in patients with ill-defined, distant, and unexpected reflexes. Careful attention to its possible existence will often solve mysteries and worries in the most brilliant manner. But it will get one into a peck of trouble if the unaided accommodation is sufficient to do the patient's tasks.

12. *"Hysteria."* Among the incurables, those unhelpable either by divine or human means, is the confirmed hysteric. The term is vague and misleading, but it may be used of a strange conglomeration of diahleric, laziness, and mania for sympathy, which torments and pays the rents of fashionable neurologists. In its later stages long-continued malfunction produces genuine morbidity, but as its cherished parents still pamper it, there is little hope of relieving even the direct effects. The woman positively enjoys bad health, escapes from her still biting conscience by excuse and even the pleasure she has in disease, and "takes it out" on husband, father, profession, and civilization by spending as much money as she can, and by demanding more and giving less than any person in the world. She has committed herself to the logical *impasse* of invalidism, and visits with her wrath whoever would open her chosen blind alley to freedom. Eyestrain is peculiarly prone and active in producing the beginnings and the less severe forms of hysteria. "The megrims" was for hundreds of years the other name and perfect synonym of our modern word hysteria; and genuine migraine is the firstborn of the children of astigmatism and light; but it is a great wanderer, and the brothers and sisters are numerous. There is a famous surgeon who it is said has acquired fame and wealth by an unerring caution in refusing to operate upon any patient he cannot cure. The oculist may not—perhaps—follow a similar Mephistophelian plan with chronic hysterical patients. But that would be better than deluding them with false hopes and useless long treatments. Such patients are often morally imbecile, and if one can be sure he can do them no good, that is if they will not obey and do not wish to be cured, it may be best to refuse to waste time upon them. Even the nascent hysteric will usually refuse to wear spectacles, demand eyeglasses, disobey orders, and prefer the *descensus averni* of her pitiless fate. Her parents should have written over her doorway the famous *Lasciate ogni speranza voi chi entrate* of Dante, placed at the entrance of another ill-regulated household. Theirs indeed the fault, and dearly do they pay for it. I have had perhaps a half dozen or more of such inconquerables. Two I cured at the cost of much good life; some I succeeded in ridding myself of; several still remain to bless me and keep me humble!

Genuine neurasthenia appears to be a rare disease and seemingly differing from hysteria in almost every way, although often confounded with it. I know little about it, and suspect others do not know more.

13. *The patient who lives far away* forms one of the types of my failures, and I wish I might never have any whom I cannot see often and easily. Refraction work is highly peculiar in demanding constant attention. There are a score of good reasons for this. The ametropia often changes in a short time; some people never learn to keep their lenses clean, their lashes trimmed, etc., and such things will cause eyestrain as readily as others; the glasses are sure to get awry in all cases, especially if the optician is a "refracting" one, and, of course, refractory; I have had a patient travel five hundred miles to learn that his optician had placed a loose lens front side back; there are a dozen kinds of disobedience to orders and cautions; common-sense rules of ocular hygiene are not to be got into the minds of many patients; no man would pump water an hour, uninterruptedly, with one arm, and yet he expects his eyes to do worse tasks for all day and every day; complicating diseases of the general system arise; mental worry and personal tragedy, of infinite variety, may mimic the symptoms of eyestrain, indeed, are highly prone to do so. The list might be greatly lengthened, but it all comes to this, that disease is always individual, and no rules or habitual methods will replace intellectual acumen and studious differentiation. Therapeutics is the last thing a quack can understand or reach. The distant patient should be put under the care of a local colleague, with frequent consultation between the two. The rise of good refractionists—they are not usually the famous "ophthalmic surgeons," of course

—in most cities, now makes this plan feasible, but small cities still need such men badly. A thousand are wanted in the United States, and all could find work and place at once.

14. *Despairing of curing a patient* may lead to avoidable failure. There is a class of oculists, well represented in every city, who will continue to treat a condition, with care not to cure it, so long as there is money to be made by it—but that is not what I mean. In the great majority of cases of threatened failure or ill-success we become convinced that the mystery has not been cleared up, and that if we were wiser or more painstaking it might be cleared up. In such instances we may grope blindly for an explanation and strike out as aimlessly, hoping that luck may bring us to clearness. Or we may too soon be satisfied that we have made no error in our diagnosis or prescriptions, and coolly tell the patient to go on and relief will come by and by. In other words, we are too confident of our inerrancy, or too despairing of our ability to get at the heart of the matter. There is a great wisdom in going over the tests again and again, in studying the symptoms and the patient more narrowly and from new points of view. I remember once I tortured myself for a year to explain a strange opalescence (with amblyopia, eyestrain, etc.,) of the cornea of an active, seemingly healthy woman. After a number of consultations with others and much worry I accidentally learned the woman was a vegetarian. I succeeded in getting her to eat eggs and meat, and at once the corneas became transparent. I could give the details of surely a hundred cases in which a sort of bulldog determination to hang to the mystery at last revealed some unexpected blunder or new law which brought everything to rights. The plan has the manifest advantage of aiding greatly in discovering new laws. It was in this way that knowledge of subnormal accommodation, head-tilting, the explanation of right-handedness and right-eyedness, the origin of spinal curvature, the eyestrain origin of migraine, etc., came about.

15. *The secondary results of eyestrain* may be too deep-seated, chronic or organic to make cure possible. These, in fact, constitute the saddest of our experiences and failures. I have at once and absolutely cured about ten cases of epilepsy by glasses, but the majority of cases of epilepsy may not be due to ametropia, and certainly the majority of those which had an ocular origin are not to be cured by ocular treatment. So profound and long-standing an injury of the nervous system is not done away with by removing the primary cause. To get at the rat that ate the malt in the house that Jack built we must perhaps go through a long list of subsequent, and at last *per se* existing effects. Eyestrain may beget a condition of denutrition in which tuberculosis or any other constitutional disease secures its foothold. Once established, however, these diseases work their havoc by their own unaided laws. Eyestrain may directly cause gastric anacidity or hypochlorhydria, but, long existent, this may be incurable —even by the tenotomists! The thought leads to the influence of ignored eyestrain in youth or during the plastic and functional stages of disorder. We can do almost anything with the youngsters to reestablish normality and prevent subsequent miseries, but with the wrecks of thirty years which constantly appear in our offices we can only groan, "It might have been." The ignoring prevents prevention. But it is precisely in prevention that our ideals and perfect work lies. No physician can resuscitate the dead, none cure all the effects of organic disease in the living. Even too long-continued functional disease may become so confirmed as to resist all therapeutics, although no discoverable organic lesion is to be found. In their last analysis what indeed is asthma, hay-fever, headache, "latent or concealed gout," angina, melancholia, faddism, incipient or even confirmed insanity, criminality, color-blindness, seasickness, and many other similar affections? The part played by eyestrain in the production of any disorder is less possible to check or extinguish with every added day of its continuance.

But when all has been confessed, discounted, and allowed for, the truth remains that in no department of medicine is practice so satisfying, in none is cure so much the rule, as in refraction work. Even in the inveterate and the most hopeless cases some measure of gratifying and gratitude-bringing relief is usually possible. I would by no means place my failures, all and sundry, all that can rightly be called such, so high as ten per cent. I know of no more astonishing and beautiful thing than the way nature will respond to our intelligent helpings toward cure. The organismal wisdom will often wait, and wait, and still wait, even a lifetime, for the little device which enables her to pick up the tasks and functions deferred by decades of suffering. An eye that has never seen but with one-half acuity because of astigmatism will at once with the cylinder see a new and perfectly visualized world. A heterophoria almost reaching heterotropia will soon disapear. Migraine or sick headache of a half lifetime may suddenly or slowly disappear with proper spectacles. Of course it is not always so, but it is usually so. And the same may be urged as to other systemic effects of eyestrain. The younger the patient the more surely is normality to be reinstated. From 35 to 50 per cent. of school children have sufficient eyestrain to lower their health, put them behind in their classes, or otherwise abnormalize them mentally or physically. There is no duty more sacred than to prevent the certainly-coming tragedies in these children, by the means at our hand. It is in truth a question of national validity, and a concern of civilization itself. The financial value of the communal product can be enhanced by at least 25 per cent. through attention to this, and that is to look at the matter from its crudest and least utilitarian point of view.

## THE TECHNIQUE OF ABDOMINAL SECTION.*

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My thanks are due to the members of this society for the courteous invitation which affords me the opportunity of addressing you. Our fields of activity, geographically considered, are widely separated, but our endeavor is the same. The results of individual work may differ, but they may at times be profitably compared for the benefit of all. As a natural and inevitable consequence of every experience there is evolved and developed a technique which, to each operator, seems to him to be the best. It may not be the best, but it certainly is the best that he knows. It is therefore desirable for the surgeon at times to give evidence of the faith that is in him by an exposition of his methods. He should be prepared to defend every position that he takes; he should have a reason for every detail of his practice; he must, above all things, be able to demonstrate the wisdom of his procedures by successful results.

My first abdominal section was performed some twenty years ago. Dominated by the master mind of Christian Fenger, our efforts to minimize all

*Read by invitation before the San Francisco County Medical Society, July 18, 1905.

danger were most exacting and, were it not for the seriousness of our endeavor, would to-day seem absurd. The patient submitted to a preparatory treatment for a day or two prior to the operation. There were purges and enemeta; there was a carefully selected diet; there were baths and scrubbing of the abdominal wall and external genitals. Finally the patient, half-starved and her intestinal tract well emptied, was enveloped in iodoform gauze, which was removed from the abdomen on the operating table. Now the parts had to be disinfected, the abdominal wall was scrubbed with vigor and various antiseptics were used. The operator's hands were subjected also to severe disinfection, which necessitated the use of soap and water, carbolic and bichloride solutions, and sometimes solutions of permanganate of potassium and oxalic acid as well. The operator and his assistants and nurses were dressed in costumes that resembled bathing suits. I remember I had taken a Turkish bath and a shampoo. Live steam escaped in the operating room so that we could scarcely see across the table. A spray of carbolic acid played in one corner of the room, but we had at that time revolted to some extent against Lister's recommendation, so that the spray was not directed on the patient's abdomen. It was deemed essential to kill all pathogenic bacteria which were supposed to be omnipresent and, flying around, as it had been graphically expressed, like the birds of the air, were presumably intent on fulfilling their mission of destruction. It was considered advisable to diminish shock and to spare the peritoneum all outrage to abnormal conditions. For that reason the temperature of the room approximated the temperature of the body, the incision was as short as possible, and the element of time was of great importance. Moreover, it was considered undignified, or at least to some extent a confession of incompetency to look into the abdominal cavity. Much had been said and written, and I think Lawson Tait and my friend Howard Kelly were to some extent responsible for the prevalence of this idea about the *tactus eruditus*. The experienced operator, and even at that time it was claimed no other should dare to invade the abdominal cavity, was supposed to insert his hand and at once feel the offending pathological condition and bring it up into view so that it could be cut away after its pedicle had been ligated. Opinion differed regarding drainage and the toilet of the peritoneum. Oftentimes hot water was poured in by the pitcherful. The abdominal wound was usually closed by through-and-through sutures, and opium was often given to relieve pain and keep the parts at rest so they might heal kindly.

To-day all this is changed. The preparatory treatment consists of a bath at admission, a compound cathartic pill at night, a dose of salts in the morning and an enema just before the operation, at which time the catheter is passed. The patient's abdomen is often palpated by students just before the operation and the disinfection of the abdominal wall occurs during or just after the anesthesia. Soapsuds and hot water are used by means of a brush for perhaps two minutes, and the surface is wiped dry with a sterile towel. A bichloride solution is then applied by means of a gauze sponge, and finally alcohol is poured on. The operator's hands are prepared in the same manner, care being taken to have the nails clean and to scrub between the fingers. The procedure takes perhaps three minutes. The incision is made long enough to see exactly the condition of tubes, ovaries, and other organs, and with the patient in the Trendelenburg position and a large laparotomy sponge holding the intestines out of the way, the edges of the wound are retracted and we proceed deliberately and calmly to operate by sight as we would do if we were operating on the back of the hand.

The incision is preferably in the linea alba, but wherever made bleeding vessels should be caught with forceps and often ligated with fine catgut, so that all hemorrhage is controlled as the incision is extended. The bleeding vessel in each instance should be seized alone, with as little of the adjacent tissue as possible. I have opened and closed the abdomen at least five hundred times without the use of hemostatic measures of any kind, except forcible compression by gauze sponges and through-and-through sutures. I do not now favor this procedure. I believe it to be the part of wisdom to save every drop of blood, for no one can tell how much may be lost accidentally toward the close of the operation, nor can it be denied that every minute bloodclot in the abdominal wound is an additional factor of importance as a potential nidus of infection. I also believe it to be advisable to secure accurate coaptation of the several structures of the abdominal wall, so that a true *restitutio ad integrum* may really occur. This is only possible by actually bringing together by suture the different tissues so that peritoneum may be apposed to peritoneum, aponeurosis may be united to aponeurosis, the continuity of the musculature may be restored, the superficial fascia may be brought together, and finally the cut edges of the skin may be accurately apposed without undue tension. For this purpose I favor the use of sterile catgut, which is now obtainable, and the separate approximation, preferably by individual suture, of the different tissues which constitute the abdominal wall.[1]

The after-treatment is of importance. I give no opium, and only occasionally, in case of great restlessness, a dose or two of twenty grains of sodium bromide by the mouth, or the same quantity of chloral by the rectum. The bowels should be made to move early. I am in the habit of exhibiting one-eighth grain doses of calomel every hour the morning of the second day until perhaps eight doses are taken, to be followed by what we call a one-two-three enema, which consists of one ounce of magnesium sulphate, two ounces of glycerin, and three ounces of water. This is injected high up in the bowels, and if it does not act there is cause for alarm. After the bowels have been moved once the regularity of bowel movement is maintained by giving fluid extract of cascara sagrada in suitable doses—usually fifteen to twenty drops three times a day—supplemented, if necessary, by a daily saline enema. Cases that were *in extremis* at the time of operation may require hypodermic injections of strychnine every few hours for a few days. Thirst is relieved by normal salt enemata, given several times a day—about a pint at a time to be retained. Retching and vomiting do not often occur to a distressing extent, and disappear as a rule when the bowels move. Tympanites is rarely observed, but at times may necessitate the insertion of the rectal tube to facilitate the escape of gas. If the uncomfortable symptoms persist, if the pulse rate is high, and pain is severe, it is inadvisable to mask the symptoms by the exhibition of digitalis or sedatives. There is a cause for the persistence of these unfavorable symptoms, and usually they mean an infection within the peritoneal cavity which may necessitate a reopening of the abdominal wound. In any event it is folly to deceive ourselves by the control of pulse, temperature, and pain by means of drugs, when the real cause of a deviation from a normal convalescence usually requires surgical intervention.

Regarding the technique of the different abdominal operations that are now performed, it is of course impossible for me within the time at my disposal to speak in any adequate manner. I will, however, with your indulgence, allude to my individual preference in some of the procedures that are incidental to the more usual abdominal operations. Catgut alone should be used within the abdominal and pelvic cavities. It is safe nowadays, that is, it is just as likely to be sterile as silk. No unnecessary amount should be used, for at best it is a foreign body which must become absorbed or encysted. In removing a tube the parts should not be bunched up and transfixed or tied off with the Staffordshire knot. The tube should be cut into at its uterine attachment and the end of the ovarian artery that is cut across should be seized with a small forceps and ligated with fine catgut. It is my practice at once to sew over the uterine peritoneum by means of a continuous suture of fine catgut, and as the tube, the cut end of which is held in the bite of a medium-sized forceps, is cut away I continue the suture of the peritoneum of the broad ligament until the operation is completed. In every case the effort should be made that no raw surfaces are left exposed to favor adhesion that may predispose to ileus. When the operation is completed I insist, as I have done for years, that nothing but peritoneum should be apposed to peritoneum within the peritoneal cavity.[2] In operating for pyosalpinx or ovarian abscess or cyst the incision may begin at the distal or proximal end, but in every case the peritoneum should be turned in by a continuous catgut suture as we proceed or, if interrupted sutures are used, they should finally be buried. If omental adhesions are evident when the abdomen is opened, they may satisfactorily be separated by Downs' cautery,[28] but if cut through the edges should be covered with peritoneum before proceeding. I take occasion here to refer to the advisability of leaving a portion of at least one ovary, unless both are hopelessly diseased. The discomfort incident to a premature menopause is real and often distressing, and the nervous instability that may result not infrequently leads to permanent mental aberration.

The technique of uterosuspension and the many operations that are proposed and practised for the correction of uterine displacements I will not attempt to describe, because I disapprove of nearly all of them. I have already pointed out[26] that subinvolution infection and its sequelæ and different pathological conditions are responsible for most cases of so-called malposition, and I have always maintained that operations which did not restore the parts in accordance with normal anatomy were, to say the least, irrational. Many cases in my practice continue to prove to me that the relief of pathological conditions results in symptomatic cure, and if the variation of the uterus from its assumed normal position is not corrected as a consequence of treatment instituted against the true etiological factors, experience demonstrates that health and function are restored. The traumatism that produces displacement is usually an injury to the levator ani muscle and the aponeurotic tissue in direct relation to it. Restoration of these parts in any part of the periphery of the muscle is anatomically possible, as I have proved on the cadaver. The application of the true principle of restoration, well enunciated by Goldspohn[27] in reference to perineorrhaphy, will in time, I believe, be applied to intrapelvic procedures with equally satisfactory results. My individual experience along these lines is as yet too limited to permit of any recommendation.

In many instances where suppuration is apparent the exact condition is not known until the abdomen is opened. When the abscess cavity is recognized we should pause and consider what technique is best for the patient. Of course it may be admitted that in every case it is possible to provide an outlet for the pus. In doing so there must be the minimum of danger to the patient's life. If adhesions are numerous and firm, it is often the part of wisdom to place the patient in the exaggerated lithotomy position and perform a vaginal section simply for the evacuation of the pus. Such an operation may be incomplete, but it is often successful. It may not be very scientific, but it often saves the patient's life when a more extensive procedure might be fatal. In old cases, where the edges of the abscess cavity have been stitched to the abdominal wound and a sinus results, in cases where drainage has been employed and suppuration continues, or, it may be, a fecal fistula has formed, I have often derived benefit from passing through the opening in the abdominal wall a large, curved forceps, so that its point could be cut down upon from the vaginal fornix and a large drainage tube inserted.[3] Irrigation is now practicable; within a few days the discharge of feces usually ceases as the opening into the intestine heals; the discharge of pus diminishes, and in many instances the opening is obliterated. When suppuration persists under these conditions an infected ligature is apt to be at fault. Here suppuration will often continue until the offending bit of silk or catgut is washed away. The effect, however, of the establishment of counter-drainage is usually apparent at once. Temperature falls, the general condition of the patient improves, suppuration diminishes, the walls of the abscess cavity become proximated and, as the drain is replaced by a smaller one, and eventually by a few strands of silkworm gut, the parts will usually heal.[4] Should there be delay, or should it become apparent that more radical measures are necessary to close an intestinal opening or to cut away an infected area, the counter-drainage will have been of value in limiting the extent of suppuration and in permitting an improvement in the patient's general health, so that the chances for a successful secondary operation are increased.

In what may to-day be called neglected appendicitis—I refer to cases where an abscess has formed—it is often wise not to attempt to do too much. I know I invite criticism by this statement. I realize to what an extent Joseph Price and others have insisted upon a complete operation.[5] I believe, however, it is often best to provide drainage and not run the risk of infecting the general peritoneal cavity by injudicious manipulation at this time. If further operative procedure becomes necessary in the future for the relief of hernia or for the closure of a sinus the patient will at least be alive to submit to it, whereas in too many instances an extended primary operation will have resulted in death.

Suppuration in the course of a peritonitis must receive surgical treatment or the great mortality from that disease will continue. When abscesses occur between kinks of intestines, or in relationship with any of the pelvic or abdominal viscera, the pus must be evacuated at the earliest possible moment and usually a Mikulicz drain inserted. I look for much improvement during the next few years in our treatment of peritonitis. I believe we will drain more often and more thoroughly whenever there is pus, toxins, or debris, and I am inclined to think that irrigation—even continuous irrigation with the patient in the Fowler position[6]—will more frequently be found of value. I cannot agree with Olshausen that drainage is usually contraindicated

or ineffectual.[7] I use a hot salt solution very often to control inaccessible hemorrhage and to combat shock, and I have several times left in the peritoneal cavity a pint or so of a very hot solution when all septic matter could not be removed or when raw surfaces could not be covered with peritoneum.

In the separation of adhesions it may happen that the intestine will rupture. This is not always the fault of the operator, for sometimes the parts are gangrenous or so badly ulcerated that rupture is inevitable. When this accident occurs the opening in the bowel should be closed at once, using interrupted sutures for the muscular and mucous coats, and a continuous Lembert suture for the peritoneum, being careful to turn in a relatively large amount. In certain instances, and my remarks here apply also to traumatic cases, the injury to the bowel is multiple or the ulceration is extensive, so that resection becomes advisable. Under these conditions the value of the Murphy button has been often demonstrated, both because it is quickly and easily adjusted and because the results are good. When the condition of the patient permits and the operator is accustomed to abdominal work I prefer the closure of both ends of the bowel and a lateral anastomosis. I wish to make no fanciful discrimination here, but it is a fact that the element of time in these cases is often of value, and the element of experience often turns the scale in one direction or the other. For this reason I have urged the necessity of a modicum of practical knowledge of abdominal surgery on the part of every practitioner, no matter what his specialty may be, for no one can tell when a little scientific sewing may save a human life. Intestinal needles should be in every man's instrument case, and the confidence gained by even one experiment on a living animal is well-nigh invaluable. Emergencies in abdominal cases are probably not more frequent now than in the past, but the consensus of modern professional opinion demands today an exploratory incision in many instances where formerly the fear of infection or the imagined difficulty and danger of laparotomy left the patient to die. In cases of presumed obstruction, in gunshot and stab-wound cases, in serious injuries, even where there is no penetration, in perforation of the stomach or duodenum, or in typhoid perforation, there should be no hesitation, for statistics show that death is often inevitable without surgical intervention. In any event, an aseptic abdominal section performed even by a practitioner who has not a record of successful operations to his credit will not add to the risk, and may be the only means of saving life.

In all traumatic cases and in many of the others I favor a few cigarette drains for at least twenty-four hours.[8] In the typhoid cases I venture the prediction that the operation in the future will consist of something more than the purse-string closure of the perforation. Typhoid lesions are apt to be multiple, and the ulceration that exists is apt to be extensive, so that the integrity of the bowel is threatened. For that reason I believe future operations will more often include a resection of all diseased tissue. As a final word in this class of cases I most cordially commend the statement of C. B. Keetley,[9] who asserts that any physician who wastes valuable time in the attempt to make an accurate diagnosis is almost criminally responsible for the death which is sure to follow. His remarks, made in reference to gastric ulcer when there is vomiting of blood, acute anemia, quick and progressively weak pulse, and other alarming symptoms, I apply to all abdominal cases where the outcome is uncertain and where an incision may reveal the true pathological condition.

In obstetric practice the indications for abdominal section are becoming more evident and the technique is being well worked out. Rupture of an ectopic gestation means hemorrhage, and usually demands an immediate operation to permit the ligature of the bleeding vessel. Delay may mean death in a few hours, as I know from experience, even when the symptoms are not alarming. For that reason the possibility of pregnancy should be remembered in the case of every female, married or single, between the ages of twelve and fifty-five years, and the occurrence of fainting, slight indefinite abdominal pain, yawning, and increasing pallor, even in the absence of increased pulse rate and what are usually regarded as pathognomonic symptoms of internal hemorrhage, should at least direct attention to the suspicion of an accident of this kind, and should warrant intelligent and watchful surveillance.

A wideawake supervision and a realization of the possibilities are essential in all cases where an interruption of pregnancy is threatened or has taken place. In too many instances the abortion is criminal, and the infection or trauma may require operative treatment. In the former case abdominal section may usually be replaced by a vaginal incision to facilitate the escape of toxins, as Pryor has explained.[10] When, however, a uterine perforation is evident, especially, as in one of my cases,[11] when a silver catheter had been forced through into the peritoneal cavity, an abdominal incision alone permits a search for the foreign body and its removal, as well as the closure of the uterine wound.[12] In late cases of infection following labor abdominal section is sometimes necessary, for the placental site favors an extension of infection, and at times hysterectomy must be performed. There is also the possibility, as occurred to me once, of finding an unsuspected appendicitis.[13]

Rupture of the uterus occurs oftener than imagined. There are too many fatal cases of delayed labor from one cause or another, too many cases of version that end fatally, and, if the truth were known, as it is not very often, it would be found that the cause of death was a rupture which perhaps had not been suspected. Modern Cesarean section and the results obtained from its timely performance all over the world show us our mistakes of the past and indicate the proper procedure for the future. Olshausen's technique is simple and most successful. I saw fourteen cases in his practice during one year—all the infants living and all but one of the mothers. The technique is simple, and though I have already described it,[14] I will here say that the pregnant uterus is brought forward out through the abdominal incision and held there by an assistant, who steadies it while the incision is being made and the child and placenta are extracted, and who, by the pressure of his two hands laid flat on the abdomen, prevents the uterus from slipping back and controls undue hemorrhage until the sutures are placed and retraction has occurred.

Unfortunately the days of meddlesome midwifery are not yet past, nor has the time yet arrived when there is made in every obstetrical case a scientific prognosis based upon accurate pelvic measurements and due appreciation of existing conditions. When that time comes we will know the possibilities in every case, and we will not persist in efforts at delivery when the mechanical obstacle is plainly insuperable. We will not delay nor run the risk of traumatism nor of infection with all that it means at the time of labor. We will perform an abdominal section, which is not only true conservatism, but a real prophylaxis.

The operation to be done is of course the modern

so-called Sänger cesarean section. The Porro operation, which ten years ago I advised as the operation of choice,[15] should now, in my judgment, be reserved almost exclusively for cases of rupture where a repair of the injury is impracticable.

These cases of rupture occur not only in obstetric practice, but also as the result of traumatism during pregnancy. As causes I find records of falls,[16] pumping,[17] crushing,[18] a kick in the right groin,[19] a nail in the backboard of a wagon,[20] and a number of cases due to cattle-horn, bullet, and stab-wound injuries.[21] It is recognized to-day that an abdominal section is the only procedure to be considered where there is penetration due to traumatism,[22] or where the injury is serious enough to warrant the assumption that internal rupture may have taken place.[23] The technique will include the repair of injured viscera—the ligation of bleeding vessels, wherever found, the closure of intestinal or uterine wounds, and if necessary the resection of intestines, the supravaginal amputation of the uterus or the removal of the entire uterus, as first performed in a case of rupture by Prévot, of Moscow.[24]

In the case of large fibroids of the uterus supravaginal amputation is preferable to hysterectomy. If a portion of one ovary can be left, menstruation occurs from the mucous membrane of the portio vaginalis. Indeed, one of my patients called on me some years after the operation to inquire if pregnancy was possible. As a general proposition I favor the enucleation of fibroids in young women. It is simple to incise the capsule, shell out the tumors, and sew up the space with several rows of buried sutures, the final suture being a Lembert, which turns in the peritoneal surface. In this manner I have seen Olshausen remove seven tumors from one uterus. Where the mass is large and the tumors are multiple, so that their removal seems impracticable, especially if the woman be middle-aged, supravaginal amputation is indicated. It is performed by ligating the ovarian and uterine arteries and any other bleeding vessels, and by closing the incisions in the broad ligaments in the manner I have already indicated. The uterus is then cut away about at its juncture with the vagina, and the stump is closed with two or three rows of sutures which approximate the musculature and finally close the peritoneal incision. In this manner hemostasis is complete and there results a smooth peritoneal surface.

Carcinoma of the uterus is usually removed by vaginal hysterectomy and, all things considered, perhaps to-day it is the safest and best procedure to be recommended. At the same time, the complete evacuation (ausräumung) of the pelvis, as performed by Mackenrodt,[29] is theoretically most attractive. I have seen him operate in eight cases with good immediate result, but the operation is most difficult and tedious, and his cases are as yet too few and too recent to warrant an unqualified endorsement. The technique I have elsewhere described.[25]

My reference to operative technique in relation to the viscera of the superior zone of the abdomen will be brief. Gastroenterostomy should be performed more frequently, for increased experience demonstrates its value, not only in cases of ulcer and carcinoma, but especially in chronic cases of indigestion. Statistics seem to show that the anterior operation is not only the simpler, but usually the more satisfactory procedure. Drainage of the stomach and the placing at rest of an infected mucous surface offer relief in many instances where lavage and continued medication have been ineffectual. Gall-bladder surgery has made important advances of late years. Calculi are proved to be not the only offending pathological condition. In many instances the separation of adhesions and the systematic drainage of the gall-bladder produce most gratifying relief. In every case the common duct should be examined, and not infrequently it will be practicable to sew up an incision made here for the removal of a calculus.

In conclusion let me say that this brief and necessarily incomplete reference to certain technicalities of operative procedure is intended to set forth the advisability of systematic work through an incision large enough to see and feel the true conditions. It favors perfect hemostasis as the operation proceeds. It advocates the turning in of all raw surfaces, so that only the smooth peritoneum is left when the operation is ended. In pus cases it advises removal with the least possible danger. In a word, while completeness of operative technique is commended, it must never be forgotten that the saving of the patient's life is more important than brilliant surgical treatment. With that end in view every compromise must be made to avoid unnecessary risk, and no chances must be taken which will jeopardize the main interests at stake.

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# COUNTERIRRITATION.

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Counterirritation is a therapeutic measure which has come down to us from the earliest writers—from great antiquity. The rationale of its action is, however, no better understood to-day than centuries ago.

Local irritation cannot exist without causing certain general changes which affect the entire organism. Head found that in many cases internal disease is accompanied by a tenderness of the skin, and he mapped out carefully the skin areas corresponding to each organ. In this way he was able to show that a distinct relation exists between irritation of an internal organ and that part of the skin which is supplied by the same segment of the spinal cord or brain. Thus in painful diseases the tenderness is not infrequently referred to a position other than the seat of the disease. The observations of Head show that a nervous impulse from the diseased organs does not pass in an indeterminate manner through the central nervous system, but has a distinct tendency to affect the superficial areas which are supplied with sensory nerves from the same segment of the cord. If it could be shown—and as a theory it appears sufficiently plausible—that an affection of these superficial areas may affect the corresponding internal organ more than the rest of the body, then a satisfactory explanation of the benefits derived from the use of counterirritants would be afforded.

Small thinks that probably the most correct explanation of the action of the counterirritation is that which looks to the sensitiveness of the cutaneous nerves and their reflex action upon the deeper parts.

Counterirritation is resorted to for three objects: to relieve pain, to lessen congestion and inflammation of deep-seated organs, and to promote the absorption of the products of inflammation. That it has merit will be generally conceded. Like bleeding, cupping, leeching, and numerous other forms of treatment practised in earlier times, it has fallen into disrepute, but surely counterirritation does affect the internal morbid processes; how, is not for us here to discuss. Counterirritants are divided into rubefacients, vesicants, and pustulants. The first do not destroy the structure of the skin, and are such as cause a mild irritation and redness; they are employed only in functional disturbances. The second cause structural changes in the skin and underlying tissues, and are used in chronic affections or when inflammation has preceded a permanent change in the organs or tissues. Mustard plasters, pepper, iodine, turpentine, etc., are typical rubefacients, while the actual cautery, caustics, issues, setons, etc., are known as vesicants. The third cause pustular eruption; croton oil and tartrated antimony are the best known of this group. Croton oil is the pustulant generally used, but it must be diluted one-half with olive oil or spirits. The course of the eruption is similar to the eruptive stage of smallpox. Because of the disfigurement liable to follow the employment of pustulants, discretion must be exercised in their use.

The local effect of the rubefacients is the same as that of acute inflammation, the pain being due to irritation of the nerve terminals; the redness and edema to dilatation of the blood vessels, edema following the disturbed and retarded flow of blood and consequently the transudation of the fluids into the tissues, thus producing at the point of greatest irritation a blister. A continuous irritation is followed by suppuration. Because of this fact the physician is enabled to get a more profound effect in deep-seated organs or parts where counterirritation is resorted to as a therapeutic measure to correct the effects of permanent change through inflammatory processes, such as pleuritis, peritonitis, and pneumonia. Blisters are, however, contraindicated in the aged, in gout, diabetes, and in debilitated or anemic conditions, for the reason that sloughing is to be feared. In chronic inflammatory conditions with effusion, counterirritation will be found serviceable, through an improvement in the circulation. Chronic ulcers are often made to take on the reparative processes through the use of irritants. The repair in bruises is hastened by the use of counterirritants such as tincture of iodine and stimulating embrocations when there is not a destruction of tissue. In certain forms of skin diseases, especially those of a chronic character, like acne, the use of irritating or stimulating applications is often of service when all other means have failed. In gastric disorders with severe pain, in colics, neuralgia, neuritis, especially the sciatic or rheumatic form, they are often of great service. Again, in collapse and shock through reflex action they give gratifying results. In internal hemorrhage, by directing the blood from the seat of injury to the surface temporary relief is often obtained.

Sawyer recommends the use of a preparation of capsicum as a rubefacient counterirritant. He has found that an ethereal tincture of capsicum, by reason of the comparatively rapid evaporation of its ether, can be used more freely than an alcoholic tincture, as an application to the skin. Further, the solvent action of ether upon the sebaceous secretion of the skin makes ether a menstruum preferable to alcohol for drugs designed to affect the cutaneous surfaces, or to produce therapeutic effect through the skin. An excellent and powerful rubefacient liniment may be made of equal parts of ethereal tincture of capsicum, liquor ammoniæ, oleum terebinthinæ, and oleum lini. This liniment may also be applied to the skin upon spongiopiline.

Caution should be exercised in applying blisters at the beginning of inflammatory processes or in the acute stage. Never to the scrotum or mamma, nor over bony prominences, as the process of healing will be slow and difficult. Blisters should be avoided in the case of a pregnant woman. In infants or young children there should be placed between the skin and the blister a piece of oiled muslin in order to prevent too serious injury to the integument.

Blisters were formerly used in epilepsy to arrest the aura. They were said to act by adding a new irritation, which counteracted the preexisting irritation. In incontinence of urine a blister applied to the sacrum will often succeed when other measures have failed. Again, in otitis, a cantharidal blister applied behind the ear is a popular measure.

The following suggestions concerning the employment of the fly blister are contained in the *Medical World:* "The fly blister is of value for four purposes: To affect inflammation or congestion; to cause absorption or removal of inflammatory deposits after inflammation has ceased; to relieve pain; for the effect which can be exerted upon the general system by blisters in systemic disease."

When used to affect inflammation, the blister should not be applied over the site of inflammation, but should be placed a little to one side or at some other point known to be intimately connected by nerve fibers with the seat of inflammation; thus, in inflammation about the eye, the blister is applied back of the ear; and in pleurisy or abdominal neuralgia the chosen site of application is over the vertebra where the nerve at fault makes its exit. Remember that all nerve pain is referred to the peri-

pheral end, and not to the point of origin. In beginning hip-disease it would be useless to apply a blister to the knee or ankle complained of, but good results are often secured by applying it over the proper place in the affected hip. A fly blister should never be placed directly over the site of an acute inflammation; when it is to be used in such cases, apply it in a circle around the inflamed area, at a little distance. The fly blister does good service in inflammation of the brain, eye, pleura, peritoneum, lung, joint (rheumatic or traumatic), glands, uretha (gleet), etc. The old view, that fever was a contraindication to blistering has faded away. One exception should be made in the rule of locating the blister; in peritonitis apply it directly over the seat of pain. In gleet, cantharidal collodion may be substituted for the blister, and used by painting along the under side of the penis and on the perineum.

To remove the results of inflammation, such as pleurisy with effusion, the fly blister is extremely valuable; in such cases apply it under the arm about two or three inches below the axilla. In old effusions about joints the blister often succeeds where other means have failed.

The indications for the relief of pain will be plain to all. It is only in chronic pain that the blister is proper, and such rubefacients as mustard plasters generally do fully as well and do not leave such an amount of tenderness.

To get systemic effect one must study each individual case before applying the blister. In meningitis apply in T-shape to the back of the neck; in intercostal neuralgia and zoster, to one side of the spinal column; in renal irritation, between the kidneys over the spine, etc.

As the blister begins to form, remove the fly blister and apply a warm poultice; this relieves the pain and hastens the process. If the blisters are small, they may be allowed to rupture spontaneously, but if large they should be punctured at the most dependent part and dressed with sweet oil or simple ointment carbolized in the strength of 1-100.

Issues and setons are rarely made use of to-day, and excepting in the case of certain disturbances of the eyes the same may be said of caustics and escharotics. We may therefore safely pass them by with a few words. Issues and setons were used in the earliest times, through the belief that they relieved the system from a tendency to disease, as it was thought a discharge from ulcers did. Serious and fatal effects were often attributed to the closing of these "natural discharges" by spontaneous or artificial means. They were considered measures suitable to chronic diseases only, and acted as derivatives and evacuants. They were used in asthma, catarrh, deafness, and epilepsy, in chronic cerebral and spinal affections (induced in the back of the neck), in chronic affections of the eyes (induced in the temple), in uterine affections and chronic cystitis (induced above the pubis), in chronic affections of the joints (induced in the neighborhood of the joint), etc.

The actual cautery is one of the best means of establishing counterirritation. The thermocautery is generally employed.

Blood-letting, either venous or arterial, was formerly largely practised, as well as leeching, cupping, and scarification, the object being (1) to weaken the action of the heart and consequently the force of the circulation; (2) to lessen the quantity of blood in the system; (3) to cause a derivation of blood from other parts to that whence the blood issued; (4) to promote the absorption of medicines internally administered; (5) to impoverish the blood and its content of fibrin and globules.

Poultices are useful to relieve congestions, to reduce inflammations, to promote absorption, favor resolution, or hasten suppuration; to diminish tension, soften incrustations, stimulate healthy granulations, and as deodorants and antiseptics. Their use should not be continued long enough to produce anemia or a too relaxed condition of the parts, for fear of necrosis of the tissue; nor should a poultice be often used after an evacuation of pus.

They should be applied hot, moist, and not too heavy; between folds of gauze or muslin and covered with cotton. A bandage may be used to keep the poultice in place. They should be made of sufficient size to cover the inflamed area and changed from time to time as they become cool, until the inflammation has in a measure subsided or until there is softening of the tissues and pus formation. They may be made of flaxseed meal, bread, corn meal, slippery elm, charcoal, soap, etc. When a stimulating effect is desired, various ground spices may be added, or used alone by mixing in a muslin bag, moistening in hot water or some alcoholic preparation, and applied hot.

Charcoal poultices are useful in gangrenous conditions when there is generally a disagreeable odor. They are made by sprinkling the powdered wood charcoal over a flaxseed or bread poultice, one part to two or three parts by weight of flaxseed or bread, or a mixture of both flaxseed and bread. Apply direct to wound and change frequently. Antiseptic poultices can be used upon foul ulcers, etc.; they are made by adding an antiseptic fluid to the flaxseed or bread poultice.

Soap poultices are used in preparing the skin for surgical operations. Green soap is preferred, and is applied in a thin paste spread upon gauze.

Digitalis poultices are used when there is retention of the urine; they are prepared by sprinkling powdered digitalis upon flaxseed poultices and applying hot and moist over the pubis.

177 West Eighty-third Street.

## Some Notes on Typhoid Fever in the Philippines.

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Typhoid fever is one of the many diseases prevalent in the Philippines which are preventable where honest enforcement of quarantine regulations is allowed to replace the ignorance and hostility of a native population. No field is open to the medical officer in which so much good can be accomplished as lies before the authorities in the Philippine Islands, where the intelligent and faithful enforcement of sanitary regulations can secure such beneficent results. Typhoid can be stamped out as well as cholera, and the endemic spots which dot the entire islands, and from which emanates the deadly poison, can be readily eliminated. The work must be done by intelligent and reliable white men and not by natives, upon whom little or no confidence can be placed. It is not the climate of the Philippine Islands that plays an important factor in the development and continuance of typhoid fever. The heat of the dry season, which covers the months of February, March, April, and May, reaches a mean temperature of 87°, May being the hottest month of the year. The rainy season from June to October has a mean temperature of only 84°. While the cool season, with a temperature of 72°, is the one during which the greatest mortality occurs among the natives, and it is during this period, when

their systems present the least powers of resistance, that they succumb so readily to typhoid. It is not the heat of the tropics, or rather it is the continuance of the heat that renders the system less prone to offer the required resistance to disease, rather than the degree of heat. The real cause there is the fruitful soil for the propagation of the typhoid germs, which the universal filth that surrounds the houses of all Filipinos furnishes, the houses within and without alike being steeped in filth. No disposition is made of human excrement other than to allow it to fall beneath the house, where the scavengers are the dog, the chicken, and the pig. No sewerage drains the accumulation of filth except the surface drainage, and the well or stream from whence the water for drinking purposes is procured can scarcely be regarded as other than a fruitful source of disease. Water so polluted is used with utter disregard, and typhoid fever, a water-borne disease, is clearly given a chance to spread. Polluted wells and streams furnish the potable water, and only by the most stringent regulations, enforced with severity, can they ever be kept free from contamination when once they can be cleansed, for one cannot overcome the benighted ignorance of centuries in a few years.

The spread of the disease through the use of milk is a minor factor, for the reason that there is little or no milk to be had in the Philippines; the carabao, or water-cow, and the goat furnishing the only source of milk supply throughout the islands, with the exception of the limited supply of milk brought from Australia. One case of typhoid fever among the natives of a Philippine village becomes a focus of disease, and goes to start one of the epidemics of typhoid fever so often met with under the name of "calenture," when a careful investigation shows the presence of a typhoid epidemic. A residence of over one year in the town of Morong, Province of Rizal, in the center of the southern portion of the Island of Luzon, the most northern of the larger islands of the Philipines, gave an opportunity for a close observation of this and other diseases among the native population. Here, among the native population of a town of about eight thousand inhabitants, typhoid fever existed throughout the entire year, the greatest number of cases occurring in the months of November, December, and January. And here, as in the United States, the greatest mortality occurred during the first quarter of the year. The reason for this is that the power of resistance of the natives is at the lowest ebb at the close of the cold season. This is because of their insufficient sustenance and the imperfect protection offered by their clothing against the cold, which seems trivial to the better-clad and better-fed American, or other white man. To an American it seems absurd that people should suffer and even perish from cold in a temperature seldom below 70°, but such is the case. The men of this town appeared to suffer much more readily from the disease than the women, and while the pregnant and the plethoric female adult seemed to escape in a measure its ravages, nursing infants and young children were frequent sufferers. The men would often continue their usual avocations ignorant of their trouble, and many cases of this ambulatory type were observed when these natives applied for treatment at the army hospital of the troops stationed there. Then a careful examination of the patient and a more thorough investigation of the surroundings would reveal a condition of insanitation almost too horrible to be believed, except as one saw it laid before him. The evacuations from the body were deposited in the stream or at the side of the well from which the family water supply was procured; the clothes of a person infected were washed at or near these sources of water supply, and in several instances the corpse of one who had died of the disease was washed so close to the well that the water used ran back into it. Another and a prominent cause was the ingestion of shellfish, mussels, and the like, which the great craving of the Malay blood for animal food compels them to seek, though their usual food is rice boiled in an earthenware jar, and a handful of dried fish with a small quantity of salt. The shellfish and mussels are procured from the contaminated beds in streams into which the filth of the villages and towns has been poured, and the trenches leading from beneath the houses also often furnish a place from which the mussels are secured. These two causes, *viz.*, the ingestion of polluted water and food, together with the chance of the absorption of the germ taking place where no attempt is made at cleanliness in cooking food, or in keeping the utensils clean, are the ones to be considered, rather than any climatological or telluric influence in the propagation and spread of typhoid fever in the Philippines.

The history of the one town in this matter is the same for all in these islands. The white troops in this town and a company of native troops, about two or three hundred at a time, never less than two and sometimes over three hundred, did not have a single case of typhoid fever among them, though the disease raged in the town a short distance away. The precautions were simple and were observed religiously. No water was drunk or used for washing the utensils of the kitchen or mess outfits that was not thoroughly boiled. The food and the preparation of the food, the kitchens, and all receptacles in which food or water was kept, were inspected every day by the surgeon. The latrines, placed at proper distance from the quarters occupied by the troops, were properly disinfected with fresh earth, and the contents were buried carefully.

Cases of typhoid fever were sent into the hospital at this town from detachments in towns ten and twenty miles away, but no case appeared among the troops stationed permanently there. Twelve cases were received from a command across the lake about eighteen miles, and all were traced to the fact that the water used for drinking purposes was procured from a river below a native village, and in which village typhoid fever was raging, the water so used not being properly boiled.

Close observation of these cases of typhoid fever showed but little difference in the essential points to the course run in the United States of the same disease. A careful differential diagnosis was necessary to distinguish it from tropical dysentery and the various forms of malarial fevers so prevalent in many portions of the islands, and also from dengue, which in its early stages is often mistaken for typhoid and may even coexist with it. Being a disease which the nonresident of the tropics is nearly always attacked by during the period when acclimatization is going on (although a most contagious disease, dengue does not receive the attention it should in the way of proper isolation), its presence renders the diagnosis of typhoid difficult at an early stage. Without a resort to Widal's test a positive diagnosis is not made readily during the first week; in fact, any made in less time was open to suspicion. Two forms of fever were here met with. One was the primary fever, due to the infection the typhoid germs produced throughout the system, and the other appeared as the disease progressed, and the brown tongue, dry and beefy in appearance, the delirium changing from a mild, listless form to an

active and often violent type, indicating septicemia. This was often met with here and at other places in the islands, and was especially prone to occur in a climate in which every mucous membrane seems to be congested. This is seen also in the profuse epistaxis and intestinal hemorrhage, so much more frequent in cases of typhoid fever in the tropics than in the colder regions of the temperate zone.

The forms of treatment varied to suit the time and place, but were essentially simple. Absolute rest in bed was enjoined for four weeks at least, even though some cases made a recovery, as far as could be judged, in two or three weeks under the simple but ironclad rules. During the first week, from necessity, some patients were permitted to use the commode rather than the bedpan, and no ill results seemed to follow, but this was positively interdicted afterwards. The wards were cool and well ventilated, this being rendered possible from the construction of the native houses used for hospital purposes. The pulse rate and temperature showed nothing remarkable. The thermometer was placed in the axilla by preference, care being taken to keep this part thoroughly dry at the time.

Even when no hyperpyrexia was noted the patiet received a bath twice a day. This was given either plain, or with vinegar in the water, or salt, alcohol, or alcohol alone. In cases where hyperpyrexia was present the spine was rubbed with salt and whiskey mixed up thoroughly, and this was continued for half an hour and repeated at four-hour intervals after a bath of cold water or the wet-pack. In the early stage of the disease the patient was placed in a large tub, if there was not too great depression of the heart's action. When too great exhaustion was noted the patient was rubbed well with alcohol, parts of the body and limbs being gone over alternately and then the body rubbed all over, especially the back, with olive oil. But little medicine was used, beyond an early dose of calomel, followed by a dose of Rochelle salts in teaspoonful doses every day, its effects being carefully watched. On the eighth or ninth day calomel was again given in small doses for about twenty-four hours, or even gr. vi three times a day for two days for the purpose of eliminating the poison from the intestines and also to antagonize it.

Opium and bismuth controlled the action of the bowels whenever there was a tendency to overaction, while enemas of starch, or opium and water or salt and water, were used, especially if hemorrhage from the bowels was observed. The hypodermic use of morphine, gr. ¼, and of a solution of ergot in 30 minim doses, also hypodermically, every four hours, gave very satisfactory results in such conditions, and the ergot seemed also to exert a quieting influence on the nervous conditions when given alone, quieting and relieving the delirium. The tympanites was relieved by enemas of olive oil, ʒ iv, with turpentine, ʒ i, and carbonate of guaiacol, gr. vi, together with the application of hot turpentine stupes to the abdomen. Alcohol was not given internally in the early stages, and its use was guided by the pulse rate, a dry, brown tongue, and tremor and other symptoms with increase of delirium being indications for its use. In the course of twenty-four hours ʒ iv to ʒ xvi, given in water in ʒ ii doses was usually deemed sufficient. Much good resulted from the administration of aromatic spirits of ammonia ʒ i in water every three hours, especially during a weak spell or preceding or following some slight exertion, such as the bath or the use of the bedpan entailed. The delirium, if every active, was controlled by some form of opium, as morphine or Dover's powder.

The diet of the patient was of the most modified form. As cow's milk was not to be had, malted milk was used as a substitute; a gruel also was made from hardtack, the hard bread issued to the troops, ground fine, with the addition of water and a small quantity of condensed milk. Beef extract, mutton and chicken broths when no overaction of the bowels was observed, and albumen in shape of whites of eggs given in water formed the diet in the early stages of the disease. To this could be added rice water, made by boiling rice carefully and then straining and adding the whites of eggs and stirring the whole up carefully. Food of this character was administered to the patient in quantities of from ʒ ii to ʒ iv every three hours, increasing in quantity about the end of the second week; and as the fourth week passed there were added soft toast, tea without milk, chocolate not too sweet, and eggs, poached or soft-boiled, the quantities being carefully graded by the powers of assimilation and by the condition of the bowels. Solid food was withheld for some time, and as soon as the patient was able to bear transportation safely, transfer was made to the United States, where the bracing air of a northern winter was necessary to complete recovery.

## PHYSICIANS IN FICTION:

### PHYSICIANS AS SEEN BY OLIVER WENDELL HOLMES.

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Many years after he carried all the prizes in sight for original investigations in medical subjects; after twenty years of continuous teaching of anatomy; at a time when he had earned a national reputation as a philosopher, essayist, and wit, and shared international renown with Lowell, Whittier, and Longfellow, when he had reached the mature age of half a century, Dr. Oliver Wendell Holmes wrote his first novel. This is a unique instance in literature of deferred development of talent, and probably is the only precedent which another great physician, Dr. S. Weir Mitchell, followed with such marked success. Dr. Holmes wrote three novels: "Elsie Venner, a Romance of Destiny," originally called "The Professor's Story," in 1860; seven years later appeared "The Guardian Angel"; and again, twenty years later, at the age of seventy-six years, he penned his last novel, "A Mortal Antipathy." Each of these books is remarkable. Each presents a case from a medicopsychological standpoint. We are not concerned here with the literary aspect of the novels, their genre, their romantic elements, delineation of the secondary characters, or the denouement. We will, however, say a few words about the plot of the novels, since this will assist us in the understanding of the problems presented in these fiction-cases, and the better appreciation of the medical types.

Notwithstanding the fact that Dr. Holmes never missed an opportunity of condemning the work and method of one of the greatest novelists of the last century, Emile Zola, yet the problems that occupied the minds of these two men, so different in their temperaments, their style, and their literary armamentarium, were identical. Both set before themselves the task of solving the problem of prenatal and hereditary influences upon the individual. Both wrote what is called the "novel with a purpose."

The key to all of Dr. Holmes' novels is found in a letter of Mr. Langdon, a medical student temporarily engaged as tutor in the Apollinean Institute, addressed to his professor, in which he asks the following questions:

"Is there any evidence that human beings can be

infected or wrought upon by poisons, or otherwise, so that they shall manifest any of the peculiarities belonging to beings of a lower nature? Can such peculiarities be transmitted by inheritance? Have you any personal experience as to the power of fascination said to be exercised by certain animals? Do you think there may be predispositions inherited or ingrafted, but at any rate constitutional, which shall take out certain apparently voluntary determinations from the control of the will, and leave them as free from moral responsibility as the instincts of the lower animals? Do you think there may be a crime which is not a sin?"

*Elsie Venner.*—In this tale, Elsie Venner is the only child of Dudley Venner, whose wife died in giving birth to their daughter. A short while before that happened, the young wife had been bitten by a crotalus, a rattlesnake, and the child was partially endowed with a serpent nature from the moment of her birth. Her eyes were like two glittering diamonds, there was a repellant fascination in them, and she exercised a peculiar influence over all who came in contact with her. She neither laughs, nor cries. She can hate, but she cannot love. She is absolutely uncontrollable. She goes and comes and does as she pleases. She is a menace and danger to all that surround her. The author wishes by this novel to test the doctrine of "original sin" and human responsibility for the disordered volition. In this novel, Dr. Holmes foreshadowed the working out of the next problem, or preparations for the next novel. He says: "If, on presentation of the evidence (in the case of Elsie Venner), she becomes by the verdict of the human conscience a proper object of divine pity and not of divine wrath . . . wherein lies the difference between her position at the bar of judgment, human or divine, and that of the unfortunate victim who received a moral poison from a remote ancestor before he drew his first breath."

Dr. Holmes took up this problem in his second novel, "The Guardian Angel." Myrtle Hazard, at the period of puberty, manifests traits of many of her ancestors, of her great grandmother, who was an Indian; of a grandmother who was "burned by ye bloudy Papists"; of another who died at the stake for witchcraft, etc. "The instincts and qualities belonging to the ancestral traits which predominated in the conflict of mingled lives, lay in this child in embryo, waiting to come to maturity. It was as when several grafts bearing fruit that ripens at different times, are growing upon the same stock. Her earlier impulses may have been derived directly from her father and mother, but all the ancestors who have been mentioned, and more or less obscurely many others, came uppermost in their time, before the absolute and total result of their several forces had found its equilibrium in the character by which she was to be known as an individual. These inherited influences were, therefore, many, conflicting, some of them dangerous. The world of the Flesh and the Devil held mortgages on her life before its deed was put in her hands; but sweet and gracious influences were also born with her."

From the study of the etiology and course of such a case, the author makes the following acute deductions: "It is by no means certain that our individual personality is the single inhabitant of these our corporal frames. . . . Some at least, who have been dead, may enjoy a kind of secondary and imperfect, yet self-conscious life, in these bodily tenements which we are in the habit of considering exclusively our own. . . . This body in which we journey across the isthmus between the two oceans is not a private carriage, but an omnibus."

The third novel, "A Mortal Antipathy" the last of the series, treats of the influence on a man's afterlife, of a severe shock received in early childhood. This time it is a man, Maurice Kirkwood, who, when an infant, was taken suddenly from his nurse's arms by a grown girl, his cousin, and throwing himself from her arms, he fell over the parapet of the balcony on which they were standing. This accident affected the nerves of the child so profoundly that he grew up with a "mortal antipathy" towards womankind in general, and especially towards women at that time of life when they should naturally prove most attractive to the opposite sex. Although Kirkwood makes all kinds of efforts to conquer this psychosis, it is all in vain. Whenever he is brought in the presence of a young woman, there comes over him a sudden faintness, a smothering sensation that threatens to destroy his life. He is doomed to lead a miserable solitary life, avoiding the society of men and women, while the natural social sympathies cry out in revolt.

These are, in short, the themes of the three novels.

It is natural that the unfortunate heroes of these novels should receive treatment from, and remain under observation of, the local physicians. Accordingly, we make the acquaintance of three general practitioners, and a retired physician, the father of one of the three. Although the physicians play but a secondary rôle in the novels, yet the psychological problems involved in the plots and incidents are brought out more boldly and clearly through their words and actions.

Before obtaining a private audience with each of the practitioners, it behooves us to say that the scenes of the three novels are laid in small towns or villages in New England. We have to deal all along with country doctors. None of them is burdened with too much academic learning; the latest fad never reaches them, and the latest discovery comes to them only after it has stood the fire of scrutiny. They don't read overly much. They possess, however, something that no books or laboratories can furnish, and that is: a capacity for work, a willingness to be helpful, broad sympathies, and common sense. It is remarkable that Dr. Holmes, a graduate of Harvard, a student in the best European universities, a college professor for over thirty years in his *alma mater*, a man who passed all his days in Boston, "the hub of the universe," has after all, chosen as types of the true healers, the poor country practitioners. And how well he knew their difficulties and struggles, both physical and intellectual! Here is a graphic description of the daily routine of a country physician:

"Half a dollar a visit—drive, drive, drive, all day—get up at night and harness your own horse—drive again ten miles in a snowstorm—shake powders out of a vial (pulv. glycyrrhizæ, pulv. acaciæ, āa, partes equales)—drive back again, if you don't happen to be stuck in a drift—no home, no peace, no continuous meals, no unbroken sleep, no Sunday, no holiday, no social intercourse, but eternal jog, jog, jog in a sulky, until you feel like the mummy of an Indian, who had been buried in the sitting posture, and was dug up a hundred years afterward."

Here is another of Holmes' fine characterizations: "If that primitive physician, Chiron, M.D., appears as Centaur, as we look at him through the lapse of thirty centuries, the modern country doctor, if he could be seen about thirty miles off, could not be distinguished from a wheel animalcule. He inhabits a wheel carriage. He thinks of stationary dwellings as Long Tom Coffin did of land in general; a house may be well enough for temporary incidental pur-

poses, but for a "stiddy" residence give him a "kerridge." If he is classified in the Linnæan scale, he must be set down thus: *genus homo;* species *Rotifer infusorius*—the wheel animal of infusions."

Let me introduce to you the physician of Elsie Venner, Dr. Kittredge, who, during one of her paroxyms "stood looking at her still, steady, thoughtfully, and tenderly." He is the leading physician in Rockland, a shrewd old man, "who looked pretty keenly into his patients through his spectacles, and pretty widely at men and women and things in general over them. Sixty-three years old—just the year of the grand climacteric. A bald crown, as every doctor should have. A consulting practitioner's mouth: that is, movable round the corners, while the case is under examination, but both corners well drawn down and kept so when the final opinion is made up."

In the following conversation with Langdon, the medical student, will be found a few of Dr. Kittredge's observations: "Why, no," said the old doctor, "I haven't got a great many printed books, and what I have, I do not read quite as often as I might, I'm afraid. . . . When a man that's once started right, lives among sick folks for five and thirty years, as I've done, if he has not got a library of five and thirty volumes bound up in his head at the end of that time, he'd better stop driving round and sell his horse and sulky. I know the bigger part of the families within a dozen miles' ride. I know the families that have a way of living through everything, and I know the other set that have the trick of dying without any kind of reason for it. I know the years when the fevers are in earnest, and when they are only making believe. I know the folks that think they are dying as soon as they are sick, and the folks that never find out they are sick until they are dead. You can't tell a horse by driving him once, Mr. Langdon, nor a patient by talking half an hour with him."

Dr. Holmes takes a great deal of delight in the way Dr. Kittredge behaved at the bedside. He always came into the sickroom with a quiet, cheerful look, as if he had a consciousness that he was bringing some sure relief with him. "The way a patient snatches his first look at his doctor's face, to see whether he is doomed, whether he is reprieved, whether he is unconditionally pardoned, has really something terrible about it. It is only to be met by an imperturbable mask of serenity, proof against anything and everything in a patient's aspect."

Another trait of Dr. Kittredge is a desideratum even in our days: "Some very silly people thought the old doctor did not believe in medicine. . . . Sometimes he lost a family of the more boorish sort, because they did not think they got their money's worth out of him, unless they had something more than a taste of everything he carried in his saddle bag."

That Dr. Kittredge is capable of making a snap diagnosis under trying circumstances, is illustrated by the following episode:

At a social entertainment given by Colonel Sprawle, the following takes place:

A sound something between a howl and an oath startled the company. . . . "He's chokin', he's chokin'," was the first exclamation. "Slap him on his back."

"He's black in the face," said widow Leech, "he's swallowed something the wrong way. Where's the doctor? Let the doctor get to him, can't ye?"

"If you will move, my good lady, perhaps I can," said Dr. Kittredge, in a calm tone of voice. "He's not choking, my friends," the doctor added immediately he got sight of him.

"It's apoplexy—I told you so—don't you see how red he is in the face," said old Mrs. Peake, a famous woman for "nussin'" sick folk, determined to be a little ahead of the doctor.

"It's not apoplexy," said Dr. Kittredge.

"What is it, doctor? What is it? Will he die? Is he dead? Here is his poor wife, the widow Soper, that is to be, if she ain't already."

"Do be quiet, my good woman," said Dr. Kittredge—"Nothing serious, I think, Mrs. Soper. Deacon!"

At the doctor's sharp appeal, the deacon lifted his head.

"It's all right," said the doctor as soon as he saw his face. "The deacon had a smart attack of neuralgic pain, that's all."

The doctor kept his countenance, but his diaphragm was shaking the change in his waistcoat pocket with subterranean laughter. He had looked through the spectacles and seen at once what had happened. The deacon, not being in the habit of taking his nourishment in the congealed state, had treated the ice cream as a pudding of a rare species, and to make sure of doing himself justice in its distribution had taken a large mouthful of it without the least precaution. The consequence was a sensation as if a dentist were killing the nerves of twenty-five teeth at once with hot irons, or cold ones, which would hurt rather worse.

When Dr. Kittredge wishes, for some reason, to keep a thing to himself, he does it gracefully. A Mr. Pekham wishes to pump him as to whether there is any "ketchin' complain' goin' about in the village." Dr. Kittredge, without a moment's hesitation makes answer:

"Well, yes, I should say there was something of that sort—measles, mumps, and sin—that is always catching."

In "The Guardian Angel" we meet with Drs. Hurlbut, father and son. "Old Dr. Lemuel Hurlbut, at the age of ninety-two, very deaf, very nearly blind, very feeble, liable to lapses of memory, was yet a wise counsellor in doubtful and difficult cases, and on rare occasions was still called upon to exercise his old skill." Dr. Holmes makes an observation concerning a nonogenarian, which bears quoting: "A man over ninety is a great comfort to all his elderly neighbors, he is a picket guard at the extreme outpost, and the young folk of sixty and seventy feel that the enemy must get by him before he can come near their camps."

Although under the treatment of Dr. Fordyce Hurlbut, the son, yet the case of Myrtle Hazard was of such a nature that it was deemed advisable to call in consultation, Dr. Hurlbut, Senior.

"Myrtle Hazard, father, had a narrow escape from drowning, and it has left her in a rather nervous state. You remember Myrtle Hazard? She is the great-granddaughter of your old friend the deacon." After a silent moment: "Myrtle Hazard, Myrtle Hazard. Yes, yes, to be sure. The old Withers stock, good constitution, a little apt to be nervous, one or two of 'em. I've given 'em a good deal of valerian and assafetida—not quite so much since the new blood came in. There ain't the change in folks, people think—same thing over and over again. I've seen six fingers on a child that had a six-fingered great-uncle, and I have seen that child's grandchild born with six fingers. Does this girl like to have her own way pretty well, like the rest of the family?"

After the consultation the doctors left the room to talk it over. "It does not amount to much, I suppose, father," said Dr. Fordyce Hurlbut. "You made the pulse about ninety—a little hard—didn't

you, as I did? Rest, and low diet for a day or two, and all will be right, won't it?"

Was it the feeling of sympathy, or was it the pride of superior sagacity that changed the look of the man's wrinkled features? "Not so fast—not so fast, Fordyce," he said. "I've seen that look on another face of the same blood—it's a great many years ago, and she was dead before you were born, my boy, but I've seen that look and it meant trouble then, and I am afraid it means trouble now. I see some danger of a brain fever, and if it does not have that, then look out for some hysteric fits, that will make mischief. I've been though it all before, in that same house. Live folks are only dead folks warmed over. I can see 'em all in the girl's face—handsome Judith to begin with. And the queer woman, the Deacon's mother—there's where she gets that hysteric look. Yes, and the black-eyed woman with the Indian blood in her—look out for that—look out for that."

"Four generations—four generations, man and wife—yes, five generations, before this Hazard child I've looked on with these eyes, and it seems to me I can see something of almost everyone of 'em in this child's face—it is the forehead of this one, and it's the eyes of that one, and it's that other's mouth, and the look that I remember in another, and when she speaks, why, I've heard that same voice before—yes, yes—as long ago as when I was first married."

We will now learn something about Fordyce Hurlbut, her regular attending physician. He was a widower, not yet forty years old, a man of a fine masculine aspect and a vigorous nature. He was a favorite with his female patients, perhaps many of them would have said because he was good looking, and pleasant in manners, but some thought in virtue of a special magnetic power to which certain temperaments were impressible.

At one of his visits to Myrtle Hazard, he found the nurse unusually agitated, and as soon as he could get her out of the house she made the following oration:

"She's been attacked, doctor, sence you been here, dreadful. It's them high stirricks, doctor, 'n I never seen 'em higher, nor more of them. Laughin' as if she would bust. Cryin' as if she's lost all her friends, 'n was follerin' their corpse to their graves. And spassums, sech spassums! And ketchin' at her throat, 'n' savin' there was a great ball a risin' unto it from her stomick. One time she had a kind o' lockjaw like. And one time she stretched herself out 'n' laid just as still as if she was dead. And she says now that her head feels as ef a nail had been driv' into it—into the left temple, she says, and that's what makes her distressed now."

Dr. Fordyce returned to the bedside, and asked, "Where is your uneasiness, Myrtle?" She moved her hand slowly and passed it on her left temple. He laid his hand on the same spot, kept it there a moment and then removed it. She took it gently with her own, and placed it on her temple again. As he sat watching her, he saw that her features were growing easier, and in a short time her deep, even breathing showed that she was asleep.

"It beats all," the old nurse said. "Why, she's been a complainin' ever since daylight, and she hain't slep' not a wink afore sence twelve o'clock las' night. It's jes' like them magnetizers. And she lays there jest as peaceful as a new-born babe—that is accordin' to the sayin' about 'em, fer as to peaceful new-born babes, I never see one that come t' anything that did no' screech as ef the haouse was afire, 'n 't wanted to call all the fire engines within ten miles."

Dr. Fordyce thought that the tranquilizing effect of the contact of his hand was a mere coincidence. At the next visit all the strange spasmodic movements, the choking, the odd sounds, the wild talk, the laughing and crying were in full blast. All the remedies had been of no avail. The doctor could not refuse his quasimagnetic influence, and placed the tip of his fingers on her forehead. The result was the same as the day before—the storm was soon calmed, and she fell into a quiet sleep.

Every day after that matters became worse. Myrtle Hazard now seemed to have lost the healthy instinct for veracity and honesty. She feigned all sorts of odd symptoms, and showed a wonderful degree of cunning. The nurse describes the situation to Mr. Byles Gridley in the following way:

"Sech doin's, sech doin's! The gal is jest as much bewitched as ever any gal was sence them that was possessed in scriptur! Ef that doctor don't stop comin', she won't breathe without his helpin' her to, before long. And, Mr. Gridley, I don't like to say so, but I can't help thinkin' he's gettin' bewitched too. Man is man and gals is gals. I wouldn't trust no man, not if he was much under a hundred years old,—and as for a girl—! . . ."

Mr. Gridley, a scholar, some sixty years old and a bachelor, took a great deal of interest in the young folks at Oxbow village, illustrating thereby that singular law laid down by old Dr. Hurlbut, namely, that "at a certain period of life, say from fifty to sixty and upwards, the grandpaternal awakens in bachelors, the rhythm of nature reaching them in spite of their defeated intentions; so that when men marry late, they love their autumn child with a twofold affection, father's and grandfather's both in one." After his conversation with the nurse, he called Dr. Fordyce Hurlbut to his study, engaged him in a talk about old medical prints and folios, and then asked him whether he had read the oath of Hippocrates. Dr. Fordyce said that he had read it, but did not remember it.

"It's worth reading, doctor, it's worth remembering, and old as it is, it is just as good to-day as it was when it was laid down as a rule of conduct four hundred years before the Sermon on the Mount was delivered. Let me read it to you, Dr. Hurlbut: 'My life shall be pure and holy, into whatever house I enter, I will go for the good of the patient; I will abstain from inflicting any voluntary injury, and from leading away any, whether man or woman, bond or free." The doctor took the hint. It is not necessary to quote further the conversation. True to his honorable calling and his truthful character, he admitted the peculiar relations into which he was daily drawn, and under a pretext left Oxbow.

There remains one more physician whose hand we are to shake. It is Dr. Butts, who treats Maurice Kirkwood, the hero of "A Mortal Antipathy." Dr. Butts was the leading medical practitioner, not only of Arrowhead village, but of all the surrounding regions. He was an excellent specimen of the country physician, self reliant, self sacrificing. "He had that sagacity without which learning is a mere encumbrance, and he had also a fair share of that learning, without which sagacity is like a traveler with a good horse, but who cannot read the directions on the guide boards." He was not a man to be taken in by names. He knew too well that what is spoken lightly of as a "nervous disturbance" may imply that the whole machinery of life is in a deranged condition, and that every individual organ would groan aloud if it had any other language than the terrible inarticulate one of pain, by which to communicate with the consciousness.

It is natural that the inhabitants of Arrowhead should become intensely interested in Maurice Kirkwood, the solitary and mysterious visitor. Dr. Butts

finds out from the servant of Kirkwood, an Italian, that his master has "una antipatia." He did not smile and say to himself that this was an idle whim, a foolish fancy which the young man had got into his head. . . . He was prepared to believe in some exceptional, perhaps, anomalous form of exaggerated sensibility. At this juncture I must introduce to you Dr. Butts' wife, the only doctor's wife in the three novels.

"Dr. Butts carried these questions home with him. His wife was a discreet woman, whom he could trust with many professional secrets. He told her of Paolo's, the servant's, revelations, and talked it over with her in the light of his experience and her own; for she had known some curious cases of constitutional likes and dislikes.

"Mrs. Butts buried the information in the grave of her memory, where it lay for nearly a week. At the end of this time, it emerged in a confidential whisper to her favorite sister-in-law, a perfectly safe person. Twenty-four hours later, the story was all over the village that Maurice Kirkwood was the subject of a strange, mysterious, unheard-of antipathy to something—nobody knew what, and the whole neighborhood resolved itself into an unorganized committee of investigation." Dr. Butts, "if he suspected the channel through which it had reached the little community, he did not see fit to make out of his suspicion a domestic casus belli." He had to concede, however, "that the worthy lady had forgotten the rule, that doctor's patients must put their tongues out, and a doctor's wife must keep her tongue in."

In reviewing the characteristics of the four physicians in the novels of Dr. Holmes, we find that they do not represent four distinct types. There is not a single feature by which they can be distinguished one from another, except their names. They are all leading physicians in their respective communities, they are honest, hard working, and endowed with a great deal of common sense. We recognize in Dr. Kittredge all the traits of Dr. Butts and the old Hurlbut, and *vice versa*. They are lovable characters, no doubt, and one wishes that in time of sickness he may have the good fortune of being treated by one of these elderly physicians. But they lack the stuff that produces heroic personalities like those in the Country Doctor of Balzac, Dr. Pascal of Emile Zola, or even the unpretentious doctor of the old school of Maclaren. Granted that the physicians in Holmes' novels were never intended to be heroes, they are secondary personages, and were merely introduced to give the novels a scientific coloring. Yet, the fact remains that all these secondary characters are almost identical, even to the propensity of holding lengthy theological discourses with ministers—which from an artistic standpoint is rather monotonous.

It is a pity that a man of Holmes' versatility and practical temperament did not create a type of a physician more worthy of his genius and of his profession.

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**Peroneal Resection as a Means of Correction in Rigid Valgus.**—The management of three classes of valgus is considered by Charles F. Painter as follows: (1) Feet whose function is impaired through inability to allow inversion at the mediotarsal joint, this being due to intertarsal sensitiveness causing reflex spasmodic resistance. If overcorrection is not possible, an anesthetic should be given and the adhesions broken up if they exist; if they do not, and after complete anesthesia has brought about muscular relaxation there is no resistance to force, the case probably belongs to a type of valgus in which spasdomic contracture of the peroneals is responsible. (2) The peroneal, in which attempts to correct the pronation and abduction are accompanied by a tautness of the peroneals. Under ether the spasm of these cases disappear, and if there is no intertarsal adhesions the case is probably one of pure peroneal spasm, and should be treated by resection of the peroneals and not by simple manipulation. (3) Bony deformity. The inner border of the foot is lengthened; manipulation and peroneal resection alone are of no avail in this condition, and the restitution of the arch and functional improvement is to be obtained only by the removal of the scaphoid. This shortens the inner border and removes the wedge which prevents correction of abduction. Sometimes peroneal resection may be required. The technique of the operation is as follows: The peroneals are exposed above the external maleolus. The peroneus longus is the first to come in view, and is wholly tendinous in this situation; the peroneus brevis beneath it is both muscular and tendinous. From three-fourths to one inch of both tendons are resected and the sheath destroyed. This latter is necessary to insure the permanency of the result. The foot is then forcibly overcorrected after closing the wound, and is retained in an overcorrected position by a plaster-of-paris bandage. It is left in this position for two or three weeks. At the end of this time the plasters may be removed and high Thomas heels applied, the patient being allowed the use of the feet.—*Boston Medical and Surgical Journal.*

**Multiple Primary Carcinomata.**—Richter adds five cases to this group. Three distinct esophageal tumors were present in each of the first two cases. As the intervening mucosa was apparently normal, the writer holds the tumors to have developed independently of one another. He admits, however, the possibility of transplantation of tumor cells through the submucous lymphspaces, or of secondary involvement of the esophageal wall through an adherent lymphnode containing a metastasis. An instance of the former mode of transmission could be demonstrated in the mucosa between two of the tumors in one of the cited cases. Richter further reports the following cases in which the independent origin of the neoplasms hardly admits of question: 1. Adenocarcinoma of the thyroid with epithelial carcinoma of the uterine cervix. Metastases corresponding to both types of carcinoma were found in the lungs. The regional lymphnodes contained metastases corresponding to the type of tumor in the region drained. 2. Adenocarcinoma of the breast; epithelial carcinoma of the uterus. The tumors formed independent metastases in the liver. Metastases in the axillary nodes were adenomatous in type; those in the inguinal nodes consisted of pavement cells with epithelial pearls. 3. Malignant papillary cystoma of the ovary; adenocarcinoma of the sigmoid flexure. The lymphnodes of the mesentery of the sigmoid contained metastases corresponding to the intestinal tumor.—*Wiener klinische Wochenschrift.*

**Eye Affections Dependent Upon Diseases of the Teeth.**—Hugh Blake Williams draws our attention to affections of the teeth as the cause of various eye troubles, some of them of considerable severity. The distribution of the fifth nerve and the proximity of the superior maxillary bone to the orbit, and the continuance of the periosteum of the orbit with that of the alveolar process, with the course of the angular artery and certain veins, indicate to us the means by which the morbific influence is carried. The passage of bacteria from the mouth, by way of the nose, into the conjunctival sac will account for inflammations of the conjunctiva and cornea. Such serious affections as cellulitis and abscess of the orbit, strabismus, ptosis, paresis, and spasm of the eye muscles, have all been traced to the teeth. Alveolar periostitis may extend to the orbit. The author describes cases of blepharospasm, strabismus, insufficiency of the external rectus, and headache which he has had under his care, in which the treatment of carious teeth cause the eye symptoms to disappear.—*The Illinois Medical Bulletin.*

MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, September 30, 1905.

## THE CONTAGIOUSNESS OF ERYSIPELAS.

THE idea that erysipelas is a virulent type of contagious disease has taken such a firm hold on both the lay and professional mind, that even the apparently complete refutations based on advanced bacteriological investigations, have thus far failed to overcome it entirely. The fear of contact with the afflicted one makes the latter an object to be zealously avoided, and if he happens to be an inmate of a hospital ward, immediate and complete isolation is his fate. And yet there may be others present infected with much more virulent types of organisms, who are not considered for a moment any source of danger to the other patients. It is proper to ask why erysipelas is so sharply differentiated from inflammatory processes depending on bacterial infection of a similar kind.

A defect in the epithelial covering of the skin or mucous membrane is quite generally admitted to furnish an entrance for the pathogenic organism which produces erysipelas, and this in itself marks the disease as a wound infection. It also furnishes a sharp contrast to the picture afforded by the course of a typical contagious disease which is disseminated through the air or by an intermediary. Erysipelas has ceased to be the *bête noir* of hospital surgery, but how much of this favorable result is to be ascribed to our more complete knowledge of wound infection and wound treatment, how much to the better training and control of the ward attendants, need not be discussed here. There is no doubt of the fact, however, that reports of erysipelas epidemics have about disappeared from our literature.

A great deal of the mystery surrounding this disease has been cleared up by the observations of recent investigators. These results should be more generally known, in order that patients thus afflicted may be freed from the opprobrium so often attached to them, and which is only satisfied by their complete and to them certainly most annoying, isolation. There is no reason to question the facts obtained by these writers, because they are based on careful bacteriological investigations. The most recent is by Franke of Prof. König's clinic (*Deutsche Zeitschrift für Chirurgie*, Vol. 78, No. 1), who has succeeded in demonstrating that the streptococcus gains entrance through minute and often unnoticed wounds in the skin or mucous membranes, and then continues its growth in the lymphatic channels of the cutis. Erysipelas may, therefore, be defined as a lymphangiomatous disease, and in no instance was it found that the germs returned to the surface of the skin, and were present in either the scales or the bullæ. Whether the streptococcus produces an erysipelas or a cellulitis possibly depends on the size of the wound and the depth to which the organism may have penetrated, and finally, on the virulence of the particular strain. It seems evident, therefore, that the patient is not a source of danger to his surroundings, so long as the surface of his skin remains intact. When he indulges in scratching, however, in order to relieve the intense itching, the corium is likely to be lacerated, and the exuding fluid has been proved to contain the streptococci. In this manner the infectious material may unconsciously be distributed and so, in order to avoid further dissemination of the disease, it is essential that the dispersion of the germs be limited by the application of proper occlusive dressings; when this is properly done the patient need not, as a rule be isolated. The exception deals only with cases in which sufficient dressings for the purpose are impracticable, as in facial, perineal, and some other locations of erysipelas. Here it will be more convenient to isolate the patient until the inflammatory stage has disappeared, but the isolation need not be prolonged beyond this period, as the desquamative stage has been shown to be without danger.

When, then, the diagnosis of erysipelas has been made, Franke contends, one need no longer continue to regard the patient in abject terror. The disease should be viewed in the same light as any other condition depending on wound infection, and treated accordingly.

## ELECTROCUTION.

ALTHOUGH "the chair" has for nearly two decades been the legal mode of execution of criminals in this State it has by no means received the unanimous approval even of those who believe in capital punishment. The statement that death by means of an electric current of high voltage is practically instantaneous and painless has not been accepted by all who have studied the subject or witnessed an electrocution. If muscular contractions and cardiac pulsation are accepted signs of continued life, it is very certain that death is not instantaneous in all cases; and, indeed, in certain instances there has been a strong suspicion that the real executioner was the physician who performed the autopsy after life was assumed to be extinct. Whether the method is painless or not depends upon whether consciousness is at once abolished; and that is a point which is naturally very difficult to determine in the electric chair.

In an article in the *Journal of Mental Pathology*, Vol. VII., No. 2, Dr. Louise Robinovitch describes some experiments on rabbits with an electric current of low tension, from which she draws conclusions very adverse to the legal mode of execution in New York. These experiments were made with the Leduc current of low voltage, only fourteen volts constituting a lethal current in the rabbit, the proportionate voltage in the case of man being, probably, from 150 to 200. The cathode was applied to the forehead and the anode to the abdomen. It was found that consciousness was completely abolished when only about five volts were turned on, this current inducing a condition having every appearance of a deep sleep. About two and one-half times the voltage producing "electric sleep" was

necessary to cause death. There was neither edema, blistering, nor burning of the parts to which the electrodes had been applied.

Pending the abolition of electrocution and of capital punishment in general, of which Dr. Robinovitch is a pronounced opponent, she urges that the process be made as humane as possible by the use of these electric currents of low voltage. By means of them suspension of consciousness is quickly and absolutely secured, and cardiac and respiratory paralysis is rendered certain; at the same time the horrible burning of the parts in contact with the electrodes is avoided. This last, of course, is a purely esthetic argument, but for the sake of the electrocutioner (it would be worth while abolishing this method of killing to get rid of such a word) and of the witnesses the process should be made as little brutalizing as possible. But perhaps the strongest argument in favor of the employment of a current of low voltage, assuming that there was no flaw in these experiments, and that the same certainty of results would obtain in the human body as in the rabbit, is that it surely kills, and the dreadful suspicion that possibly the physician is in the end the real executioner would then be stilled. Resuscitation was attempted in Dr. Robinovitch's experiments, and always failed when radial pulsations or heart beats and muscular movements were not visible or perceptible—but not when these were present. In some of the cases of electrocution in New York there were chest movements and radial pulsations after from one to three contacts; and in one case there was a slight fluttering of the radial pulse even after the final contact was broken, though the writer states that this rapidly ceased. So far as we know, no attempts at resuscitation were made in these cases, so the doubt remains whether life was really extinct.

We are not prepared to agree with Dr. Robinovitch, or with Dr. Castelli, in a recent communication to the MEDICAL RECORD, that capital punishment should be abolished. There is room to doubt its value as a deterrent to crime, and even to question whether the spectacular hangings of former times may not have been an incentive to murder. In eastern Kentucky, it was the fashion, not many years ago, for a condemned murderer to distribute handkerchiefs with his portrait printed on them to all the spectators of the ceremony, as a memento of his taking off, and the event was made the occasion of a holiday for all the neighbors, friends and foes alike. But as a protection to society by removing a dangerous enemy, there is much to be said in favor of the execution of a desperate criminal; for with the pardoning power in the hands of a soft-hearted or weak executive, a sentence of imprisonment for life carries with it no certainty of permanence. As compared with hanging, electrocution, with its partial secrecy, is a preferable method, but it should be carried out in a humane manner, if its object is to rid the State of a dangerous character, and not to inflict punishment on the individual. From this point of view the present method of inflicting capital punishment in New York State cannot be regarded as ideal. Perhaps the substitution of currents of low voltage, as used in the experiments to which we have referred, might make the conditions of execution more tolerable. The subject is at least worthy of further study and experimentation, with a view to the confirmation or rejection of Dr. Robinovitch's conclusions.

## THE SUMMER DIARRHEAS OF INFANCY.

ALTHOUGH the bacillus of dysentery and its congeners have in recent years been found in the intestinal discharges from a considerable proportion of infants suffering from summer diarrhea, it is not contended that this organism is the sole and exclusive cause of the group of disorders mentioned. Moreover, it has seemed possible that often the organisms in question have played the part merely of saprophytes; while at other times, no doubt, they constitute the etiological factor with respect to both anatomical lesions and clinical manifestations. That other factors are operative in the conditions under consideration there is now ample evidence to show.

For the purpose of clearing up a number of moot points in this connection, Dr. Chas. Hunter Dunn (*Archives of Pediatrics*, June, 1905), made a careful study of 620 consecutive cases of diarrhea in infants, observed during the summer months of 1903 and 1904, at the out-patient department of the Thomas Morgan Rotch, Jr., Hospital for Infants. As a result of this investigation, the conclusion is reached that the diarrheal diseases of infancy occurring during the summer months differ in no way, either clinically or anatomically, from similar diseases occurring at other seasons of the year, except in their much greater frequency. In view of the variety of lesions found in cases of similar etiology and similar clinical course, and of the lack of correspondence between the anatomical and the clinical picture, classification on an anatomical basis, as, for example, into functional and organic, or non-inflammatory and inflammatory (ileocolitis), is not convenient from the etiological standpoint. Accordingly, Dr. Dunn proposes the following classification: (1) acute nervous diarrhea, characterized by loose stools of normal color and odor, without abnormal constituents; (2) irritative diarrhea, characterized by the absence of persistent fever and by the presence of curds and undigested masses in the discharges; (3) fermental diarrhea, characterized by the absence of fever and by green stools of a foul odor; (4) infectious diarrhea, characterized by the existence and persistence of fever and by a tendency toward early signs of ileocolitis, as indicated by the presence of blood and excess of mucus in the discharges—infantile dysentery if the bacillus of dysentery is the causative factor; (5) rare cases presenting conditions corresponding to heat exhaustion and cholera infantum.

Of the above-mentioned forms irritative and fermental diarrhea were found to be by far the commonest. In all forms the chief or primary etiological factor is the increased heat of the weather during the summer months, causing functional disturbance of the nervous system or of the digestive apparatus. Bacteria act as a secondary cause in a certain number of cases and particularly of the infectious type of diarrhea. Infection may be brought about through the introduction of bacteria from without or through the activity of bacteria already present in the intestines. The bacillus of dysentery is the cause in most cases of the infectious group. It is often found in cases in which probably it has no causal relation to the morbid process present. Other microorganisms probably act as causative agents in some infectious cases. The anatomical changes of various kind included under the term ileocolitis, may occur in asso-

ciation with any of the types of diarrhea described, except the acute nervous form. Anatomical changes of some kind probably occur in all cases of infectious character.

### A Vaccine for Kala-Azar.

The real nature of tropical splenomegaly, or kala-azar, although the disease has long been known and studied in India and other tropical and subtropical countries, has been recognized only for the past five years, since Leishman discovered the protozoan parasite in the spleen. Since that time the microorganism has been found by Donovan and others in the bone marrow, the liver, the lymph nodes, and on the surface of the intestinal ulcers. Before Leishman, Cunningham had found a protozoan, apparently identical morphologically, in cases of Delhi boil, and more recently Wright has found the same parasite in the Aleppo button. The identity of the parasite in two such unlike conditions was considered singular, but its possible significance was not appreciated until very recently. In a paper read before the Tropical Section of the British Medical Association, in July last, Sir Patrick Manson called attention to the fact, basing upon it a suggestion which may prove to be of great practical value. The distribution of the parasite in kala-azar, he said, is very general, while in oriental sore it is found only locally; yet even in the latter case there is some constitutional effect produced, since the threatened development of the sore in one part can be averted by immediate inoculation with the specific virus in another part. There are, therefore, two constitutional diseases, clinically distinct, produced by the same parasite, or by two very closely related parasites. The suggestion of Manson was that these two diseases might be related in the same way as vaccina and smallpox; and this is supported by the popular belief that oriental sore is acquired from the camel. If such is the case, the analogy need be carried but a step further to secure an efficient vaccine for the dreaded kala-azar. In the paper referred to above, Manson says that "oriental sore may bear the same relation to kala-azar that vaccina does to smallpox; and possibly the virulence of the kala-azar germ has been got rid of during its passage through the camel just as the smallpox germ is deprived of its virulence by passing through the cow. This is conjecture, but seems to be a point worth working out, for should the conjecture turn out to be correct, we may have ready to hand a means of preventing kala-azar."

### Magnesium Treatment of Cavernous Tumors.

A few years ago E. Payr recommended as one of great efficacy a method for removing inoperable cavernous tumors by means of magnesium pencils inserted in the growth. Tollens (*Zeitschrift für Chirurgie*, Vol. 77, Nos. 1 and 3) reports his experience with the method in an angioma of the skin on the arm of a four months' old child. A number of thin magnesium pencils were thrust through a small opening in the skin directly through the tumor and permitted to remain in place. No diminution in the size of the growth could be demonstrated, and as it was, on the contrary, increasing in extent, it was excised four weeks later in several sittings with favorable results. Subsequent examination of the tissues showed that the magnesium produced very little reaction, and in this case, at least, the method must be looked upon as a failure.

## News of the Week.

**The Medical Society of the State of New York.**—The centennial meeting of this society will be held at Albany, January 30–February 1, 1906, under the presidency of Dr. Joseph D. Bryant of this city. The president has appointed as his Business Committee Drs. Leo H. Neuman of Albany, Algernon T. Bristow of Brooklyn, and Herbert U. Williams of Buffalo. Communications regarding the program of this meeting should be addressed to one of the members of this committee. The secretary of the society is Dr. Frederic C. Curtis, 17 Washington Avenue, Albany. The chairman of the Centennial Celebration Committee is Dr. A. Jacobs of this city, the secretary is Dr. George R. Fowler, 301 Dekalb Avenue, Brooklyn.

**The Fifth Annual Conference of Sanitary Officers of the State of New York** will be held in the capitol at Albany, October 4 and 5, 1905, under the presidency of Dr. Eugene H. Porter, State Commissioner of Health. Among other subjects to be discussed will be the local and institutional control of contagious diseases; the pathology of diphtheria; studies of pneumonia, typhoid fever, and cerebrospinal meningitis, and the pollution and purification of public water supplies. Many prominent sanitarians and laboratory workers are expected to be present and to take part in the discussions.

**New Board of Health Laboratories.**—The laboratories of the research bureau of the Board of Health, in East Sixteenth street, have been moved into the new six-story fireproof building about 100 feet northeast of the old stable in which Dr. Park has had his headquarters for years. The new laboratories are equipped with all modern conveniences, including an elevator, and will accommodate seventeen research workers and forty-seven assistants. The first two floors will be devoted to executive offices and dormitories.

**A County's Responsibility for Mad Dog Bites.**—Claims presented recently by two women to the County Commissioners of Hamilton County, Ohio, for expenses incurred through mad dog bites have been allowed by the County Commissioners. The claims are the first to be paid under the recent legislation making a county responsible for medical treatment necessary for rabies. The claims were presented some time ago and the counsel for the County Commissioners made a lengthy investigation as to the county's liability. The claims were for $201 and $191, respectively.

**Diphtheria in Chicago.**—The diphtheria death rate has been greatly decreased of late years. Before the Chicago Health Department undertook the diagnosis for physicians and the distribution of antitoxin for its treatment the average annual death rate from this disease was 13.7 per ten thousand of population. Under this laboratory work the rate has fallen to an average of 4.9. In 1904 it was only 2.04 per ten thousand.

**County Societies Established in Georgia.**—The *Hall County Medical Society* was organized at a meeting held at Gainesville on September 15. The following officers were chosen; *President*, J. W. Bailey; *Vice-President*, J. W. Oslin; *Secretary and Treasurer*, Dr. P. E. B. Robertson; *Censors*, Drs. J. B. Rudolph, W. A. Palmour and J. H. Downey. The *Stephens County Medical Society* was organized at Toccoa on September 18. The following officers were elected: *President*, Dr. Jeff Davis; *Vice-President*, Dr. W. L. McBath; *Secretary and Treasurer*, Dr. J. H. Crawford; *Censors*, Drs. Claude J. Verner J. H. Edge, and W. H. Parker. The

organizer of both societies was Dr. W. B. Hardman of Commerce, Ga.

**Tuberculosis Clinics in Cleveland.**—Dr. Friedrich, health officer of Cleveland, O., has decided to establish a free clinic in that city for the treatment of tuberculosis on the fat-and-vegetable-juice plan. The scheme has met with considerable opposition from some of the local practitioners who do not regard the value of the system sufficiently established to warrant such a quasi official indorsement.

**A Hospital Threatened.**—A wealthy property owner of Palo Alto, Cal., is reported to have threatened to bring legal proceedings against the Students' Guild, of the Stanford University to have their hospital removed from within the city limits, on the ground that it is a menace to the health of the community and consequently causes a deterioration in the price of property. As the hospital was built at a cost of $5,000 and has already proved a great benefit to many students during illness, efforts are being made to appease the angry one. An offer to receive the citizens of Palo Alto on the same terms as the students is said to have failed to exert any mollifying influence.

**Yellow Fever.**—According to the official reports, Pensacola, Fla., is now in a worse plight than New Orleans. For the twenty-four hours ended at 6 P. M., Monday, there were twenty-five new cases, scattered all over the city. In New Orleans the daily average of new cases is about thirty. The total number of cases reported up to Wednesday was 2,918, and of deaths 380. A comparison of the figures shown by the records of the fever epidemic of 1878 with the figures of this year shows most favorably for 1905. There had been 6,926 cases of yellow fever reported up to September 17, 1878, with 2,176 deaths, making the death rate 31.4 per cent. Up to the same date this year the total cases were 2,571 and the deaths 335, making the death rate 13 per cent. The fever started about the same time in both years, and the difference in cases in favor of this year is due to the modern methods of fighting the disease.

**The Cholera.**—A case of this disease has occurred in Berlin in the person of a bargeman on a coal boat in the Spree, in the heart of the city. Up to noon on Monday last the total number of cases in Germany was 246, and of deaths 85.

**Dr. George F. Butler** has tendered his resignation to the College of Physicians and Surgeons of Chicago, where for nearly twelve years he has held the chair of Materia Medica, Therapeutics, and Clinical Medicine.

**Dr. H. L. Barnes** of Brooklyn, formerly assistant to Dr. King of the Loomis Sanatorium, will, it is believed, be appointed medical superintendent of the Rhode Island State Sanatorium for the treatment of tuberculosis.

**Dr. Claude A. Smith** has been appointed city bacteriologist and chemist to the board of Health of Atlanta, vice Dr. H. F. Harris who resigned to accept the position of secretary to the State Board of Health.

**Dr. Don D. Grout** of Waterbury, Vt., has been appointed superintendent of the Vermont State Hospital for the Insane. Dr. Grout was born in 1849 and is a graduate of the Medical Department of the University of Vermont in 1872.

**The Sixth International Congress of Psychiatry** will be held at Geneva in 1909 under the presidency of Dr. Th. Flournoy. The American members of the international committee of propaganda are Drs. Strong, Cattell, Baldwin, Ladd, Munsterberg, Stewart, Stanley Hall, and Titchener. The secretary of the congress will be Dr. E. Claparede of Geneva.

**Laboratory for the Army Hospital at Presidio.**—Contracts have been awarded for the building of a laboratory in connection with the army general hospital at Presidio, San Francisco, at a cost of $10,000.

**Bequest to the Wistar Institute.**—The Wistar Institute of Anatomy and Biology at the University of Pennsylvania, by the will of its recently deceased founder, Gen. Isaac J. Wistar, is to receive the greater part of his $2,000,000 estate, and also his right arm and brain to aid the cause of anatomical research. That part of the will which bequeaths the arm and brain reads as follows: "I bequeath to the Wistar Institute of Anatomy and Biology my right arm, said to be a desirable specimen of gunshot ankylosis, and also my brain, to be removed by said institute promptly after my death."

**Dismissal of a Bellevue Interne.**—One of the internes at the Bellevue Hospital house staff has been dismissed on charges of insubordination. One of the allegations is that he threw electric light bulbs out of the window, and on being taken to task for this he denied the charge in so emphatic a manner as to lead to his enforced resignation.

**Newspaper Medicine.**—According to the daily press many new things have been learned about heart action by two investigators at the University of Chicago, and one of them is quoted as having said that "What we have learned gives us hope that some day we may replace the wounded or worn out heart of a human being with the healthy, youthful, and strong one from a living monkey."

**Japan's Total Losses in the War.**—It is stated that Japan's war losses so far have been 46,180 killed, 10,970 deaths of injuries and 15,300 deaths from sickness. The loss of life from illness has been less than a quarter of the total number of deaths, which is 72,450.

**Diphtheria at Annapolis.**—An outbreak of diphtheria has developed among the members of the new fourth class at the Naval Academy and ten cases have been reported. A strict quarantine has been instituted.

**Dr. William Osler,** formerly one of the medical faculty of Johns Hopkins University and now Regius Professor of Medicine at Oxford, England, has accepted the post of Thomas Young Lecturer on Medicine at St. George's Hospital, and will give a series of lectures and demonstrations at the hospital next spring on the diagnosis of abdominal tumors.

**Dr. Thomas John Barnardo,** the well-known philanthropist of London who devoted his life to the work of rescuing street waifs in the English metropolis, died September 19 at the age of sixty years. He was a native of Ireland but received his medical education in Edinburgh, Paris, and London. While at the London Hospital in 1866 he had his attention directed to the children of the streets, and their rescue became his life work. He founded his first home in 1867. A village for girls followed in 1873, Her Majesty's Hospital for Sick Waifs was founded in 1887, and the Young Helper's League was formed in 1891. Through these institutions 55,000 orphan waifs have been rescued, trained and started in life; nearly 16,000 have been sent to Canada and the British colonies. Dr. Barnado was also a prolific writer on behalf of the cause of dependent children.

**Obituary Notes.**—Dr. Isaac Emmet Nicholson of Oakland, Cal., died September 9 from typhoid fever, at the age of thirty-four years. He was born in Oakland. He was a graduate of the Bellevue Hospital Medical School in 1894, and served as interne at Roosevelt Hospital.

Dr. Charles Smith of Guthrie, Oklahoma, died September 9 at the age of forty-eight years. He was born in Versailles, Ky., and was graduated from the Missouri Medical College, St. Louis, in 1879.

Dr. J. L. Wever of Leavenworth, Kan., died September 11, at the age of eighty-one years. He was born in Johnstown, N. Y., and was a graduate of the Albany Medical College in the class of 1852. He was surgeon to a Kansas regiment for three years during the Civil War. He was a member of the Leavenworth School Board for twenty years, and for six years was a regent of the State University; he was also chief surgeon to the National Soldiers' Home at Leavenworth.

Dr. Josiah Hale of Owensboro, Ky., died September 14. He was a graduate of the Medical Department of the University of Louisville in the class of 1856. He retired from active practice about ten years ago.

Dr. Hugh L. Tobin, physician to the Frankfort, Ky., penitentiary, died in Louisville, on September 14, at the age of forty-four years. He was a graduate of the Jefferson Medical College, in the class of 1882.

Dr. John B. Hardeman of Henderson Tenn., died September 10, at the age of sixty-two years. He was a graduate of the Medical Department of the University of Nashville, in the class of 1872.

Dr. Joseph M. Turney of Statesville, Tenn., died September 11 at the age of sixty-three years. He was a graduate of the Medical Department of the University of Nashville in the class of 1873.

Dr. Joseph Maurice Sheahan of Quincy, Mass., died on September 22, at the age of fifty-three years. He was born in Braintree, and received his medical degree from the University of Paris in 1879. He had practised in Quincy since 1880. He was at one time chairman of the Board of Health, and served on the School Board from 1886 to 1896.

Dr. Simon Fitch of Halifax, N. S., died on September 12, at the age of eighty-seven years. He was born in Horton and received his medical degree at the University of Edinburgh in 1841. He was the father of Dr. T. S. P. Fitch of Orange, N. J.

Dr. F. A. Baldwin of New York died September 22, at the age of fifty-nine years. He was a graduate of the Bellevue Hospital Medical School in the class of 1881.

Dr. Samuel C. Allaband died of apoplexy at Philadelphia on September 19 at the age of sixty-two years. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1865.

Dr. Robert Ormiston of Brooklyn died at Stamford, N. Y., on September 19, at the age of seventy years. He was a graduate of the Medical Department of the University of Pennsylvania in the class of 1858. He served in the Civil War as an army surgeon. He was senior consulting physician of the Brooklyn Hospital for thirty years. He was a member of the Kings County Medical Society and the Brooklyn Pathological Society.

Dr. James R. Chadwick of Boston died suddenly at his summer residence at Chococura, near West Ossipee, N. H., on September 24. He was a graduate of Harvard Medical School in the class of 1871, and was a member of the Medical Faculty of the University.

## Correspondence.

### THE TREATMENT OF PNEUMONIA.

To the Editor of the Medical Record:

Sir: Your editorial in the issue of September 16 emphasizes the true state of this subject and suggests in its concluding sentence an important clue to the solution of the problem, "Why is pneumonia so fatal?" You say truly, "Perhaps an unprejudiced study of the methods of the many humble medical practitioners who do not write, and who have comparatively little bacteriological wisdom, but whose patients do not usually die from pneumonia, would help the commission toward at least a partial attainment of their object." It has always been a serious error to assume that the hospital physician, who sees a larger number of patients than the ordinary family physician, is best equipped for the determination of therapeutic questions. Statistics involving large numbers are constantly marshalled pro and con, when the treatment of any disease is under discussion, as trustworthy. There is no greater error. These statistics are drawn by reliable men—men who are, as a rule, competent; but the material from which the deductions are made is not the same as that which the family physician treats, nor do the conditions which influence the prognosis more than does the treatment by medicinal agents, which are still too much in vogue, approximate those in private practice.

In no disease is this more true than in pneumonia, as my personal observation as a hospital, institution, and private practitioner for twenty-five years has demonstrated.

1. Patients are sent to hospital usually after the disease has existed for days; often only when a fatal issue is evident or in prospect; almost always when the facilities of the house are inadequate for the proper care of the sick. Frequently the case has been treated symptomatically by antipyretics, or other powerful agents, before a diagnosis is made. This is not, as a rule, due to lack of skill. On the contrary, I have been greatly and agreeably surprised by the improvement in the management of the cases received at the hospital in recent years; chiefly in the cases treated by the younger men in the profession, who rarely depreciate the patient by powerful medicinal agents or stimulants administered too early, which always handicaps the subsequent treatment.

2. The constitutional stamina of the average hospital patient is inferior, despite the fact that he often looks more robust and muscular. Living in unsanitary environment, often deprived of means for ordinary personal cleanliness, nourished by cheap, therefore imperfect, food (as but too often demonstrated by rejection of large quantities of milk, the only food which is really under the most effective supervision by the health authorities), the men laboring hard during the day, but often spending part of the night in the saloons which abound in their vicinity; the women worn out with family cares or domestic service, these people are not endowed with the resisting capacity which is a potent factor in the prognosis of pneumonia.

3. The proportion of alcoholics is larger among the hospital patients than in ordinary family practice. If there be any one element which influences the issue of a case of pneumonia more than all others it is the alcoholic habit. Not the regular toper only, who goes on a spree or is found in the gutter is doomed; the man who must have a bracer before breakfast and numerous beers during the day; the woman who stimulates with tea, to cheer her care-worn brain, and joins her husband at meals in potations of beer; these are numerous among our hospital patients. It is singular that the average tenement-house dweller and his neighbor, the saloonkeeper, regard the taking of beer instead of gin or whiskey as a step in the direction of temperance. Last winter I had the privilege of seeing a case of pneumonia in consultation with Dr. Dew. Despite a good pulse, and the fact that the patient was robust and lived in a good house, he seemed to lose ground rapidly. When first seen, inquiry as to his habits elicited the information that he had abandoned "drinking" some months. The sudden development of feeble resistance to the toxemia, despite an involvement of only a small portion of the right lung, led us to inquire for details regarding his habits. It was now discovered that he drank only beer; and when his brother was pressed as to the quantity, he stated that he consumed about two gallons a day! In my last hospital service two patients with pneumonia were lying side by side; one, a Swede about fifty years old, thin, pale, and apparently of feeble stamina, but free from alcoholic habit, the other, a large, ruddy Irish teamster, middle-aged and swarthy, with cyanotic face and bounding pulse, who stated that he drank a good deal, but mostly beer. Both had been ill in bed several days. The temperature was high in the Swede and dyspnea pronounced, the pulse compressible but not very rapid, while in the Irishman the temperature was lower, the pulse full and bounding but more rapid. Reso-

lution began in the former on the second day after admission; the latter did not recover. The alcoholic cases are also fatal in private practice; the proportion is smaller.

The following clinical facts are offered to demonstrate the correctness of the views expressed above. In a paper read before the New York Academy of Medicine, on December 3, 1896, published in the *Medical News* (January 2, 1897), the mortality in 156 hospital cases of pneumonia before the institution of the treatment advocated in that article was *thirty-seven per cent.;* afterwards it was but twelve per cent. Without the exact figures it may be safely stated that the same mortality prevails in recent years. During a service of thirteen years in the New York Juvenile Asylum, a reformatory institution for over one thousand children, the mortality did not exceed three per cent.

In my private practice the exact number of cases treated during the past twenty years is not available; but the lowest estimate would probably reach 100 cases. The mortuary statistics of the New York Board of Health will show that I have reported but two deaths from pneumonia during the past twenty years. One of these was an alcoholic, the other a woman to whom I was called on the third day of her illness, when she had a temperature of 105 degrees F., and had had the incredible number of forty movements from a large self-administered dose of Epsom salts; despite this she had resisted confinement in bed. She survived three days. That my cases were not all of a mild type is attested by the fact that among those still fresh in my memory are several in old ladies; one, seen with Dr. E. H. Rodgers, was a diabetic with distinct acetonuria suffering from influenza, in the course of which both lungs were successively invaded. Three other desperate cases happen to be remembered because they occurred in colleagues. One was seen with Dr. Palmer Cole, who has reported the case; another with Dr. Ewing, and a third with Dr. Herff in San Antonio, Texas, where I happened to be sojourning for a few days.

It is unfortunate that few physicians preserve the records of acute cases, in order to afford evidence of therapeutic results and other valuable data. In cities, however, a resort to the Board of Health statistics would enable us to reach an approximate estimate of the fatality in our cases of pneumonia.

Let me not be misunderstood to assume that the method of managing this disease which has been on several occasions discussed in societies and in medical literature is advised as the only safe one. We must not forget what the wisest physician of all time has said: "Art is long, life is short, judgment difficult." But when the statistics of a hospital receiving mostly the worst types show an improvement of sixty-six per cent. in mortality, and private practice shows a reduction to almost no mortality, I may be pardoned for suggesting a fair trial of this simple method, which is but an evolution from an earnest trial of all methods passing through cupping, blisters, poultices, mercurialization, tartar emetic, veratrum viride, quinine, opium, antipyretics, *et id omne genus.*

Simon Baruch, M.D.

Hotel Majestic, New York.

## CANCER CURES.

To the Editor of the Medical Record:

Sir: In your number for September 9, on page 423, you state that "the question of the curability of cancer is likely to be brought . . . by a woman physician in Los Angeles against the State Board of Medical Examiners." Chivalry leads me to come to the aid of this oppressed lady; and therefore I beg to offer her, in support of her position, the testimony of several of your principal hospitals. By reference to their annual reports for the last twenty years you will see that they *cure* cases of cancer by the hundreds in the New York hospitals. Their exact methods are not given, but one is led to infer that they are surgical. Of this question of *cure* there can be no doubt, for these reports have gone on asserting it without contradiction for many years.

Respectfully,

Consistency.

Timbuctoo, September 12, 1905.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

CHOLERA—LONDON STATISTICS—MUNICIPAL FINANCE AND RATES—LIVERPOOL TROPICAL SCHOOL—MUNIFICENT GIFTS—HOSPITALS—OBITUARY.

London, September 8, 1905.

The march of cholera westwards has not been unobserved by our authorities, and the Local Government Board has now issued a circular to certain port and riparian sanitary officials. Cholera, it is pointed out, was present in Eastern Europe in 1904, and has now spread through Russia, reaching the Baltic, by way of the Vistula, in the persons of raftsmen descending that river. The cases that have occurred in East and West Prussia are therefore regarded as imported, no definite outbreak having so far been reported from any quarter of Western Europe. But the ports of the Baltic and some of the North Sea are threatened, and authorities of our ports trading with them should be on their guard against the importation of cases from such ports. In the event of a definite outbreak in any port of the Baltic or North Sea, it will be the duty of sanitary authorities to put in force the Board's cholera order (November, 1896) with regard to vessels arriving from such infected port.

With regard to the port of London, the medical officer, Dr. Herbert Williams, is making his preparations, or perhaps I should rather say, is fully prepared. He has four assistants, three of whom are stationed at Gravesend and one at Shearness. There are also three food inspectors and three steam launches are employed for boarding purposes. The regulations in force are considered sufficiently precise to cope with the difficulties of excluding the disease, or at least to reduce the chance of introducing it to a minimum. The medical officers all round our coasts are on the alert, and by no means disturbed at the prospect of a case being brought into the country unobserved.

In Prussia, the total number of cases reported officially up to the 4th inst. had reached sixty-six, of which twenty-three were fatal. The officials at the ports have taken all precautions.

A bulky volume entitled "London Statistics" has just been issued by the County Council. The "administrative" County of London (differing from "parliamentary" and "Greater" London) has an acreage of 74,830, and in 1901 the houses were 571,768 in number, the population 4,535,541, and the rateable £30,769,069. The vital statistics are given for 1902, the latest available returns of the Registrar-General. The births registered in that year were 130,478, the deaths 77,829, of which 13,352 occurred in workhouses, 10,722 in hospitals, and 401 in lunatic asylums. Street accidents caused 306 deaths and 39 were certified by coroners as due to starvation or accelerated by privation. From the observations of the guardians on these cases it would appear that most of them were due to disease caused by want or exposure, and in many instances to self-neglect. The average number of paupers on the books of unions every Saturday in 1904 was 114,470, being 72,885 indoor and 41,585 outdoor. On January 1, 1904, there were 19,087 indoor children. The cost of Metropolitan pauperism (year 1902-3), was £3,593,984. For every £1 spent on out-relief £7.12.4 was expended on in-maintenance. Detailed information on many other points and on the other "Londons" is contained in this heavy volume.

Increase of rates and the extravagance of local authorities continue to excite discontent and even threats as to what ratepayers will do. But they do not combine to dismiss those who squander their money and replace them with honest men of business capacity. It seems a monstrous thing that millions should be entrusted to men who have never had to deal with hundreds. Yet there are many who have got elected on local boards who have no financial knowledge whatever, and aspiring politicians do not weary in flattering the wage earner who has a vote that he is a fine representative of the race and fit to manage the education of the country or command the army or the fleet. So the murmurs go round about this and that expenditure, while the grumblers do not trouble to go to the poll and vote for better candidates. Exposures of ineptitude have no effect, and some of them seem incredible. Here is one for which a clergyman vouches. A boy sent to school fasting was asked why he had had no breakfast, and declared his father had no food in the house. The teacher, noticing his bulging pocket, asked what he had there, and was promptly answered, "Oh, that is my dinner."

This at the time Sir J. Gorst was advocating the free distribution of food to school children was at least calculated to give rise to doubts about the "independence of the British workman." An equally significant case lately came to my knowledge in which four boys in one family obtained a new pair of boots each at the expense of the rates by going to school successively at short intervals in an utterly worn out pair and declaring, on the teacher's questioning, that they had no others. The father boasted of his shrewdness, but one of his mates told him to his face he was mean.

Among other curiosities, that of local boards giving soap to tramps in the hope it will not be exchanged for beer, is amusing enough, but what of providing indoor pauper children with sixpenny cakes of scented soap? This on the recommendation of a woman doctor, whose fitness for her position seems to me doubtful.

Yesterday there was made public the full report of the Government Board's auditor on the East Ham District's

accounts, in which very serious complaints are made—disallowances and surcharges on the members of the late council are levied. Such irregularities as borrowing at 4 per cent. and relending to practically the same persons at 2½ per cent. are mentioned, and also a voucher prepared for the purpose of misleading the auditor. No doubt investigation will follow, and, indeed, the Borough Council at once appointed a committee. But the facts stated are enough to show financial incapacity, if no worse, and other boards are, I believe, in a similar case. Yet these frequent exposures only produce indignant protests by the ratepayers, who go on reelecting people of the same class. Perhaps some day they may rise in their might and put municipalities in commission, after the pattern of your Washington, D. C.

Professor Boyce, of the Liverpool Tropical School, now in New Orleans to investigate yellow fever, has been requested to proceed to British Honduras before returning, to report on the late outbreak there. From Brazil we hear that both members of the expedition from the Liverpool school have suffered from yellow fever, one very seriously.

Mr. E. G. Bawden, a member of the stock exchange, has entrusted to his friend, Mr. E. Speyer, cash and securities to the amount of £100,000 "to be applied to purposes of charity and benevolence, and for the advancement of knowledge, especially in aid of human suffering." Mr. Speyer has announced the institutions which he has selected to share in his friend's munificence, and naturally hospitals come in for considerable gifts.

The honorary secretaries of the King's Hospital fund have received £10,000 to be retained as capital, being part of a bequest made by Miss M. F. Hasker, of St. Leonards, to be devoted to charity at the absolute discretion of her executors.

At a court of Governors of the London Hospital on Wednesday, it was reported that an opsonic department for the treatment of patients by antitoxins had been formed under the control of Dr. W. Bulloch, and that excellent results had already been obtained.

The death of Dr. Thos. H. Littlejohn, M.O.H. for Hampstead, took place on the 4th inst., under sad circumstances. He was a very active and zealous sanitarian, and of late had suffered a good deal from insomnia. To this was added severe toothache, and he retired early to bed and took a dose of sulphonal. The next morning, as he did not wake, medical aid was called in, but he did not revive sufficiently to enter into conversation, and gradually sank. The medical evidence went to show that the fatal issue was due to the effect of the sulphonal on a weak heart. He was only thirty-eight years old. He was a son of Professor Sir Henry Littlejohn, of Edinburgh, where he was educated, graduating M.B., and C.M. in 1889, taking D.P.H. in 1892 and F.R.C.S.Ed. the following year. He received the Hampstead appointment in 1901, having previously occupied the officership of Scarborough. His energy was greatly appreciated by the Hampstead authorities, and many friends lament his untimely decease. Much sympathy is felt for his wife and his father.

The death is also announced of Dr. Cyril Henry Cayley, medical officer of the Bombay Municipality which occurred on July 31, in his fortieth year, from tetanus. This followed an injury to one of his fingers. On the appearance of trismus an operation was performed, but did not arrest the disease. His colleagues made every effort to save his life, but without avail. He went to India some years ago to take part in plague duty, and eventually was elected to the Bombay officership. He was a Cambridge graduate A.M., M.D., 1899, his bachelorship dating 1891. Two years before the last date he took the London double qualification and served resident offices at the Middlesex hospital.

Dr. Farquhar Matheson, J.P., surgeon to the Royal Ear Hospital, died an August 23, aged sixty-six. He was M.B., C.M., Aberdeen, 1868. He held several honorary appointments and contributed to the journals on points connected with his specialty.

Dr. Wm. Fuller, J.P., of Oswestry, died on the 29th ult., within a week of completing his ninetieth year. He graduated M.B., Dublin, 1842, having previously taken the surgical and some other minor diplomas in Dublin. He then settled in Oswestry, where he practised for some forty years, afterwards retiring from active work and attending to his duties as a magistrate as long as he was able.

Thomas S. Howell, of Wandsworth, died on Tuesday at the ripe age of eighty-two. He took his college and hall diplomas in 1844-5, having studied at St. Thomas's Hospital.

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**Large Vesical Calculus.**—C. Duer describes in the *British Medical Journal* of July 15 the case of a man thirty-seven years old, who had for fifteen years suffered with stone in the bladder. Litholapaxy was impossible on account of the size of the stone, and so suprapubic cystotomy was performed, and the stone crushed by a lithotrite. When dry, the fragments of stone weighed 13 oz. 6 dr.

## OUR LETTER FROM THE PHILIPPINES.

**(From Our Special Correspondent.)**

TYPHOID IN MANILA—THE PLAGUE—THE MENACE OF CHOLERA—SMUGGLING VEGETABLES THROUGH QUARANTINE—PERSONAL ITEMS.

MANILA, P. I., August 15, 1905.

THE question of the prevalence of typhoid fever in Manila is now being investigated by the Board of Health. Considerable doubt has arisen as to whether the comparatively large number of deaths reported from typhoid fever are perhaps not due to other causes. For instance: Last month thirty-five deaths from typhoid fever were reported from the Ermita district, and that section of the city is always spoken of as being the most healthful of any. All physicians of the city have been requested to notify the Board of Health whenever a case of enteric fever occurs in their practice. With the attending physician's permission, a medical inspector of the Board of Health visits the case, makes a note of the symptoms, takes a specimen of blood, and sends it to the laboratory for the purpose of having a Widal test made. This method has been in force now for two weeks, and a considerable number of cases have been investigated; but so far no cases of enteric fever have been found. One curious condition has been revealed by the investigation of this disease in the provinces. It has been found that the disease is not infrequent among the Igorrotes. It will be remembered that this tribe belongs to the least civilized of all the various tribes in the islands, and are popularly known as "head hunters." They live in the mountains, and eschew all food ordinarily used by civilized man. Their meat diet consists principally of dogs, and it is possible that the dogs may have eaten the feces of some of the white gold miners who often prospect over the country occupied by the Igorrotes. The miners have been known to have typhoid fever, and they may have conveyed it, by such indirect means, to the natives. The Japanese who have been working on the Benguet Road have had outbreaks of typhoid fever occur among them several times. In their cases it is possible that the germ was introduced in the uncooked food which they import from Japan. Perforation occurred in two of the cases treated by Dr. J. B. Thomas, physician in charge of the Benguet Sanatorium. He operated upon the patients, one of them recovering, and one died.

The Philippines have been exceptionally free from plague during the past month. No case was reported between July 6 and August 7, 1905. While the disease seems to have subsided this year much earlier than usual at Hong Kong, Amoy, and Fu Chau, yet they still have a great number of cases, and the insular quarantine authorities continue to enforce rigid quarantine measures against these ports.

The Philippines are menaced by the appearance of cholera at the ports of Hong Kong and Shanghai. Vessels arrive almost daily from Hong Kong, and the cargo which they bring—or, rather, attempt to bring—often consists of low-green-growing garden truck, which has been fertilized and sprinkled with liquid human excrement. The ease with which it may be impregnated with cholera organisms is apparent. Such vegetables are not grown in the Philippines, and when it becomes necessary to prohibit the entrance of the same it can readily be understood that the prices immediately rise, which makes their successful introduction very profitable. For that reason the shippers often falsely manifest a cargo, with the hope that it may escape detection at the port of entry into the islands. It is said to be a not uncommon experience for the quarantine authorities to find cabbage and celery in the middle of a box containing socks and other drygoods. In view of the foregoing, it will be seen why the appearance of cholera at nearby ports is viewed with great apprehension by the officials who are responsible for the health of the islands. Hong Kong is only two days' sailing distance from Manila. It is essential for the welfare of the islands that the shipping between these ports be interfered with as little as possible, and since the incubation period of cholera is five days, it is quite possible for an individual to be in the incubation period of the disease upon his arrival here, and, in consequence, escape detection by the quarantine officials, unless vessels are held in quarantine to complete five days.

Major Guy Edie of the Army Medical Service arrived in the Philippines from Washington during the week with the Secretary of War and his party, who are making a tour of inspection of the Philippines. He is acting as the attending physician to the Secretary, and will return with him to Washington. Surgeon Edie was the first American president of the Manila Board of Health, and has the honor of having started much of the health work which has resulted in so much improvement in the sanitary condition of Manila.

Dr. J. B. Thomas has resigned his position as Physician in Charge of the Benguet Sanatorium, and has returned to

the United States, where he will engage in private practice in California.

Major Edward R. Morris, surgeon, United States Army, has been granted thirty days' leave of absence, with permission to visit Japan, and, at the expiration of his leave, he is relieved from further duty in the Philippines Division and will proceed to San Francisco and await further orders. Major Morris has been on duty at Iloilo during the past two years as surgeon in charge of the army hospital at that place.

## Progress of Medical Science.

*Boston Medical and Surgical Journal. September 21, 1905.*

**The Medical Treatment of Gastric Ulcer and Hyperchlorhydria.**—For hyperchlorhydria F. C. Shattuck advises the free use of sodium bicarbonate in plenty of water. If used in the familiar tablet, the mint element of the latter should be left out. If constipation coexists the milk of magnesia is useful, but it may act on the bowels too freely if the degree of hyperacidity is great. The diet should largely exclude salt, the source of HCl. Meat and fish are to be temporarily cut off; milk and eggs, soft boiled, dropped, or scrambled, are allowed. In severe cases from one half to two drachms of bismuth subnitrate may be given before meals. It probably acts as a protective coating to the gastric mucosa against the food, and this diminishes the peptic activity. Cases presenting severe and characteristic ulcer pain call for rest for some days from gastric digestion. Morphine in small doses by the mouth may blunt an appetite, not then safe to indulge. Peristalsis is quieted and glandular secretion diminished. After three or four days of exclusive rectal feeding, milk and lime-water, a drachm every fifteen minutes, can be given by the stomach with daily increase in the amount, lengthening of the interval, or both. In ten to fourteen days milk toast, junket, rice with cream and sugar, baked potato, macaroni, blancmange, and the like may be added and rectal feeding omitted. Shattuck believes that in these cases abstinence from meat should be prolonged for at least three months. Food containing starchy things, such as unstrained oatmeal, seed fruits and the like, is also to be excluded lest it irritate the raw surface. The principle is simply to select such food as demands the least stomach digestion and to avoid irritation as far as may be. Bismuth is desirable until full and ordinary diet has been resumed, say three to six months. It here serves a double purpose, diminishing secretion and also mechanically protecting the raw surface from both food and such gastric juice as is formed.

*New York Medical Journal, September 23, 1905.*

**The Menopause.**—J. N. Upshur describes the various nervous disturbances incident to the menopause and emphasizes the fact that at this period the woman has a special susceptibility and lessened resistance toward disease. There are three general types of patients: plethoric, chlorotic, and nervous. In the treatment of these conditions, the chief aim is to sustain the system in such a way as to allay nervous irritation and supply stimulus and nourishment which shall maintain as nearly as possible the normal standard of health. Drugs are to be avoided when simpler and less active agents will suffice. Especially pernicious is the injudicious prescription of narcotics and alcoholic stimulants. Change of scene, regular exercise, etc., are to be secured. Insomnia may be avoided by the administration of some form of concentrated nourishment such as hot milk; just before the patient retires, a warm salt bath is most soothing to the nervous system. Regular daily use of massage and electricity, faradic or galvanic, may be indicated. Very plethoric patients may be helped by venesection. Drugs must be our last resort though ovarian irritability must be controlled. Marriage during this period is to be deprecated, although the stress of sexual appetite may be felt as never before. The views of Tilt are quoted to the effect that "increased sexual appetite at this period is a morbid impulse, dependent upon some neuralgic or inflammatory condition of the uterus or ovaries. Marriage at this period, or too frequent sexual intercourse in the married, may result in obstinate uterine disease, menorrhagia, cancer, etc., or some women may become insane."

**The List Practice.**—By this term D. W. Bedinger refers to the custom of some corporations which pay a fixed sum to a physician for services to their employees, a certain deduction being made for this purpose from the latter's wages. The advantages to the physician are, certainty of payment, opportunity for scientific observation of the patient (the latter not caring how many visits the doctor makes) and the reduction to a minimum of the unpleasant rivalries of small town practice and the fact that the physician makes a living from the start. The disadvantages are that owing to the small sum paid by each employee, the physician loses caste to some extent with his patient. Moreover, under this system the physician is often needlessly called. The charge per visit amounts to about forty cents. Bedinger believes that three-fourths of the physician's troubles are traceable to the fact that the subscriber may summon him without the cost of an extra cent. Consequent upon this follows the large number of unnecessary calls; the loss of respect for medical attention; the enormous loss of time, and the limited earning capacity of the physician. Therefore to eliminate the feature of unlimited calling would, to a large extent, result in the elimination of the disagreeable group of consequences that follows in its train. The author suggests as a remedy a slight reduction in the amount of the monthly assessment and the establishment of a slight charge for each visit.

*Medical News, September 23, 1905.*

**Appendicitis in Children.**—A series of seventy cases occurring in children is reported by C. N. Dowd, who divides them into three classes: 1st, early, or operations within the first two days; 2d, later, active cases whose operations came during the progressive or retrogressive stage of the disease, and 3d, interval cases whose operations came after the inflammation had subsided. These groups are then studied and analyzed, and as a result of this study the author offers the following observations: (1) The rapidity and insidiousness of the disease are much greater in children; (2) the percentage of diffuse and general peritonitis is greater, probably because the omentum is less apt to inclose the inflamed appendix; (3) the pain is almost always present, but is more difficult to interpret; (4) the vomiting is almost always present and is frequently many times repeated; (5) the abdominal palpation in the majority of cases is as satisfactory or more satisfactory than in adults, but in a few cases is absolutely misleading; (6) constipation is much less likely to be present. (7) they have a greater ability to deal with general peritonitis than adults do; (8) during the acute progress of the disease delay is more dangerous than in adults, because of the insidious course of the disease and the greater tendency to peritonitis, and immediate operation is to be advised.

**Ovarian Transplantation.**—J. P. Warhasse reports a case illustrative of cachexia ovaripriva following the removal of both ovaries, the relief of symptoms by the use of ovarian extract, the cure of the condition by the transplantation of ovary from another woman, and the final recurrence of the disturbances at the end of the year. His patient was a woman of twenty-seven years, from whom one ovary and both tubes had been removed for double pyosalpinx and a hysterectomy was also done as the uterus was involved in the inflammatory products. She presented the usual symptoms of fainting attacks, hot flashes, gastric crises, nausea, vomiting, perversion of sensation, dizziness, constipation, etc. Ovarian extract in five-grain tablets taken three times daily for about two weeks out of each month kept her fairly comfortable, but its continuance was followed by a return of symptoms. Finally an ovary which had been removed from another patient on account of a small cystoma (which was cut away from the organ leaving a mass of apparently healthy tissue), was implanted in a slit made in the right broad ligament of Dr. Warbasse's patient. Less than one minute was consumed in the transit of the ovary from one patient to the other. The next menstruation occurred in about ten days and was passed through with but little trouble. Following this the nervous symptoms and signs of the cachexia failed to appear for nearly a year, and the patient was able to return to business. At the end of that time the old symptoms began to reappear and while they have not been as severe as formerly, the good effects of the operation have seemed to be gradually passing away.

**What Means Does the Modern Obstetrician Employ to Prevent Ophthalmia of the Newly Born?**—In institution practice J. C. Edgar advises vaginal cleansing with mild alkaline douches followed by sublimate 1-5000 for two weeks before delivery. Immediately before confinement lysol may be used for lubrication. In private practice he usually omits this antepartum vaginal cleansing. After delivery he follows the Credé method of installation and after a trial of various salts he finds nothing to compare as a prophylactic with a silver nitrate solution of two per cent. strength. As soon as the child is born its face is carefully washed with boric acid solution, separate wipes being used for each eye, and the lids rubbed from the nose outward in each case. Then whether infection is suspected or not, two drops of a two per cent. solution of silver nitrate are dropped into each conjunctival sac. The excess is washed away in about thirty seconds with a saline solution. In Edgar's experience, solutions of

less than two per cent. do not destroy bacteria, and althuogh solutions of three per cent. are harmless, they are apt to cause "silver catarrh," and are not required.

*American Medicine, September 23, 1905.*

**Digitalis in Valvular Heart Disease.**—Max Goepp says digitalis increases the contractions of the heart and lengthens the intervals of rest (diastole); at the same time the nutrition of the muscle is increased because more blood is forced into the coronary arteries. The indication for digitalis is found in the dynamic state of the circulation, the precise nature of the cardiac lesion being of minor importance. It may be indicated in any form of valvular disease and is not counterindicated even in aortic insufficiency. Counterindications for the use of digitalis are: hypertrophy with established compensation, degeneration of the myocardium, and high arterial tension. The cumulative action of digitalis may be disregarded and the administration kept up continuously for a considerable period. The best preparation is the infusion made from the powdered leaves of digitalis, and not, as is sometimes the case, by diluting the fluid extract. Digitalin is a useful preparation and can be given hypodermically. It should, however, be given in considerably larger doses than is usually recommended. It is well to begin with 3 mgm. (1-20 grain), but no hesitation need be felt in increasing the dose up to 5 mgm. or 8 mgm. (1-12 or 1-8 gr.)

**Therapeutics of Acute Insanity.**—Daniel R. Brower says insanity is a profound error in general metabolism, which may sometimes be overcome by alteratives; mercury, potassium iodide, and the chloride of gold and sodium. In considering the therapeutics of acute insanity, we must ever be mindful of the necessity of attention to the general constitutional state of the patient. Rheumatism, gout, tuberculosis, and syphilis require special consideration. Special attention must also be given to elimination by the bowels and kidneys. Intestinal fermentation, when present, must be diminished by intestinal antiseptics, of which salol and zinc sulphocarbolate are among the best. Disorder of the gastrointestinal tract is one of the most common errors in these cases. Colonic impaction is common, and is frequently overlooked, and its relief by aloetics and flushing resorted to early, will often change the whole aspect of the case.

**Three Cases of Cancer of the Body of the Uterus.**—Frank C. Hammond reports three cases of cancer of the body of the uterus illustrative of interesting points in the diagnosis of this disease. If success is to be obtained in the treatment of cancer of the uterus, the practitioner must realize the inestimable importance and value of early diagnosis and early radical operative procedures. When the cervix is normal and the patient presenting suggestive symptoms of malignancy do not lose sight of the fact that malignancy of the body of the uterus may be present; this occurred in one of the cases. Attention is called to the one fact which is impressively evident, that is, the steady increase of cancer of the uterus in young women. Every woman who is bleeding should be subjected to an immediate pelvic examination, and the reappearance of hemorrhage, one, two or three years after the menopause is strongly presumptive evidence of cancer of the uterus. Stress is laid upon the necessity of the practitioner making an early diagnosis, and not waiting for the four cardinal symptoms—pain, hemorrhage, fetid discharge and cachexia, for by the time these are all present, the case as a rule is inoperable. The earliest symptom in the majority of cases is bleeding, and should at once place the physician on his guard, irrespective of the age of the patient. A slight watery discharge occurs in some cases early, instead of the bleeding, and is highly diagnostic, especially when malodorous.

**Pathology of General Paralysis of the Insane.**—John D O'Brien concludes that the importance of an antecedent syphilitic infection in general paralysis, and the action of such in the production of the disease, leave much doubt, but it is safe to say that it is undoubtedly a predisposing factor, and probably acts by weakening the immunity. Almost all authorities at the present are satisfied that general paralysis is a toxemia, a bacterial toxemia, as evidenced by the temperature, leucocytosis, the progressive course, and now the finding of an organism, to which we can attach considerable importance. This organism, diphtheroid in character, has been studied by Ford Robertson, McRae, and Jeffries, who first called our attention to it. Its cultural and morphological properties to a certain extent resemble those of the Klebs-Loeffler bacillus, and they think it may be merely an attenuated or saprophytic form of the true Klebs-Loeffler bacillus, which, by its long residence, may have undergone a certain exaltation of virulence. In a search for this organism the stomach wash of 14 general paralytics, who had been fasting, was obtained, and in 11 cases this organism predominated. In the examination of the urine of 10 cases, the organism was isolated in 7 instances. The examination of the throat and nose of 12 general paralytics recalled the presence of this diphtheroid organism in 10 instances; the only cases of general paralysis in which they failed to obtain this organism were those in a state of remission. The author believes that the organism is present even before any symptoms appear. Further experimental investigations, such as inoculation of rats and guinea pigs, led to the production of some few subjective symptoms of general paralysis of insane. These are some facts which tend to support the view that this diphtheroid organism is undoubtedly exerting a pathogenic action, and it remains for future investigation to establish it more thoroughly.

*Journal of the American Medical Association, September 23, 1905.*

**Abdominal Crises Caused by Meckel's Diverticulum.**—M. F. Porter calls attention to the accidents that may be caused by the presence of a Meckel's diverticulum, an anomaly that probably exists in one or two per cent. of all individuals. He has collected altogether 184 cases of abdominal accidents from this cause, of which he gives brief abstracts, including 35 not heretofore published. Intestinal obstruction by band occurred in 101 cases, volvulus in 8 cases, intussusception in 20, diverticulitis in 17, prolapse of the bowel through a patent diverticulum in 2; typhoid perforation in 5, traumatic perforation in 1 and tubercular ulceration in 2 cases. In the 21 cases of hernia reported in the paper the diverticulum was the cause of the trouble in all but one; in that one it was simply noted as forming the content of the sac. The average age of the patients was 21 years and 2 months, but the list includes six over 50, one patient being 81 years of age. In 5 cases the diverticulum was patent at the umbilicus. Symptoms of acute obstruction were manifest from the start in 118 cases and incomplete obstructions were present throughout in 7. In 17 cases there had been attacks of incomplete obstruction prior to the final acute attack. In 20 cases the symptoms were those of general or circumscribed peritonitis. Appendicitis was diagnosed in many cases, and was a complication in one. The proportion of males to females was 3 to 1, suggesting trauma as an important cause. The total mortality was 60 per cent., and of those operated on 50 per cent. Except in cases patulous at the umbilicus, there are no distinctive symptoms pointing to the diverticulum, and in only one of the cases was it diagnosed prior to operation. In conclusion, Porter urges the removal of all diverticula met with in abdominal operations, whether the cause of trouble or not, provided the exigencies of the case in hand do not contraindicate further operative procedure.

**Freezing Points of Blood and Urine in Pneumonia.**—F. E. Schmidt after first reviewing the literature of cryoscopy in medicine, and especially in pneumonia, describes his methods and precautions for thus testing blood and urine and gives tabulated details of observations in twenty-four cases of pneumonia in males between the ages of 18 and 50 and all apparently in good health before the attack. The tests were made daily the patients being given essentially the same diet of milk and later broths and plenty of water and kept under the regular stimulating treatment A few had salt irrigations. The freezing points of the blood and urine, the quantity and specific gravity of the urine and the amount of urea were recorded and albumin and casts noted when present. He finds that there is an absolute lowering of the freezing point of the blood in pneumonia depending in some way either on the extent of consolidation of the lung or on the height of the temperature or both. This lowering is more than can be accounted for by the increased venosity of the blood from deficient aeration. The concentration of the blood increases, as shown by the lowered freezing point, as the disease progresses up to the time of crisis. Some time is needed for the elimination of the excessive accumulation of products in the blood, hence several days elapse before the freezing point rises again to normal. In cases in which the heart perceptibly weakens, the freezing point becomes still lower, and in fatal cases when the heart gives out, the freezing point of the blood is extremely low. The lowered freezing point of the blood is apparently not due to deficient kidney function, but may be due to the inability of the kidney to excrete the excessive products of metabolism. The freezing point of urine in pneumonia is considerably lowered, more than would be accounted for by a mere concentration of normal urine The chlorides excreted are diminished, on account of a lesser amount taken in (Sollmann). The quantity of the urine is decreased while the freezing point is lower, and this lowering is not due to chlorides but to metabolic molecules excreted. The freezing point of the urine does not rise to normal until after that of the blood, that is, several days after the crisis. The specific gravity of the urine is no accurate index of its degree of concentration The freezing point of the urine

bears no constant relation to that of the blood normally, for with a freezing point of blood at—0.54 C. the freezing point of the urine may be normally lower than in a case in which the freezing point of the blood is —0.57 C., or *vice versa*.

**Pleural Effusions in Children.**—C. F. Wahrer remarks that pleural effusions in children are not by any means always tuberculous and that they often escape diagnosis. He points out the methods of correctly ascertaining their presence, including exploratory aspiration by which alone can be ascertained the character of the effusion In children under three, it may be stated as a general fact that the effusion is usually purulent. The importance of correct diagnosis is the greater since in most undiagnosed cases the patients die, while with proper treatment the prognosis is good, except under one year of age, when the disease is rare or when the disease is bilateral, which also is seldom the case. There is in children a more active metabolism and a greater elasticity of the chest wall, favoring the collapse of the smaller cavity. In the majority of cases, the treatment is surgical, and he believes that every physician competent to treat these cases should also be able to aspirate a serous effusion or to make an incision for an empyema in a child. Of course the more competent the surgeon the better, and in extremely rare cases where an Estlander or a Schede operation is required the highest possible surgical skill is none too good. The cases of two patients successfully operated on by incision are reported. The author concludes by urging most painstaking physical exploration in these cases, with all clothing removed and every possible available instrumental aid. Experience teaches him that too many auscultations are made with the unaided ear, too many percussions through clothes and poultices, and that there are too many snap guesswork diagnoses. The microscope and blood counts may aid.

**Immature Senile Cataract.**—A. E. Bulson, Jr., discusses the propriety of operation for the removal of immature senile cataract. He would operate in slowly progressing cases in which there are no contraindications aside from the semi-transparency of the lenses, and in which vision is so far impaired as to prevent reading of ordinary type, the patient having been fully informed as to the possibilities of secondary cataract requiring discission and mild postoperative inflammation with delayed recovery The essentials of a successful operation removing practically all of the cortex with a minimum amount of trauma and subsequent inflammatory reaction, and favoring such after-treatment as will limit the inflammation and promote resorption are: 1. A large corneal section, embracing not less than two-fifths of the corneal circumference; 2, an iridectomy with a fairly large coloboma extending to the ciliary border; 3, a large opening in the capsule by two incisions at right angles to each other; 4, gentle irrigation of the anterior chamber with a sterile normal salt solution, after the extraction of the nucleus, if much cortex remains; 5, the early and free use of atropin, and 6, the use of dionin, after the corneal wound has closed, to promote resorption of lens debris. The irrigation must be done with the utmost delicacy; the method he prefers is that of Lippincott, allowing a continuous stream to flow by gravity through a small specially constructed cannula introduced just within the lips of the corneal wound, the flow being completely under the control of the operator. To anticipate the slight iritis that is likely to occur, he begins the use of atropin at the time of the first dressing, from thirty-six to forty-eight hours after the operation. Bulson believes that the final results of removal of immature senile cataracts should compare favorably with the extraction of cataract in any stage. His personal experience with twenty-five cases has been very satisfactory. The article concludes with a long series of opinions of prominent ophthalmologists, obtained by correspondence, most of which express views largely in agreement with those of the author.

*The Lancet, September 16, 1905.*

**A Case of Wounding by an Unusual Projectile.**—The patient of J. S. Nicholson was wounded in a mining explosion and presented a compound fracture of the left femur, there being a ragged wound on the anterior aspect of the limb, in the depth of which a loose fragment of bone was seen. Examination of the wound showed this fragment to be loose and connected merely by a tag of fibrous tissue; this was severed and the piece was removed. It measured one and a quarter inches by a quarter of an inch by one-eighth of an inch and had one smooth surface. The curvature of this surface, however, did not correspond to that of the shaft of an adult femur. The wound was further explored and a mass detected in its upper part; this was removed and found to be a finger represented by the two terminal phalanges with about three inches of the flexor tendons attached. The first piece of bone was now recognized to be part of the proximal phalanx of this finger. The wound, which was fully five inches in depth, was douched out with solution of carbolic acid, lightly plugged with iodoform gauze, and healed without suppuration. The finger came from the hand of the man's companion, who was killed outright by the explosion.

**An Acute Illness Following Inoculation with Antityphoid Vaccine.**—W. J. Lindsay reports the case of a ship's surgeon, aged 29 years, who was inoculated once with the serum. There followed only slight local soreness and stiffness. Thre months later he was again inoculated under the usual antiseptic precautions in the subcutaneous tissue of the right side of the abdomen. Headache came on six hours later with the gradual development of a general malaise. On the third day evidences of local inflammation were noted at the inoculation site. A general septic condition now supervened, but after eleven days he was out of danger. The convalescence was uninterrupted except for a mild attack of urticaria at the end of the second week. Three possible diagnoses were considered by the physicians in attendance on the case, true typhoid infection, atypical typhoid, and toxemia following inoculation. Throughout, the illness resembled a moderately severe attack of typhoid fever, while the typical symptoms—bronchitis, rash, splenic enlargement, tumidity and tenderness of the abdomen, and diarrhea—were absent; the headache, insomnia, restlessness, marked prostration, the absence of physical signs of any demonstrable lesion, and the range and type of the temperature, all pointed to the possibility of typhoid fever. Moreover, the convalescence approximated to that following a mild attack of typhoid fever. Although there were no complications except the urticarial attack the feeling of weakness was prolonged and the normal health was not regained until six or eight weeks later. In general terms the author is sceptical of the prophylactic efficiency of antityphoid serum, and is by no means disposed to regard its employment as a trivial matter.

**A Case of Tuberculous Ulceration of the Colon Simulating Appendicitis.**—The case is reported by G. C. Turner, who was summoned to operate on a supposed case of appendicular abscess in a single woman of thirty-four years. Incision revealed, however, a normal organ, but a hard lump was found in the outer and posterior wall of the ascending colon. The subperitoneal tissues in the sulcus on the outer side of the colon were very edematous. The mass appeared limited to the bowel, for the latter could be easily rocked from side to side. There were no enlarged glands and no deposits on the surface of the peritoneum. The cecum appeared normal and there was no evidence of tubercle in the lower ileum. The sudden onset of the illness and the edema of the tissues around suggested an inflammatory origin, but the hardness of the lump made the operator very suspicious of new growth. If the mass was purely inflammatory it would be sufficient to leave in a drainage-tube and a gauze pack, treating the case as one would an infected area following appendicitis. If it was tuberculous, then a lateral anastomosis would relieve the patient meanwhile and give the ulcer time to heal; but if it turned out to be malignant, the most favorable opportunity for removing the disease would be lost. The lower two inches of the ileum, the cecum, and three inches of the ascending colon, together with the termination of the mesentery, were therefore excised. Examination of the mass removed showed tuberculous ulcer in the cavity surrounded by indurated tissues formed by the lump above mentioned. The author dwells upon the difficulty of a preoperative diagnosis of such masses occurring in the appendical region though, usually they are malignant. They may simulate appendicitis in one of three ways: 1. A growth in the cecum may be associated with attacks like appendicitis. These attacks may be due to obstruction or to inflammation of the parts around, and this may go on to the formation of an abscess which may exactly simulate one due to appendicitis. 2. A growth in any part of the large intestine beyond the cecum may get blocked, and if there is a competent ileocecal valve the cecum is the first part to feel the stress of the obstruction, and at first all the pain is referred to this region. It is only as the attack passes off that the falling distension enables the lump elsewhere to be felt. 3. Primary malignant disease of the appendix may be the cause of the symptoms.

**Some Remarks on the Germ Centers of Lymphatic Glands and Secondary Careinomatous Deposits.**—According to J. B. Cleland, a close resemblance often exists between these two forms of tissue, and doubtless they have often been mistaken the one for the other. The germ-center cells, however, are larger than the surrounding lymphocytes, and have more protoplasm and a larger and vesicular nucleus. The whole area stains, too, to a much lighter degree than the parts around. Mitotic figures are nearly always numerous, and at the edge of the area the cells rapidly, but by distinct gradations, become converted into lymphocytes, so that no hard and fast line of demarcation limits the area. The areas are usually small and indistinctly circumscribed

and in such conditions are not likely to be mistaken for a cancerous growth. In certain circumstances, however, associated with chronic irritation, they assume a most striking appearance. This is associated with increase of size and great increase of mitotic activity in the areas, and suggests the idea that it is a form of compensatory hypertrophy. These germ centers form sharply defined spherical or oval areas. The cells composing them are of a nearly uniform size and a little smaller and more regular than those of cancer. They are closely packed with very little stroma. An occasional capillary vessel may be noticed. The nucleus closely resembles that of an epithelial cell, and mitoses are quite as numerous as in cancer. The most important difference, however, is found in the boundary zone of each. The somewhat larger and more irregular cells of cancer are sharply and distinctly separated and often by a thin zone of fibrous stroma from the surrounding lymphocytes, and each individual cell at the periphery can be relegated at once to one or the other class of these two, but in the outer zone of the germ centers cells and lymphocytes tend to be arranged in concentric rings formed of a delicate fibrous tissue, and all gradations are seen between undoubted germ-center cells, on the one hand, and undoubted lymphocytes on the other. Under a low power of magnification the germ center often seems sharply delimited from the surrounding parts, and the cancerous deposit is less distinctly outlined; with higher magnifying powers this appearance is reversed and the germ center is found, on careful observation, to grade into the lymphatic tissue around while the carcinomatous growth is sharply defined.

*British Medical Journal, September* 16, 1905.

**An Investigation on the Regeneration of Nerves, with Regard to the Treatment of Certain Paralyses.**—Basil Kilvington declares that both clinical and theoretical considerations point to nerve splitting being preferable to suturing two distal nerves directly to the central end of one of them. In one of the dogs operated on it was later noted that the function of the leg from which a bit of the external popliteal had been excised was not so good as it had been a week or two previously. When the wound was reopened it was discovered that the bulbs had fused considerably. Where the bulbs fused, fibrils from one axis cylinder presumably grew down into the two distal nerve trunks. The separation of the bulbs, although it destroyed a good many fibers, resulted in a rapid and considerable improvement. The writer states that in facio accessory anastomosis it would be wise to split the latter nerve into two strands, injuring the actual nerve fibers as little as possible. One of these should be attached to the distal cut end of the facial, and the other to the whole of its own distal end. This would abolish associated movements of the shoulder, or at any rate, reduce it to a very small amount, for a few fibers at the angle of splitting would possibly be injured, resulting in their growing down the nerves to both sets of muscles. No very considerable atrophy of the muscles would take place after this, as the fibers of the central end would multiply at the point of suture. The writer suggests that nerve splitting should be made use of in the treatment of suitable cases of anterior poliomyelitis for the same reason.

**A Probable Explanation of Some Drowning Accidents.**—Hugh Lawrie describes an experience of his own from which he draws certain conclusions. He went in swimming in cold water on a hot day after he had been cycling. His stomach was empty of food at the time. His head began to ache, he became giddy and drowsy, and muscular effort became feeble and sluggish. In many instances the swimmer simply loses consciousness from cerebral anemia. In other words, he faints, and without immediate assistance he goes under and loses his life. This is far more probable than that he "was seized with cramps and sank." The writer believes that all those who are in the habit of swimming in deep water should from time to time have a medical examination. The medical inspection will reveal any cardiac affection, and at the same time a study of the digestive system will bring out any points pointing to atony of the stomach walls with consequent distention by gas. Any attempt at prolonged swimming is a positive danger in an atonic condition. The best time for a swim is probably about two hours after breakfast or lunch. Swimming in cold water is dangerous when the intestines have been emptied by a purgative and the circulation probably thus depleted. There is then low-tension circulation, especially if there has been a fast of several hours. Instruction in the physiology of bathing should be given to the members of every swimming club, and to all boys and girls who are learning the art.

**A Method of Guarding the Perineum in Labor.**—W. J. Cale points out various factors which he believes contribute to the injury of the perineum: The attempt to pull forward the vertex by passing the left hand between the thighs of the mother and employing traction on the scalp; "supporting the perineum" in the direct method by pressure thereon of the concavity between the thumb and forefinger of the right hand; the endeavor to push the fetal head forward by the indirect method either by inserting two fingers in the rectum or by pressure behind the anus; the common delivery of the shoulders. The writer believes that there is no necessity for passing the arm between the thighs of the mother. When the head is moderately distending the perineum, the latter and the adjacent parts are dried with a hot sterilized towel. When the tension on the perineum is approaching its maximum, the left hand of the accoucheur presses slightly upon the vertex to prevent sudden expulsion. The right hand should then grasp the perineum, but between it and the perineum a hot sterilized towel is placed so that the edge of the concavity between the thumb and index finger, the edge of the towel, and the lip of the perineum are just in line with each other, a double fold of towel fitting into the apex of the concavity to supply the deficiency. Firm pressure is exerted at every pain through the bitemporal diameter of the fetal head, if there is any tendency to laceration. No attempt is made to push the head forward till the occiput ceases to engage behind the pubic arch. After the head is born, gentle traction is exercised backward and the next pain will generally cause the anterior shoulder to free itself from behind the pubic arch, while the perineum lies over the posterior shoulder and is subjected to only a moderate degree of tension. If the outlet is narrow, the anterior arm can usually be extracted with very little difficulty after the anterior shoulder is born, thus substituting a much smaller diameter of the child. The writer has followed out these lines in about four hundred consecutive cases of labor, and has found the method singularly effectual.

**A Case of Quadruplets.**—Llewellyn W. Roberts reports this unusual case. The mother was 32 years old, of French extraction and married twelve years. She had had six previous confinements, resulting in the birth of ten children: Twins, triplets, a single child, twins, and two single children. All lived except the triplets, which were seven-months' infants. Eighteen months ago, she had placenta previa. When she was, this last time, eight months pregnant, slight uterine contractions came on and she was delivered of quadruplets. There were four distinct and separate placentas about five to six inches square, and four separate bags of membranes. The second and third placentas were found united by a band of membrane. The third child was stillborn, but the mother and the other three children have done well. Each child, two boys and a girl, weigh about five to six pounds.

*Berliner klinische Wochenschrift, September* 4, 1905.

**Should a Mother Having Scarlatina be Allowed to Nurse?**—Salge answers this question in the affirmative, and says that the current tendency both among the laity and medical men to accept all sorts of disturbances of the health of the mother as an excuse for stopping nursing is quite unnecessary. It is supposed that the milk will be injurious, or that the child will be infected, etc., but this is not the case even in dealing with the acute infectious diseases. The author describes the case of a girl of 17 who about six weeks after confinement developed scarlet fever, which ran a course of medium severity. Up to the fourth day she was able to satisfy the child's hunger, but from then until the seventh day bottle feeding was given in addition, and after that the milk ceased entirely. On the eleventh day it appeared again, so that the mixed feeding could be resumed, and after the twenty-sixth day the artificial food was dropped entirely. The child did not suffer at the time nor subsequently. Breast milk confers on the child an enhanced power of resistance against all infections, and its value is so great that tuberculosis is the only disease which, as a routine measure, demands weaning. Measles and diphtheria do not, though in the latter case the infant should be immunized.

**The Spirochæta Vaccinæ.**—Marbury describes a number of differently shaped organisms which he has discovered in smallpox or vaccina pustules. He considers these as being related forms of the causative agent of the disease. Some of them are in the form of spirochætæ, others are comma-like organisms, and, finally, there are larger, irregularly triangular forms with two long, very delicate, wavy prolongations at two of their angles. The spirochætæ, he believes, are composed of comma forms joined end to end, and he considers that this shape is assumed when life conditions become unfavorable. The triangular bodies he regards as the fundamental type of the smallpox or vaccina organism, and suggests their possible relation to the trypanosomes.

**Endoscopy of the Sigmoid Flexure.**—Strauss discusses this subject somewhat at length, and speaks highly of the value of the method. He describes a special pneumatic apparatus he has devised which has magnifying and pho-

tographic attachments. He considers that the method is greatly superior to the use of bougies, as with the most approved form of these he has never been able to penetrate more than 12 inches from the anus. Sigmoscopy is especially valuable in cases of bleeding from the bowel, or of tumor masses palpable from without, and under such conditions it often offers the only means of making a positive diagnosis. The statistics of recurrences after the extirpation of rectal carcinomata are improving, but are still so discouraging as to emphasize the advisability of making free use of sigmoscopy in the interests of early diagnosis. Severe bleeding from the lower bowel always indicates the necessity for great caution in carrying out the operation, and under these conditions the author prefers the lateral position to the usual knee chest posture. Acute inflammatory conditions usually contraindicate the examination. A study of the comparative tonus of the anal sphincter and of that of the sigmoid flexure shows that the former is much stronger, so that injections large enough to more than fill the rectum are sure to reach the sigmoid. For this reason the author has given up the practice of inserting the irrigation tube into the sigmoid by the aid of the sigmoidoscope, but when it is desired to medicate the upper bowel simply uses an injection of one and one-half liters, experience having shown that this amount completely distends both rectum and sigmoid. For cases in which the sphincter ani is weak he has invented an irrigation tube with an inflatable rubber collar, so that an impassable barrier may be offered to the escape of the fluid.

*Münchener medizinische Wochenschrift, September* 5, 1905.

**The Treatment of Wounds with Ultraviolet Light.**—Axmann says that a certain amount of confusion has been introduced into the study of radiotherapy by the inexactness of various observers who have not been careful to differentiate between the effects and sources of heat, light and chemical rays. He warns against attempts to produce results by the use of variously colored light filters, and says that progress must be made by developing sources of light which shall produce rays of the sorts desired. He considers that the mercury vapor lamp is a very important advance, as it produces no red rays, but an excess of blue and ultraviolet rays. The visible portion of its spectrum extends only from 579 to 405 u. u., while two-thirds of the entire spectrum is made up of invisible rays running down to a wave length of only 253 u. u. The rays of this lamp have marked irritating, vaso dilating and bactericidal properties, and the author has used them with success in cases of alopecia, chronic eczema, acne, sycosis, erysipelas, etc. They also manifest a strongly oxidising action on venous blood, and the author describes very encouraging results obtained in cases of foot ulcers exposed to their action. He recommends a further application of the method to all open wounds or ulcerating surfaces, all of which are said to be greatly benefited by the active oxidation produced.

**Carcinoma of the Breast.**—Schinzinger reviews some of the evidence in favor of his proposal to perform double oöphorectomy as a preliminary to amputation of the breast in women who have not reached the menopause. He first made this suggestion in 1889, grounding his views on the observation that since carcinoma of the breast is always of especial malignancy in women who have not ceased menstruating, by prematurely bringing on old age the disease might be checked. Although this plan has not found many adherents in Germany or France, English surgeons have taken it up with more interest and have reported large numbers of cases in which the measure has appeared to contribute greatly toward prolonging life. In most instances the abdominal operation was not performed until the breast tumors had become practically inoperable, through recurrences, etc., but Schinzinger recommends the oöphorectomy just as soon as the diagnosis has been made. In this way the atrophy and contraction of the breasts that normally follow the menopause will be artificially induced, and in consequence the growth of the tumor be restricted. The author also believes that the tendency is to regard as inoperable many cases that are still susceptible of much relief and prolongation of life by surgical measures, and he considers that even the repeated removal of recurrences is to be advised. He concludes by describing four cases of carcinoma of the male breast.

*Deutsche medizinische Wochenschrift, August* 31, 1905.

**Prophylactic Nourishment in Laparotomy, and Puncture of the Intestine.**—Von Stubenrauch recommends the injection of a nutrient mixture into the intestine in all operations on the gastrointestinal tract, especially those involving the pylorus and upper part of the small intestine. The procedure consists in drawing a small piece of intestine, about one meter from the pylorus into the wound, puncturing it with a fine cannula containing a sharp trocar, and injecting the nourishment with a syringe through a long rubber tube attached to the cannula. The intestinal wound is then closed with Lembert sutures. The injected mixture is prepared from milk, eggs, salt, and sugar to which cognac may be added if stimulation is desired. By this operation the writer is enabled to administer nourishment immediately after operation, when administration per os is contraindicated. Postoperative intestinal paresis is thus guarded against by stimulation of peristalsis, while shock is also minimized. If it is anticipated that the patient will be unable to take food by the mouth for some days after operation, the intestine is sutured into the wound, which is partially closed, and then packed. After twenty-four hours a paste containing one per cent. sublimate is rubbed into the wound. Through this paste the intestine may be repeatedly punctured for the injection of nourishment as already described. Suture of the puncture wound is unnecessary. In cases of ileus in which a preliminary enterostomy is desirable the same procedure is followed, but the cannula is left *in situ* to drain off the glass and fluid intestinal contents. The operation is particularly indicated when the obstruction is due to inflammatory conditions in the pelvis.

**Observations on Radioactivity.**—Bergell recommended a method of fractional cooling for the quantitative determination of the radioactivity of mineral waters. If water containing radioactive substances is boiled on a return-flow condenser the water will become concentrated to a mineral quantity, but the emanation and other gases remain uninfluenced. These can then be condensed by liquid air, and isolated. Bergell further shows that less radioactivity is given off at 50° C than at a higher temperature. Practically this may be of importance in that through rapid cooling the loss of radioactivity in spring waters is materially reduced for a short time at least.

**The Treatment of Arteriosclerosis.**—Romberg emphasizes the importance of digitalis in all cases of arteriosclerosis in which there are evidences of muscular weakness of the heart. It is preferably given in small doses continued over a long period. Strophanthus is an efficient substitute. In the milder forms of angina pectoris, associated with cardiac insufficiency between the attacks, digitalis is often of service. For the accompanying asthma opium in some form is indicated. During the attack sodium nitrite or nitroglycerin subcutaneously is more satisfactory than the inhalation of amyl nitrite. In addition to digitalis laxative mineral waters are useful adjuvants in cases of arteriosclerosis associated with gastrointestinal disorders, diuretics in those associated with interstitial nephritis. In the latter group the high blood pressure is frequently lowered by the exhibition of small doses of digitalis. Empirically baths of moderate temperature containing a small amount of $CO_2$ have been found beneficial although contraindicated when the cardiac weakness is too marked. Within the same limits passive gymnastic exercises may be advised, but active movements involving a sudden increase of blood pressure are a source of danger. For the cerebral symptoms of arteriosclerosis Romberg advocates rest, a change of surroundings, the regulation of gastrointestinal functions and the internal administration of potassium iodide. Small quantities of nourishment should be taken frequently during the day, together with a sufficient amount of water. Digitalis may be used for the cardiac weakness unless a cerebral hemorrhage, however slight, has taken place. Sudden awakening at night with a feeling of anxiety is sometimes relieved by the immediate ingestion of a small amount of liquid or solid food. Secondary psychoses have a bad prognosis. The frequent vasomotor disturbances of arteriosclerotic subjects—intermittent claudication, erythromelalgia, etc.—should be treated by local baths, galvanic baths, and quinine. Extremes of temperature are to be guarded against. The general treatment coincides with that already outlined for cerebral complications. Internally, the most efficacious drug is potassium iodide combined with sodium bicarbonate given at intervals over a period of years.

*Deutsche medizinische Wochenschrift, Sept.* 7, 1905.

**The Value of Pavy's Method of Sugar Determination and Some Modifications of It.**—Sahli says that although in his book on clinical methods he criticised Pavy's method rather severely, he has since then come to a different conclusion regarding the value of the procedure, and now thinks very highly of it. The chief reason why it has not been more generally employed by clinicians and practitioners is owing to the incompleteness of Pavy's own descriptions, and Sahli has worked out what he considers an improved method of procedure which is so simple that he terms it the most suitable method for routine sugar determinations yet known, while it is second to none in point of accuracy. He discusses the theoretical and practical considerations involved at great length, and states that one cause of error has been Pavy's inexact directions for dilution of the ammoniacal copper solution. He has found that

if exactly 15 c.c. of water are taken to 5 c.c. of Pavy's solution there is no waste of ammonia or faulty reduction on boiling, and, furthermore, that it is not necessary to carry out Pavy's system of connecting the flask with the burette by rubber tubing, etc. The manner of boiling is also very important, for the fluid must be kept in gentle ebullition and no more, to avoid error. It is also preferable to perform the titration in a flask holding only 75 or 100 c.c. instead of 150 c.c., as Pavy recommends, as in this way the error due to exposure of the fluid to the air is reduced. A formula for making the reagent in two solutions, like Fehling's solution, is given, as well as many other details of manipulation which Sahli considers necessary in order to secure accuracy, and he concludes by expressing the view that the modified Pavy method is better for the purposes of the practitioner than even the simple fermentation test.

**The Examination of Pleuritic Exudates for Tubercle Bacilli.**—Zebrowski describes a series of observations he undertook in order to test the value of Jousset's method of examining pleuritic exudates for the presence of tubercle bacilli, which he called inoscopy. The principle of the method consisted in allowing the fluid to coagulate, with the idea that any suspended particles, such as bacteria, would be entangled in the meshes of the clot. This was then dissolved by the aid of an acid pepsin solution and smears made of the residue. In this way Jousset claimed to obtain 100 per cent. of successful results in cases that he examined for tubercle bacilli, but the author was less successful, and suggests that Jousset did not decolorize his preparations sufficiently. He has devised a plan of his own which is the exact opposite of Jousset's. Instead of favoring coagulation, he seeks to retard it by collecting the chest fluid directly in a phthorium sodium solution. The sediment forming on standing is collected and centrifuged, and the resulting deposit is used for the smears. At least 100 c.c. of fluid are required to insure success. The author examined thirty-six exudates and found bacilli in twenty-two of the number.

**Primary Erysipelas of the Larynx.**—Blum reports two cases of this rare condition. Both occurred in women and were accompanied by severe dyspnea, owing to stenosis, great tenderness to pressure over the thyroid region and the lymph glands, inability to swallow, and practically no changes in the pharynx. In the one case the fever was very slight, but in the other there was a considerable rise in temperature. The diagnosis was confirmed in both instances by the appearance of the disease about the face and head. The diagnosis is always difficult in the early stages as it simulates other acute laryngeal affections, especially diphtheria, closely, and the true nature of the disease is revealed only by its subsequent course.

*French and Italian Journals.*

**Ureteritis and Pyelitis.**—André Loumaigne sums up his thesis on this subject as follows: Ureteritis and pyelonephritis are of very frequent occurrence especially in women. In the great majority of cases clinical methods are sufficient to insure an early and positive diagnosis. The fact is most important, for it often offers the opportunity of preventing or at least of efficiently treating the renal infection. The original symptoms of uretero-pyelitis are urinary troubles, pain, and the determination of the presence of an indurated and painful cord which is the inflamed ureter. Of the urinary troubles, pollakiuria is of special importance, particularly when it is nocturnal. When micturition in the night is far more frequent than in the day, that is when there is absolute nocturnal pollakiuria, the diagnosis of pyelitis is certain. As to the symptom of pain, when it is located about the umbilicus, it has an almost irrefutable value. The direct palpation of the inflamed ureter is possible either through the anterior abdominal wall, or by vaginal touch. By the latter method, there is also often provoked the ureterovesical reflex, that is pain is associated with the desire to urinate. This reflex is of great importance in the diagnosis of pyelitis. The writer concludes by saying that nocturnal pollakiuria, periumbilical pain, and the ureterovesical reflex, clinch the diagnosis of ureteropyelitis.—*Revue Francaise de Medecine et de Chirurgie*, August 21, 1905.

**Acute and Chronic Cocainism Induced by Absorption through the Nasal Mucosa.**—H. Lemaire refers to the numerous applications of cocaine in rhinology, and emphasizes the inconveniences which may result from the too expensive or prolonged employment of certain preparations whose base is cocaine. He speaks of the phenomena of cocainism induced by absorption through the nasal mucosa, and distinguishes acute and chronic cocainism. The cardiac and circulatory disturbances are the most frequent. They consist of tachycardia without arhythmia, facial pallor and blanching of the skin, chilling of the extremities, and vascular spasms of the viscera which produce vertigo and vomiting. Psychical and sensory troubles are excitement, visual hullucinations, hypoesthesia of the extremities, and mydriasis. Respiratory disturbances consist of pain and sighing respiration. According to Pouchet, cocainism may be the point of departure for a latent neurosis. Chronic cocainism is like morphinism, observed in subjects who demand that the drug shall produce the same sensation of well-being and comfort that it did on its first ingestion. Cocaine is often taken in cases of coryza, rhinitis, and hay fever. The habit is rapidly acquired by the patient, who does not hesitate to intoxicate himself with it. Chronic cocainism causes both sensory and psychical troubles, chief among which are formication and itching of the extremities, severe pain and sometimes anesthesia. Visual acuity is lowered. Hallucinations of various kinds, cardiovascular troubles, anorexia, and cachexia are also observed.—*La Tribune Medicale*, August 19, 1905.

**Chronic Meningitis in an Heredity Degenerate.**—G. Doutrebente and L. Marchand believe that it is only too common in cases of degenerates, to attribute the mental abnormality solely to hereditary instead of searching for the possible cause in some disease of infancy or early life which may have caused cerebral changes. They report a case of mental deficiency in which not only hereditary unsoundness of mind but also infantile meningitis had a hand in producing the abnormal mental condition. The patient was committed to an asylum when he was ten years of age. The father had been an inmate of an asylum, being a criminal alcoholic. The child had in his first infancy given evidence of arrested development, both physical and mental. Intelligence was very rudimentary. There was an absence of all moral sentiments. Various attempts were made to educate him but were invariably unsuccessful. Death occurred at the age of nineteen years. At autopsy there was discovered the presence of chronic meningitis of infantile origin, localized in the anterior part of the upper borders of the cerebral hemispheres with a very accentuated atrophy of the frontal lobes. The meninges were soft and very thick, and underneath them were noted deep lesions of the cortex.—*Le Progres Medical*, August 19, 1905.

**The Hypophysis in Tuberculous Processes.**—B. DeVecchie and G. Bolognesi tells us that the tuberculous infection has no power to stimulate the function of the hypophysis: the course of the disease, the form and location of the tuberculous lesions have no action to stimulate the gland: on the contrary the parenchyma of the hypophysis appears to be at times in a condition of hypofunction. This condition of functional depression is not secondary to a hyperactivity, since the animals that are killed at a time soon after inoculation never show any modification of the chromatophile cells.—*La Riforma Medica*, August 19, 1905.

**Cystic Ureteritis.**—Eugenia Simelew after giving the history and histological examination of a case of ureteritis of a cystic nature gives us the following conclusions for future studies: 1. The formation of cysts on the mucous membrane of the ureter may be determined by a chronic inflammation of the membrane; at the same time, cystic ureteritis is a distinct morbid entity. 2. The cysts originate from the epithelial nests of von Brunn, and present the characteristics of cysts of degeneration: there is no parasitism in their etiology; the supposed parasites are simply products of degeneration of the epithelium. 3. The cysts are lined with epithelium, at first stratified, which later becomes flattened out until it has but one layer. 4. The masses of cysts on the ureteral surface originate in two ways: by a simple coincidence of cysts near together; or by the development of daughter from mother cysts. 5. The nests of von Brunn are normal epithelial formations, found in a certain number of individuals, representing invaginations of the lower strata of epithelium. 6. Elastic tissue is richly distributed in the walls of the ureters, but is not found in the cysts, because the walls of the ureter are profoundly altered, and the elastic fibers have disappeared.—*Il Policlinico*, August, 1905.

**Metabolism in Osteomalacia.**—Raffaele Caporali has selected from among forty-two cases of osteomalacia seen at the hospital in Naples, three cases of different types of the disease, and has studied the changes in their metabolism. The first case was one in the last stages of the disease, with intense pains, softening and fractures of the ribs, absolute immobility, presence of myelocytes and increase of eosinophiles in the blood, and reaction of Griess in the urine. The second was less serious, pain less, no fractures, capable of walking with support and with negative Griess reaction. The third had only slight pains in the chest, staggered in walking but needed no support, and her general condition was fair and blood composition normal. They were put on a strict diet for some days and the feces and urine collected, to estimate the amount of nitrogen,

phosphoric acid, and oxide of lime in them, as well as in the foods. The results of these researches are summed up thus: In all severe cases of osteomalacia there is a destruction of the body proteids, loss of phosphoric acid and of oxide of lime. In less severe cases these changes are less marked, while in the early stages they are not to be observed. The presence of myelocytes and increase of eosinophiles in the blood, and the reaction of Griess in the urine are of diagnostic value. The changes of metabolism bear no relation to the duration of the disease, but depend on its severity, and may occur in the early years. The tissues of the body all take part in the disturbances of metabolism, not the bones only, and the respiration and circulation are seriously affected.—*Archivio di Ostetricia e Ginecologia*, July, 1905

**Epithelioma of the Face and Its Treatment.**—Jeanselme declares that epithelioma of the face is of as much interest to the surgeon as it is to the physician, for if it is recognized in the early stages, intervention may prove entirely successful. Treatment ought to be energetic. As to the treatment of senile keratoses, the method indicated will depend upon the size of the lesion. If it is very small it can be easily removed with the curette and cauterized with the thermo-cautery. When it is large intervention would cause irritation and would transform it into a veritable cancer. As regards a papillary epithelioma, the only treatment is curettage and cauterization with a galvano-cautery. When the lesion is a torpid growth, but ulcerated like rodent ulcer situated in the upper two-thirds of the face, radiotherapy works marvels. This treatment may bring about complete cure. It must be very cautiously given, however, for if it is too intense it may cause radio-dermatitis, or superficial cutaneous inflammations, or even ulcerations, which, unfortunately, are very resistent to treatment, and which are very persistent often lasting for years and causing great pain. On the other hand, if the power of the rays is too week, the time devoted to their application is useless. In dealing with cancer of the lips, radiotherapy nearly always fails. Excision of the growth, and the ganglia as well, is indicated in such cases. This treatment is often followed by the use of radiotherapy. In those cases which formerly have been treated by the application of arsenical caustics, the writer believes that radiotherapy will prove the method of choice in the future. In cases of epithelioma the physician should not forget the importance of soothing the pain attendant upon this disease. This is best accomplished by the administration of opium, which this class of patients can bear especially well.—*La Médecine Moderne*, August 30, 1905.

**Injections of Gas for the Pain in Neuralgia.**—Desplats has found that the injection of gas is very efficacious in cases of neuralgic pain. The object of this treatment is to distend the subcutaneous cellular or the deep interstitial tissue. This action is successfully attained by the use of air, Desplats' experience with irritating or sedative vapors having yielded only negative reslts. The bulb of a thermocautery and a Pravaz needle are the only apparatus required. The bulb is worked rapidly until the reservoir is filled with air, which is then gradually injected into the cellular tissue. A little massage of the injected part will displace the air. Any region seems to be amenable to this treatment. The course of the air through the tissues can be watched when the injection is subcutaneous. In some cases the diffusion is vascular, the air spreading with great rapidity along the length of the vessels. Relief quickly follows the injection, which is always painless, though sometimes several hours elapse before the pain ceases, but relief is sure to come. Generally, one injection is sufficient, but in severe cases sometimes two or three injections at different points are necessary. These air injections, although first employed in cases of neuralgia, have given the best results in cases of sciatica, intercostal neuralgia, lumbago, certain arthralgias, and acute affections of the lungs and pleuræ.—*Revue Française de Médecine et de Chirurgie*, August 28, 1905.

**Dangers of Contagion in the Sanatorium.**—Ch. Malibran and L. Gassot, in replying to the criticisms aimed against sanitoria, emphasize the fact that in a well-organized sanatorium the risk of contagion is less than in any other place where tuberculous patients live. The great factor in the propagation of tuberculosis is the expectoration. Koch's bacilli are scattered through the atmosphere—it may be by powdered sputum after it is dried, or it may be by liquid particles which are projected by coughing. In the sanatorium the employment of spittoons holding a liquid antiseptic prevents desiccation of the sputum, and so destroys the principal source of infection through the air. Very little danger attaches to the liquid particles projected by coughing. In the first place, such particles remain for a short time only suspended in the air, and the daily cleansing of both walls and floor with antiseptics removes any germs that may have settled there. There is also almost no danger to be feared from personal contact. However, in order to do away with the least risk, the various types and degrees of the disease can be separated. From long observation it is known that both visitors and attendants escape contamination. The most careful hygienic measures are taken in every particular to promote the safety of the inmates. These authorities believe that no fear of danger should keep a patient away from the advantages which are offered to the tuberculous sufferer in the modern sanatorium.—*Revue Française de Médecine et de Chirurgie*, August 28, 1905.

**Exploratory Puncture as a Means of Diagnosis in Gynecology.**—Pietro Gioelli publishes forty-three cases in which exploratory puncture was used as a means of diagnosis in abdominal conditions, such as pelvic peritonitis, diseases of the adnexa, and pelvic abscess. The fluids removed were examined and served as a means of accurate diagnosis. The author gives us his conclusions: (1) Abdominal puncture is harmless when made with due precautions: the examination of the fluid obtained is of great diagnostic value in many cases. (2) In exudates, especially of long standing, microorganisms are not found, or they are of slight virulence. (3) The gonococcus is most frequently found. (4) In pelvic peritonitis with fetid odor, this odor is due to anaerobic bacteria, or pathogenic aerobes, which are highly virulent. (5) In cases without fever or microorganisms the fluid will not be reabsorbed, but operative evacuation will be necessary.—*Archivio di Ostetricia e Ginecologia*, July, 1905.

**Lymphangioendothelioma of the Processus Vaginalis.**—Santi Rindone reports this case of endothelioma of the processus vaginalis, not involving the testicle, as an exceptional condition. There are in literature various cases of endothelioma of the serous membranes, but none of the serous structure of the testicle. The patient had, as early as the eighth year, a tumor in the scrotum which was thought to be a third testicle. It increased gradually in size, but never gave him any pain or other trouble until it had been in existence for thirty-four years. It then enlarged rapidly, became painful, produced fever and enlargement of the inguinal lymphatics. It was removed, but recurrence occurred in the lymphatics and caused the death of the patient. As soon as the tumor lost the character of benignity the patient had fever, and this disappeared with the operation, but recurred when the tumor grew again in the lymphatics. The tumor was a typical endothelioma, with a basement substance forming alveoli and cellular masses.—*Giornale dell'Associazione Napolitana dei Medici e Naturalisti*. Anno XIV, No. 3.

**The Insufflation of Oxygen Into the Abdominal Cavity in Sepsis Following Laparotomy.**—Romolo Costa reports two cases of sepsis after laparotomy, in which oxygen was insufflated into the abdomen when septic occurred. The first was after an operation for extrauterine pregnancy. On the third day symptoms of sepsis came on. The abdomen was reopened and washed out with normal salt solution, and a drainage tube was inserted, through which the oxygen was blown into the cavity, so as to distend the walls. The improvement in the patient's condition was immediate and permanent. The second case was after rupture of the uterus in a very long labor. The use of oxygen gave no improvement and the patient died. The use of oxygen in itself is harmless, and experiments on animals showed that its use in infections by the colon bacillus was of value.—*Annali di Ostetricia e Ginecologia*, July, 1905.

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**The Feeding of Atrophic Nurslings.**—G. Variot gives Jégourel's definition of this affection: "Infantile atrophy is a hindrance of growth in both weight and size more or less pronounced and prolonged, arising from gastrointestinal troubles. Its degree may be determined by comparison with the weight and size of a normal child of the same age." The writer has given much careful study to these cases, and he has come to the conclusion that there is no absolute rule for determining the rations in atrophic cases. He states that the study of calorification gives no thoroughly reliable indication of the needs of the individual case. He is convinced that experience is the best guide to a knowledge of the limits of gastrointestinal tolerance. At a later stage the weighing machine is the best guide. The physician must proceed by tentative research, investigating the tolerance of the stomach and the intestines, judging the nourishing value of the milk by the careful and systematic weighing of the child, and by following its growth step by step. The curve of growth varies according to the degree of atrophy. In the case of athrepsics the curve is practically a horizontal line for one or several months. It has a tendency to decline, ending in death. In cases in which the degree of atrophy is slight it is common to note that the infants become quite vigorous in their second year. These cases require the greatest patience.—*The British Journal of Children's Diseases.*

# Society Reports.

## AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

*Eighteenth Annual Meeting, Held in New York City, September 19, 20, and 21, 1905.*

PRESIDENT, DR. HOWARD W. LONGYEAR, OF DETROIT.

AFTER the delivery of an address of welcome by Dr. George B. Fowler, which was responded to by Dr. Charles A. L. Reed, the reading of papers was begun.

**Multiple Pregnancy Complicated by Double Pyosalpinx.**—Dr. O. H. ELBRECHT, St. Louis, Mo., read a paper with this title and reported an interesting case in detail. The most striking feature of this case was the obscurity of this rare complication, for without the autopsy he would certainly have abided by his first and only antemortem diagnosis, *i.e.* sapremia, and would have continued to believe that the general peritonitis was the result of the sapremic infection traveling upwards through the tubes and thus into the abdominal cavity, for such a process, to his mind, would be all the more plausible in the large and flabby uterus of multiple pregnancy, more especially from the fact that large blood clots were passed on the first day, showing the relatively imperfect contraction of the uterus. The case also showed very plainly the ability or the degree of tolerance of the pelvic peritoneum to cope with infections, as it was the author's opinion that the peritonitis was not general until the sixth day, for up to that time there was no hiccoughing, no vomiting, no abdominal distention, and no apparent weakness. Another deduction was that gonorrheal peritonitis, while not very dangerous, if confined to the pelvic peritoneum, was surely dangerous when it crept out of the pelvis and became diffuse. It was also his firm belief that the pyosalpinx in this case was unilateral at the time of impregnation, and that the infection was transmitted by the escape of virulent pus to the open fimbriæ of the unaffected side. The only cases he could find analogous to his had been reported by Hare and Talley. The reports of two pathologists in the speaker's case, who worked independently of each other, both showed that the tube, which was secondarily infected, was infected by way of the fimbriæ, as its pathology was confined entirely to its outer third; the middle third showed only slight inflammatory changes, and the inner third, including the uterine attachment, was normal. Blank had advanced the theory that virulent bacteria in the tube had a tendency to induce pyosalpinx during pregnancy by reason of the hyperemia. He further stated that fifty per cent. of those cases in which the tubes were adherent in the cul-de-sac ruptured as pregnancy advanced, from tension, pressure, or from stretching of the adhesions, which forced pus out of their fimbriated extremity. The experience of the author with three cases of this class substantiated Blank's theory. These three cases were reported.

Dr. CHARLES A. L. REED, Cincinnati, Ohio, said that this case, with the pus tube undetectable, only added one possible condition that pointed to the reason why the class of cases under discussion should not be subjected to operation earlier and more radically than they had been heretofore. With a double pus tube with antecedent conception, it followed that the deduction of the essayist, that the infection of the tube was unilateral prior to impregnation, was absolutely incontestable. As to infection on the other side, the probability was that it resulted from a progressive invasion of tissue, the mucous structure serving as the nidus of infection occurring within the uterus following delivery.

Dr. HERMAN E. HAYD, Buffalo, N. Y., was inclined to believe that many cases of pyosalpinx complicating delivery were seen that were due to a latent gonorrhea existing in the tube, which sprang into activity as a result of the trauma incident to labor.

Dr. CHARLES L. BONIFIELD, Cincinnati, Ohio, believed many cases of double pyosalpinx cleared up sufficiently to allow the patients to become pregnant. In years gone by he had informed patients they would never become pregnant when he detected a mass on each side and there were further evidences of pyosalpinx, and on a few occasions he had been deceived after six, eight, or even twelve years, the pus having become absorbed and the women having become pregnant. He cited a case that came under his observation many years ago of double pyosalpinx, or he thought it was such. The woman refused operation. Everything in the pelvis was matted together. She gradually got better, and at the end of six or eight years (he could not remember the exact time) became pregnant, and he delivered her. She passed through labor smoothly, but at the end of a week she suddenly raised up in bed and dropped over dead.

Dr. RUFUS B. HALL, Cincinnati, Ohio, did not believe that a woman with double pus tubes could afterwards become pregnant. If such a woman should become pregnant he would have some doubt as to the diagnosis of bilateral pyosalpinx.

Dr. JOHN YOUNG BROWN, St. Louis, Mo., thought the mere existence of pregnancy in the case reported by the essayist precluded the possibility of the woman having had bilateral pyosalpinx. The pathology, as revealed by the autopsy, showed conclusively that the case was one of unilateral pyosalpinx, which had lain dormant and was kindled by the trauma of labor, and that the leakage from the pus tube produced the diffuse peritonitis, and the condition found on the other side was due to bathing this side with the pus that was produced by the peritonitis.

Dr. JAMES F. BALDWIN, Columbus, Ohio, had not had a case of double pyosalpinx followed by pregnancy, yet he thought it might occur.

Dr. LEWIS S. MCMURTRY, Louisville, Ky., said that abdominal section in a puerperal convalescent was a very serious procedure. The operation of vaginal incision and drainage, so enthusiastically advocated by Pryor, would accomplish very little in a case like the one reported from the standpoint of therapeutics; hence, in this case we had a very valuable addition to the scanty literature of the subject as to the possibility of pathology of the tubes connected with puerperal disease, and a very valuable guide to operative interference.

**Some Considerations on the After-Treatment of Abdominal Sections.**—Dr. WALTER B. CHASE, Brooklyn, New York, stated that in reviewing his personal experience he was led to the conclusion that the principal, and by far the most frequent, condition after laparotomy requiring treatment was flatulence. The accumulation of gas in the intestinal tract was present, to a greater or less extent, in a majority of cases. The principal causes were reversed peristalsis, intestinal paresis, and the effect of the anesthetic itself. He seldom gave anodynes except in conditions of pain, making a possible exception in cases when peritonitis was present prior to operation, or other structures involved in the operation were so friable that peristalsis should be prevented for a time, or in cases following intestinal anastomosis. Its administration for the relief of pain was admissible and perhaps mandatory. It was a matter of much moment when anodyne was selected. Ordinarily he used codeine hypodermically in doses of one-fourth to one-half grain, or more, if required. While its power to relieve pain and check peristalsis was much inferior to that of morphine, its lesser disturbance of the nervous system, checking of secretion and tendency to undue constipation made it an agent of great value. It was imperative that a reliable preparation be used. In troublesome cases of continued nausea the administration of small doses of cocaine, gr. 1-10 to 1-12, exercised a salutary sedative influence on the nerves supplying the stomach, and was attended with happy results. Either the nausea or flatulence, or both, might disappear in a few hours after operation. Among the newer remedies for the relief of intestinal paresis was the alkaloid of the calabar bean. Salicylate of physostigmine, given in doses

of gr. 1-100 to 1-50, or even more, hypodermically, repeated once in four hours, seemed to induce a powerful contraction of the circular fibers of the intestinal tract. The diet of patients after abdominal section called for the greatest circumspection always following the rule that nourishment, taken per orem, before the stomach retained or digested it, was positively harmful. When shock was profound, minute doses of morphine sulphate were among the most powerful stimulants, and superior to most for prompt and sustained effect. The author discussed at length the importance of bodily temperature and position of the patient after laparotomy.

**Some General Principles in Conservative Pelvic Surgery.**—Dr. JOHN F. W. WHITBECK, Rochester, N. Y., said it was decidedly advantageous to have a general knowledge and a general experience before making use of special methods in the treatment of pelvic disorders. Medical and mechanical means should be tried in suitable cases before resorting to surgical intervention. Only diseased organs should be removed. Sound organs and normal parts of unhealthy organs should be preserved. Conservative plastic surgery should be employed to save such organs as could be made to functionate or to serve some useful purpose. Diseased organs should be removed in the order of their pathological precedence and importance, with a view to benefit the patient by promoting her comfort and prolonging her life, even if a perfect cure was not to be expected.

**Trivial Pathological Conditions of the Uterus and Adnexa Considered as Causes of Severe Gastric Disturbances.**—Dr. FRANCIS REDER, St. Louis, Mo., stated that during the last two years eight patients had come under his observation, six of whom presented a train of symptoms that would ordinarily be grouped as those of hysteria or neurasthenia, moderately severe in character, the two remaining patients being free from any such pronounced neuropathic phenomena, and some in fairly good health, with the exception that their stomachs were weak. The pelvic organs of these patients upon examination gave evidence of disease, and although the examination did not reveal anything of a serious nature, still local minor operations afforded relief. In the cases cited by the author it was a surgical procedure that anticipated the pathological conditions. In the opinion of the author, to wait for pathological conditions to give evidence of their existence by more pronounced local symptoms in gynecological disease, where there was a marked reflex neurosis, would be to invite secondary conditions that might prove of a very grave nature.

Dr. RUFUS B. HALL, Cincinnati, Ohio, thought the cases reported had pathological conditions sufficiently marked to justify operation regardless of their neurotic condition. To cure nervous patients it was sometimes necessary to remove every obstacle in the way of perfect health physically. He was convinced that if many of these cases had not been operated upon, their condition would have become worse, a more grave pathological condition would have resulted later, and it would not only have been more trying for the patients, but rendered the surgery more difficult and harder for the patients to recover from the operations.

Dr. X. O. WERDER, Pittsburg, Pa., was not enthusiastic about operating on neurotic patients, as the results were not usually good, and he feared the essayist would have some of the patients upon whom he had operated return to him in a few months with the same symptoms for which they had previously sought relief.

**Prolapsus Uteri and Its Treatment.**—Dr. HERMAN E. HAYD, Buffalo, N. Y., spoke briefly of the various conditions which contributed to the production of prolapsus uteri, and then discussed its treatment by surgical means only, and according to the degree of descensus and the necessity for the preservation of the uterus, the operative treatment was carried out. He believed that in minor degrees of prolapsus uteri, with rectocele and cystocele, the Alexander operation, with well-directed plastic surgery of the vagina and perineum, would cure these simple forms. When the prolapsus extended to the introitus, or the cervix pointed through the vulva, a vaginal hysterectomy, with a well-performed anterior and posterior colporrhaphy and a perineorrhaphy accomplished the best results; and the effect was permanent if the vault of the narrowed vagina was sewed firmly to the cut edges of the broad ligament. When it was desirable to save the uterus for the purpose of childbearing, or to continue the function of menstruation, the cervix must be amputated and an anterior and posterior colporrhaphy and perineorrhaphy must be done, and the uterus firmly ventrofixed to the abdominal wall through a median abdominal incision. Usually all these operations could be performed at one sitting, but if it was desirable to make two operations, the posterior colporrhaphy and perineorrhaphy must be done at the second time, say three weeks after the first operations. The author, however, preferred the removal of the uterus, as this operation had been infinitely more successful in his hands. He also deprecated the performance of all operations which closed the vagina, as he believed this was unnecessary, and because he had seen much unhappiness result from this procedure. For the extreme cases of pelvic hernia, he was particularly pleased with a reprint sent to him by Dr. Crile, in which he advocated a very elaborate and extensive operation. For one such case, which occurred in his own practice, he sewed the united vagina and broad ligaments to the abdominal wall, and the result was very satisfactory. However, such extreme measures were seldom called for, as most cases could be cured by the other operations described. Dr. Hayd then described his operation upon the posterior vaginal wall and the perineum, in which he cut out a large triangular piece of the posterior central part of the vagina, and then, with the finger in the rectum as a guide to make tense the obturator fascia and elevator ani muscle, he sewed these two opposing surfaces or structures in perfect apposition, with fine chromic gut, which layer of sutures was buried by bringing together the vaginal mucous membrane by another layer of sutures, and finally the skin was brought together by silkworm gut. This operation lessened the size of the vagina and lengthened it by producing an oblique canal instead of a horizontal one, and by carefully proximating the fascia and levator ani, the *sine qua non* of all perineal operations, the result remained fixed and permanent.

**Surgery of the Liver.**—Dr. WILLIAM J. GILLETTE, Toledo, Ohio, read a paper on this subject in which, after discussing the control of hemorrhage, the power of the liver to regenerate itself, infection and cholemia, he described a means of controlling hemorrhage from the liver in certain cases of severe bleeding when the blood vessels cannot be easily reached. It sometimes happened that to tie them required a further enlargement of the lacerated liver substance. This of itself increased the gravity of the patient's condition. Three years ago he was called in haste to see a young girl of fourteen years who had been shot by a target gun, the bullet entering between the eighth and ninth ribs, near the costal cartilage, and passing through the right lobe of the liver and lodging behind the stomach. The low velocity of the bullet had caused it to make a tear rather than a perforation. When first seen the patient was nearly pulseless, and manifested all the evidences of a severe internal hemorrhage. Her face and lips were white and bloodless. The abdomen was opened. An incision was made close and parallel to the costal cartilages on the right side. The abdomen was found full of blood, which could be seen freely oozing from the torn liver. He attempted to control this first with cat-gut ligatures, but the friability of the tissues prevented it. Some time previously he had had an experience with a similar wound of the liver made by a bullet, and had attempted to control the hemorrhage by packing with gauze; but the patient, a strong, robust man, promptly died from the continued loss of blood. Post-mortem examination revealed that the gauze packing had been entirely inadequate to control it. Having this case in mind, he did not feel like trusting to gauze again, and in-

asmuch as it was not controlled by direct ligation, it occurred to him that by passing sutures from within entirely through the liver substance and through the abdominal wall, making exit between the ribs after the manner of a staple, and tied firmly on the cutaneous surface, that permanent and constant pressure could be made sufficient to control the hemorrhage without the ligature cutting into the friable liver tissue. Five or six such sutures were now introduced on the proximal side of the wound, each one embracing about three-quarters of an inch of the liver substance. Care was taken to link them together so as to include all the bleeding tissues in their bite. The ligatures emerged between the ribs the same distance apart as they were entered on the liver substance, and when firmly tied all the hemorrhage and oozing ceased at once. Other injuries to the viscera, which were slight, were repaired, a drainage tube was inserted, and the abdomen closed. The patient made an uninterrupted recovery. He had since used this method in two cases, in one of which, in removing a very adherent gall-bladder, he met with a severe hemorrhage which was readily controlled with it. Recovery was prompt. The third case was one in which an hydatid cyst, the size of a small cocoanut, was removed, together with a large number of gallstones, from a suppurating gall-bladder. This patient unfortunately died from peritonitis a few days later, but the hemostasis was perfect. The author referred at length to the more recent contributions to the surgery of the liver.

**Papillary Cystadenoma of the Breast.**—Dr. Edward J. Ill, Newark, N. J., contributed a paper with this title and said that this disease was comparatively rare, but that he had seen eight cases in his practice. There was very little literature concerning the disease. Its characteristic symptoms were a clear yellowish pink to dark-bloody discharge from the nipple. On palpating the breast a small tumor could be made out early in the disease which might become multinodular later on. He had observed cases from a few weeks to eleven, twelve, and twenty-one years. The pathological condition found was a papillary adenomatous mass projecting into the milk duct. It was nonmalignant in character. The patient might get well without any interference. When the disease persisted, he advised removal of the breast.

Dr. Miles F. Porter, Fort Wayne, Ind., said that cystadenoma of the ovaries and of other organs was prone to become malignant, and no man could tell whether the tumor was malignant or not until he had removed it and had carefully examined it. Some of these tumors were pronounced to be nonmalignant by microscopists, yet there was recurrence after their removal. Again, others that were pronounced malignant and operated upon recurred.

Dr. Joseph Price, Philadelphia, Pa., had never regretted the early removal of tumors of the breast, for fear that they might become malignant. He cited interesting cases in point which illustrated the importance of early operation.

Dr. Gunther, in closing the discussion for Dr. Ill, said that these patients were not aware that they had a tumor. If they had one it was very small. There was no involvement of the axillary glands, and they sought medical advice principally on account of the discharge mentioned from the nipple. The history and symptoms in these cases were sufficient to exclude malignancy.

**The Byrne Operation and Its Application in the Radical Treatment of Cancer of the Cervix.**—Dr. X. O. Werder, Pittsburg, Pa., in a paper on this subject described the operative technique employed by Byrne, and said that Byrne placed special stress on the importance of thorough and repeated cauterization of the wound surfaces and edges from which cancerous tissue had been removed, regarding it as the best safeguard against a recurrence of the disease. The most remarkable feature of the Byrne operation, when compared with all other operations undertaken through the vagina for the cure of cancer of the cervix, and one which seemed to justify Byrne's conclusions, was the almost uniform absence of local recurrence. While employing the method described by Byrne in his first cases, he invariably followed it by the ablation of the remaining portion of the uterine body and appendages. Subsequently, however, he simplified the procedure very materially by dispensing with the preliminary amputation of the cervix. The principal features of the Byrne operation had been retained, namely, thorough and repeated cauterization of all wound surfaces and edges. The operation differed from the usual vaginal hysterectomy by the use of the cautery knife for detaching the cervix from its vaginal connections; the application of the electrothermic clamps devised by Downes, and the final cauterization of the stump with the dome-shaped cautery. Dr. Werder described the technique as he employs it at the present time as follows: "The cervix is curetted with a heavy, sharp spoon curette until all necrotic tissues are removed, and the bleeding surfaces cauterized until all oozing is controlled. The cervix is then firmly held with volsella forceps and an incision is made entirely around the cervix at a considerable distance from the affected area by means of the cautery knife, keeping it at a dull heat and never turning on the current until the knife is placed against the tissues to be burned. In this manner no oozing will take place and the parts will remain perfectly dry. While making traction upon the cervix the dissection is carried up carefully between the bladder and uterus, an assistant with a retractor drawing the bladder wall away from the hot knife. With the aid of the index finger the peritoneum is then reached and opened with a blunt scissors. Douglas' pouch is opened posteriorly in the same manner and the lateral vaginal attachments are burned through. The bladder is then widely separated from the uterus and broad ligaments by inserting the index fingers of both hands with the palmar surfaces directed towards both pelvic walls and making firm lateral traction. The fundus uteri is then seized with vulsellum forceps and dragged down into the vaginal outlet, while a broad retractor in the hands of an assistant holds up the bladder against the symphysis pubis and well out of the way during the subsequent steps of the operation. Pads are now introduced into the pelvis to hold back and protect the abdominal contents. Ordinary heavy clamps are then applied to the whole broad ligament, first one one side, two usually being required on the other side. The same procedure is then repeated on the other side and the entire uterus and appendages removed. Thus far the operation differs very little from the old clamp method of vaginal hysterectomy, excepting that all incisions have been made with the cautery knife. After packing off the pelvic cavity very carefully with gauze pads, the upper clamp on the infundibulopelvic ligament is seized, the ligament put on a stretch, and a Downes electrothermic clamp applied externally to it, protected by the shield and additional pads, if necessary, and the tissues included in the forceps are then thoroughly cooked until a good ribbon is obtained. The Downes' clamp is then removed, the ribbon cut through near its inner edge, and if, after a few moments, no bleeding occurs, dropped. The next clamps are then treated in exactly the same manner until both ligaments and all other uterine attachments have undergone this cooking process." Of the sixteen cases operated upon by Dr. Werder only one patient died, about four weeks after the operation, from uremia. She is supposed to have suffered from nephritis for ten years previously. The operation, he thought, might have hastened, but not caused, her death.

**Indications for Hysterectomy in Puerperal Septicemia.**—Dr. Charles Greene Cumston, Boston, Mass., stated that hysterectomy applied to the treatment of acute puerperal infection was as yet a mooted question as far as its indications were concerned, and it would be quite as illogical to advise this interference in all serious cases as it would be systematically to condemn it. All surgeons seemed to be in accord as to the great difficulty of formulating the indications for this operation, and especially the time when these became formal. To come to a conclusion all clinical methods of examination and those of the laboratory must be employed. The latter, however, were far from being of

equal value, as no positive result could be obtained from a bacteriological examination of the lochia or blood. Cytological examination of the blood would give excellent data as far as the prognosis of the type of infection was concerned. Clinically, there was no one valuable sign; but taken altogether the symptoms obtained by careful intrauterine examination might indicate the necessity for surgical intervention when all other therapeutic procedures had failed. Septicemia occurring at once after labor could not derive benefit from surgery, but, on the other hand, it would appear that hysterectomy was indicated in cases of secondary septicemia with a slow evolution, or those taking on a pyemic type proceeding by successive stages, on the condition that there were no visceral metastases, in which case surgical treatment would be the method of exception.

**Abdominal Hysterectomy for Multiple Fibroids Complicated by Pregnancy.**—Dr. J. HENRY CARSTENS, Detroit, Mich., read a paper on this subject in which he reported the case of a woman, 42 years old, who was never pregnant before. The tumor had been noticed for five or six years, but was not accompanied by hemorrhage. Menstruation was regular until May; there was a slight show in June and July. He operated upon the woman in the middle of August and removed the tumors. The growths became rapid during the last three months. The patient made an excellent recovery from the operation. These cases were not uncommon, still they were sufficiently rare to warrant reporting them. In nearly all cases the women were sterile; a growth developed, and after some years they became pregnant, which prompted one to suspect that there was some abnormal condition of the uterus, perhaps some malposition, which prevented impregnation, but as the result of the presence of the growth the uterus was pulled up or pushed over in one direction or another in such a way that the ova could pass into the uterus and cause pregnancy to take place. This seemed to him to be the correct explanation of the occurrence of pregnancy in sterile women after the development of fibroids. In reference to general rules for such cases, the cases varied so much that no definite rule, he thought, could be laid down to govern all of them, but on general principles he thought cases of fibroid tumors complicated by pregnancy could be left alone if they were subperitoneal and located in the upper half of the uterus. Fibroids, however, located in the lower half of the uterus or in the broad ligament should be removed. Fibroid tumors that were adherent or complicated with other pelvic diseases should be removed by enucleation, or in some cases an abdominal hysterectomy should be performed.

**Personal Experiences in Myofibroma of the Uterus.**—Dr. MILES F. PORTER, Fort Wayne, Ind., presented some of the more important facts gained from the treatment and observation of over 125 cases of myofibroma of the uterus. The earlier cases having been seen during a rather exacting general practice, and many of them operated upon away from home, in private houses, without adequate assistance, accounted for the fact that the records of this part of the author's work were imperfect. Of the 125 cases more than 100 were subjected to supravaginal hysterectomy. Two vaginal hysterectomies were done in which the abdomen was entered. Myomectomy through the abdomen was done six or eight times only, except cases in which small fibroids were removed during celiotomy for other causes, and these were not considered. Hemorrhage was not so prominent a symptom as was so generally thought. In two cases this was the immediate cause of operation, and in one it manifested itself first after establishment of the menopause. Pain, especially during the menstrual period, had been the most common symptom. Only one case of pyosalpinx as a complication was seen. In one an eight and one-quarter pound tumor was removed from a four and one-half months' pregnant uterus. Normal labor at term followed, and one child had been born to the mother since without accident. In one case the pregnant uterus was removed for pain on the theory, which the specimen proved correct, that the woman could neither miscarry nor carry the child to term. The third was operated because of mild sepsis due to retained fetus. Both recovered. He said the women with fibroid tumors were peculiarly liable to infection following labor, miscarriage, or menstrual flow. In several cases this danger was the chief indication for operation. Three cases were reported to support this opinion. The rapid growth of fibroids during pregnancy was believed to be more apparent than real. Partial or complete sterility was common in fibroid patients. But one case of malignant degeneration was seen. But one patient died. This was due to the breaking down of a large vaginal tumor coexisting with a large abdominal tumor. Both were removed through the abdomen. The removal of the vaginal tumor per vaginum by morcellation, and an abdominal hysterectomy later, he thought, might have saved the patient, who died from the effect of the sepsis from which she was suffering at the time of the operation, combined with the effect of the shock and loss of blood. One case of dermoid of the ovary with multiple fibroids was met with, one practically a pure myoma, and one fibroid of the ovary complicating fibroid of the uterus. Oöphorectomy for fibroids was not a justifiable operation, as it neither stopped the hemorrhage nor the growth of the tumor. The ideal operation for myofibroma would leave the genital tract intact, or as nearly so as possible within reason. The tubes should always be removed when operation rendered pregnancy impossible. Healthy ovaries should be left, as should healthy cervices. Whether to operate through the vagina or through the abdomen might be determined before the operation was begun, but the details of the technique should be developed as the operation proceeded. In rare cases the elastic ligature was of service. Twice the bladder was cut, but was immediately repaired, and no harm resulted. One case had a hemorrhage from a split of the broad ligament, which occurred the night following the operation as a result of the patient starting violently during a dream. No trouble from silk as ligatures was experienced, but because of the evidence against it, catgut was substituted as soon as he had learned to sterilize the latter by heat. The death rate of abdominal operations need not be over two per cent., and vaginal operations involving the peritoneal cavity should not be above one per cent.

**Unusual Dilatation of Cornual Blood-Vessels, with Rupture Into the Uterine Cavity; Hysterectomy, Followed by Recovery of Patient.**—Dr. FRANK F. SIMPSON, Pittsburg, Pa., reported an interesting case, and said that apart from their association with neoplasms, vascular changes were not infrequently found when persistent bleeding occurred near the menopause. Arteriosclerosis was rather common; but aneurysm, aneurysmal varix, and varicose veins occurring within the myometrium were rare. In this case there was an excessive vascularity of the uterus, with sclerotic arteries and varicose veins. The sclerosis was found in its several forms, varying from a slight nodular infiltration of the intima to complete obliteration. In addition, we had the unusual spectacle of greatly dilated varicose veins which were the subject of repeated spontaneous rupture, with repeated spontaneous closure. In the author's case there was a clinical picture which portrayed the perils of this disease in its most serious form. In the well marked cases that had come under his observation arteriosclerosis of the uterine vessels had been accompanied by menorrhagia and metrorrhagia, which began between the ages of 38 and 45. The bleeding became more and more pronounced, had resisted medicinal and minor surgical measures, finally endangered life, and had yielded only to hysterectomy. In this case, however, the first symptom was a furious hemorrhage due to the rupture of a large varicose vein into the uterine cavity. Within two months three other hemorrhages burst upon the patient without warning, and each imperiled her life. The gross pathological findings made it clear that without surgical intervention hemorrhage or infection would inevitably have closed the scene within a short time.

(*To be Continued.*)

## AMERICAN ASSOCIATION OF LIFE INSURANCE EXAMINING SURGEONS.

*Sixth Annual Meeting, held at Portland, Oregon, July 10, 1905.*

Dr. Denslow Lewis of Chicago, President.

**Requirements for Special Instruction of Medical Students in Methods of Examinations for Insurance.**—Dr. W. B. Cluness of San Francisco in this paper discussed the fact that life insurance companies too often are the victims of errors due to ignorance on the part of recent graduates. Teachers should be impressed with the importance of instructing students in the methods of diagnosing disease in its incipiency. He attached much importance to tact and discernment, which sometimes count more than eminent ability. The speaker believed that the physician not less than the clergyman and lawyer should have an all-round training, making him a fit associate for people of education and culture. He would have students taught that life expectancy was the principal feature in life insurance problems, and that there was constantly going on an adverse selection against the company which it was the duty of the medical examiner to minimize to the extent of his ability, and that heredity and environment were the principal elements which determined the longevity of individuals. Students should be taught to give the company facts and not generalities. They should be urged to have the courage of their own convictions, and to report their findings.

Dr. Henry Wells Dewey agreed that instruction in college for this special work ought to be encouraged. The student should be given opportunities to observe normal conditions as well as pathological.

Dr. H. G. Brainard of Los Angeles defined the positions of the applicant for insurance and of the patient in the office in their different aspects. The latter, he said, gave many points about himself; the former, knowing that any pathological condition would cause a higher rate of insurance, tried to prevent such disclosure. This different plane of examination he thought should be impressed upon the medical student.

Dr. D. W. Smouse of Des Moines thought the matter should be reached in some practical manner, and suggested the sending of a letter to the respective medical schools of the country to this end.

Dr. William T. Amos of Portland thought it possible that many applicants were approved by young physicians because of the persistence of the agent, and because the young physician needed the money. The young men felt that they were getting no real support from the home office and consequently disregarded the instructions of care in the matter of risks.

Dr. Cluness in closing said that he believed the trouble lay in the lack of instruction in the medical colleges in this special department. He felt strongly that the importance of the students' positions as medical examiners should be instilled into their minds during their college career.

**Collision or Collusion.**—Dr. William T. Amos of Portland explained his reluctance in writing on a subject which seemingly criticised the insurance companies for which he examined, but in consideration of the conditions he felt it was to the best interest of all concerned that the matter be brought up of the non-support of the local examiner by the medical directors, which resulted in collision between the agent and examiner, with the working of injustice to the examiner, or a collusion between the agent and examiner, with the working of hardship upon the company. He analyzed the modus operandi by which this collusion grew unconsciously to the examiner between the agent and the examiner. He hinted at the great desire of the insurance companies to get business, good business if possible, but business anyway. He intimated that the medical directors in their instructions to the local examiners cautioned them to be careful to a degree to which they did not expect the examiners to conform. He spoke highly of his opinion of the integrity of physicians as a class, but could not see how they could be blamed for receding from the high standing supposed to be set by the medical directors when they saw the easy examiners getting all the business.

**We Can Do Better Work for Our Companies; Do They Want It?**—Dr. William Moore of New York City spoke of the chief causes which prevent the companies from obtaining the best services of the medical examiners, and the latter from receiving their rewards to be: (1) The indifference of all the officials, except the medical director, to the examiner's welfare; (2) poor pay and unnecessary multiplicity of examiners. He suggested the following remedies: (1) That the medical report call for no expression as to the insurability of the risk; (2) that a confidential opinion, whenever the original report is to pass through the agent's hands, be sent directly by the examiner to the medical director; (3) that examiners be salaried, or a chief and alternate system be adopted, with a penalty for its violation, to be paid by the agent, should he employ other than the chief when available.

Dr. W. O. Bridges of Omaha believed that until the medical director had absolute authority to make and stand by an examination, regardless of the business end, there would be difficulty. He regretted that there were but few companies in this country who left the principal part of the business in the hands of the medical director. The multiplicity of examiners, he considered, was also responsible for much trouble. The only redress open to the medical examiners was to turn against those companies which would not protect them.

Dr. E. S. Clark of Sumas, Washington, thought there should be more safe risks, and until examinations were conducted with this view the trouble would not be overcome.

Dr. A. S McDaniel of San Antonio said that it had been his rule to make an honest report. While he had gained the confidence of his company his income had decreased. He found that other examiners had come in, and for some reason they got the greater number of fees.

Dr. M. A. Robison of Victor, Colorado, asked whether an examiner was justified in reporting an absolutely poor risk to a company regarding an examination made by another examiner. The case in point was that of a man who had been recommended but died within one week. Dr. Robison had been familiar with the condition before the insurance was issued and inquired whether he would have been justified in interfering with another's business.

Dr. H. G. Brainard of Los Angeles said that with most of the insurance companies the medical department was a kind of fifth wheel, which the company required but which was dominated by the business end of the concern. In his company the effort was made to have the examination papers sent direct from the examiner to the home office. He felt that the difficulty in question was one which, until the examiner was made supreme in his own field, could not be avoided. He called attention to the fact that insurance might be given to any man if a sufficient rate was charged; for instance, the man who dies next week may be insured if the rate is right. Because a man was not a first-class risk he thought it did not follow that he should be debarred.

Dr. Henry Wells Dewey of Tacoma remarked that theoretically the medical examiner was responsible to the medical department, but that practically he was much more responsible to the agent. He had in his office a scale and measuring rod which he had found kept business away from him. Agents had told him that they did not want the exact height and weight of a man who was anywhere near the limit. Another cause of difficulty, he thought, lay in the multiplicity of examiners; the agent would pick out the most lenient. With reference to interfering in the matter of a poor risk, he thought it would be a clear case of "butting in."

Dr. S. F. Sanders of Holdrege, Nebraska, spoke in protection of the medical director, who, he did not think, was entirely responsible for the appointment of the agent. He

thought benefit would result to the insurance companies if attention were paid to the matter along the lines suggested in the papers.

Dr. William T. Amos wanted it clearly understood that he was not under the second class of the heading of his paper. While he had been fairly successful, he had not made much money in the insurance business. He believed that an examiner should "butt into" the poor risks that had been accepted by other physicians.

**The Recognition of Drug Addictions in Life Insurance.**—Dr. T. D. Crothers of Hartford, Connecticut, in this paper, said that thirty per cent. or more of all alcoholics also take drugs. He divided the drug takers into two classes, the simple and complex. He gave a summary of some of the facts upon which the recognition of drug addiction must turn. He believed that a careful examination of the sight, hearing, taste, and smell would generally show the condition, notwithstanding the denials of the applicant. He believed that when the psychological studies of applicants for life insurance were made with as much minuteness as examinations of the heart, urine, and blood, the hazardous risk of drug takers as healthy, normal persons would be eliminated.

Dr. J. T. Priestley of Des Moines thought that the insurance companies suffered more from the drug takers than from any other class of people.

Dr. J. Allen Gilbert of Portland thought too little attention was given to this phase of examinations, and referred to a series of tests which he employed in examining the nervous system.

The paper was further discussed by Drs. Amos and Cardwell, and Dr. Crothers in closing said that the question of total abstinence in life insurance was fast becoming an important factor.

**President's Address.**—Dr. Denslow Lewis of Chicago, Ill., delivered this address, taking as his title "The Medical Examiner and His Work."

**Women as Risks.**—Dr. Mae H. Cardwell of Portland, Oregon, in her paper with this title, confined herself to notes and comments on the physical and moral conditions of women which make for or against their eligibility as risks in insurance. Until women have become financial independents Dr. Cardwell believed they would never be equal factors for the consideration of the companies. Statistics of the life of the female she believed should be created. The mortality in men from the effects of liquor was vastly in excess of that of women. Deaths from kidney infection through gonorrhea were as common among men as were deaths in women from the same infection of the generative apparatus. She strongly recommended that physical examination of women for insurance be extended to palpation and inspection of the pelvis, unless satisfactory evidence was given that the organs were healthy. Loyalty to the companies should prompt a warning to the applicants against habits which might develop disease, yet this warning, Dr. Cardwell thought, might be exaggerated by a nervous woman. She regarded suicide in business women a danger to be considered.

Dr. H. G. Brainard of Los Angeles thought the position of women as risks a question yet to be determined. He thought it would add much to the willingness of companies to take such risks if it were known that the pelvic organs were in good condition.

Dr. J. Allen Gilbert of Portland would insist, if it were possible, that the pelvis ought to be examined.

Dr. Amos of Portland spoke of the difficulty of finding the evidence of gonorrhea even when it was known to exist.

Dr. W. J. Means of Columbus referred to his experience in examination of women for fraternal insurance; he had found a lower mortality among women than among men.

Dr. A. Merrill Miller of Danville spoke of the difficulty of examining a woman at her home, and of the reluctance of a woman to submit to the ordeal of an examination when she realized its extent.

Dr. J. R. Wetherbee of Portland referred to the necessity for pelvic examination as brought to his attention by operations. The conditions which caused the operations would have been revealed by a pelvic examination at the time insurance was issued.

Dr. Cardwell in closing said that she believed a large majority of women would submit to pelvic examinations if the requirements were printed in the application. She did not feel that the drug habit was so important a question among women as that of suicide.

**The Relation of the Life Insurance Examiner to Local Sanitation.**—Dr. J. R. Wetherbee of Portland said that the function of a physician as a life insurance examiner should not only be to report the facts concerning a given risk, but to see that the forces in his respective locality tending to raise or lower the mortality were given his attention. He ventured the assertion that few physicians knew where the sewers of their respective cities emptied their contents. In his opinion equal responsibility rested upon the physician in the matter of educating the public in the prevention of tuberculosis. He called attention to combination policies which furnished indemnity against partial disability as well as loss of life upon the same principles as fire insurance. Should this policy become universal the responsibility of the insurance examiner for the local sanitary conditions he thought would be even greater. Dr. Wetherbee attributed the reduction of mortality from typhoid fever in Portland to the introduction of absolutely pure water from the perpetual snows of Mt. Hood. From this standpoint alone, he asserted, much money was saved to the local life insurance companies.

Dr. Denslow Lewis thought the amount of attention given by the public sanitarians not commensurate with the importance of the subject. He agreed with Dr. Wetherbee in his remarks concerning typhoid fever.

Dr. John S. Lankford of San Antonio directed attention to the importance of educating the school children in matters of health. In San Antonio the mosquito had been the subject of study by school children. They had studied the various stages of development of the mosquito and many had been killed by the children. Malaria had greatly decreased. He believed that if the children were educated in this respect when they became citizens the sanitary conditions would be properly adjusted.

Dr. Cardwell of Portland thought the hope of the people was entirely with the young, and that this work should be taken up by educational boards. The subject of ventilation as a preventive measure of disease she thought should be studied by insurance companies.

Dr. Wetherbee, in closing, said he believed that every case of typhoid fever in the city of Portland at present could be traced to outside influences. He regarded it as worthy of consideration that the mortality of typhoid fever and tuberculosis was so great with insurance companies, and that both were preventable diseases. By attention to this matter dividends could be increased, mortality decreased, and benefit accrue to all mankind.

**Suppurations in the Temporal Bone, and Their Practical Relation to Life Insurance.**—Dr. John F. Barnhill of Indianapolis presented this paper, and discussed the following phases: (1) What symptoms given by the patient and what pathological conditions found in the diseased ear should be regarded as sufficiently dangerous to reject the applicant? (2) Under what circumstances as to the condition of the discharging ear may the applicant be considered a safe risk? (3) Under what conditions as to the diseased ear should the applicant's case be postponed, and when after medicinal or surgical treatment may insurance be safely issued? The writer believed that no just decision as to whether or not any applicant was non-insurable could be made unless there were taken into consideration the symptoms obtainable from the person himself together with the absolute facts obtained from the most thorough, painstaking, and accurate examination of the condition of the middle ear and its accessory cavities. Under the second heading he

said that there were many suppurating ears which might continue indefinitely without serious risk to life. The deep cavities of the middle ear must be thoroughly inspected by an experienced aurist. To the third inquiry he replied that in the present highly developed state of otological science there were but few discharging ears that could not be cured, and the patient therefore might become an entirely safe risk in so far as the ear conditions were concerned.

The following resolutions were passed by the Association:

*Whereas,* The local medical examiner is, under present arrangements, more at the mercy of the local agent than under the protection of the medical department of the company;

*Resolved,* That the appointment of local examiners should be independent of local agents, and the number not added to to suit their desires; also

*Resolved,* That the examiners' reports should always be sent direct to the home office by the local examiner, and not through the agent; and, further,

*Resolved,* That in each city there should be one chief examiner and only such alternates as are reasonably required —one to one hundred thousand; all examinations to be made by the chief, if available, and when not, the reason to be given and his endorsement obtained before the policy be issued.

A second resolution was as follows:

*Resolved,* That the American Association of Life Insurance Surgeons, assembled in Portland, Oregon, in their regular annual session, July 10, 1905, urge that each medical college in this country provide for, and give in their regular course of instruction, a special course of instruction on life insurance examining, it being the desire of this Association to advance the knowledge of this particular side of diagnostic work, and to prepare the recent graduate for this responsibility.

The following officers were elected: *President,* Dr. Henry Wells Dewey, Tacoma, Washington; *Vice-Presidents,* Dr. A. S. McDaniel, San Antonio, Texas, Dr. M. A. Robison, Victor, Colorado, Dr. William Moore, New York City, Dr. William T. Amos, Portland; *Secretary and Treasurer,* Mr. J. G. Monihan, New York City.

Adjourned to meet at a time and place to be governed by the time and place of meeting of the American Medical Association.

## THE NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

*Stated Meeting, May 25, 1905.*

Dr. CHARLES F. ADAMS, CHAIRMAN.

**Ruptured Ectopic Gestation of the Right Horn of the Uterus.**—Dr. JOHN J. MCGRATH showed this specimen. The patient from whom it was removed was a woman of thirty, who had had four previous normal pregnancies, the last one eight months ago. She had nursed her last child up to the onset of her present illness, and her last menstruation had occurred six weeks ago. On the evening of May 13, 1905, while out doing her marketing, she was suddenly seized with a severe pain in the lower abdomen, and with great difficulty managed to get home. The symptoms pointed to a ruptured ectopic pregnancy, and the patient was transferred to the Post-Graduate Hospital, where an abdominal section was performed. The abdomen was filled to distension with free blood and some old clots. The bleeding had been so severe that the intestines were actually blanched. The case proved to be one of ectopic gestation involving the right horn of the uterus, and it was decided to amputate the horn and close the gap left in the uterus. This was done, but it was then seen that the tension on the uterine tissues was so great that it was deemed advisable to do a complete hysterectomy. After removing the uterus, a saline intravenous infusion was given, and the patient made an uninterrupted recovery. Dr. McGrath said that in dealing with a similar case in the future, he would at once resort to hysterectomy.

**A Case of True Interstitial Uterine Pregnancy.**—Dr. HIRAM N. VINEBERG showed this specimen, which he had removed from a patient operated on a year ago last summer. The woman had been pregnant about four and a half months, and was then seized with symptoms which were regarded as indicating a peritonitis. Under that diagnosis she was admitted to the Mt. Sinai Hospital, where the diagnosis of ectopic pregnancy was made by the house physician. When Dr. Vineberg saw her, the patient's temperature was 103°; pulse, 130. The abdomen was distended, and the uterus seemed to be enlarged. At the time, Dr. Vineberg said he was inclined to regard the case as one of probable ruptured uterus. Upon operation, the abdomen was found to be filled with meconium and a fetus was lying among the intestines. Upon inspection, it appeared as though the fundus of the uterus had been blown off. The placenta was still adherent to the uterus. The case proved to be one of true interstitial uterine pregnancy.

Dr. A. BROTHERS said he thought that cases of ruptured ectopic gestation of the cornu of the uterus, like the one reported by Dr. McGrath, were of very rare occurrence, and their early recognition was important on account of the danger of fatal secondary hemorrhage. In one case where he had a secondary, and in fact a tertiary hemorrhage, he had reason to believe that the pregnancy took place very close to the uterine wall. Where the uterine wall itself was involved, clamps and sutures did not accomplish what they did when the pregnancy was in the tube proper, particularly toward the fimbriated extremity, which was the easiest part to suture off. In one case of ectopic pregnancy where he had removed the uterus, the rupture took place in the lower part of the tube, and the speaker thought that suture or clamping in that region was a procedure of doubtful efficacy, and that Dr. McGrath did well in removing the uterus in his case. That was the simplest and surest way of dealing with those cases. In regard to ectopic gestation in general, the speaker called attention to the frequency with which the condition was now recognized and operated on in comparison with a decade or two ago. It often still went unrecognized, however, and was not infrequently mistaken for an ordinary abortion, and even treated as such by curettage.

Dr. VINEBERG suggested that Dr. McGrath might have completed the operation as he had at first contemplated, without removing the uterus, and he saw no reason why that should not have been done. Excision of a portion of the cornu of the uterus was frequently done in dealing with pyosalpinx, and the tissues of the uterus were sutured after cesarean section, when they were in a very softened condition.

Dr. L. J. LADINSKI said that in a case of rupture of the cornu of the uterus that came under his observation some years ago he found that it would be impossible to approximate and suture the raw surfaces without causing an undue amount of tension on the tissues. He thereupon cut out a little more of the body of the uterus, so as to make the apposition more perfect, and then closed the wound with buried sutures.

Dr. ARNOLD STURMDORF said that an attempt to limit the excision to the ruptured portion of the uterus must be based upon a clear conception of existing conditions. In the present case, the pregnancy involved the right horn of a bicornate uterus, the usual condition in so-called interstitial pregnancy. The excision of such a ruptured horn would, as in the case reported by Dr. McGrath, prove difficult and extremely bloody unless the blood supply was previously controlled, as in cesarean section, or the incision was carried down the center of the double uterus, and the involved horn ablated. In dealing with true interstitial pregnancy we had a uterine wall very much thinned out, where no amount of conservatism could restore a proper uterus, and by leaving a much deformed organ, the operator simply invited the occurrence of rupture during subsequent pregnancy. As a

general rule, such an extensive rupture of the uterine tissue should call for the total removal of the organ.

Dr. Joseph Brettauer said he did not think any rule could be laid down regarding the method of dealing with these cases. In some instances it would be well to sew up the uterus; in others to remove it. In the case reported by Dr. McGrath a hysterectomy was apparently the only thing to do. When the pregnancy involved one horn of a bicornate uterus, the problem was often a difficult one to deal with. Two such cases had come under the speaker's observation: in one he resected the uterus and in the other removed the organ completely, and since then he had reason to regret that he did not remove it in both. The after-results in the cases where the uterus was left were not very good, the scar giving rise to a great deal of trouble.

Dr. McGrath, in closing, said he still held that it was probably better surgery to amputate a uterus of the kind under discussion rather than to amputate the horn that was involved. In his case he first resorted to the latter procedure, with the idea that he could complete the operation in less time, but he found that in order to check the hemorrhage he had to draw the stitches so tightly that the tissues along the edge of the incision became blanched, and a hysterectomy was then done. In a somewhat similar case that came under his observation some years ago he removed a two months fetus and then sewed up the uterus, draining it from below. That patient made a good recovery. Still, he was inclined to believe that removal of the uterus was advisable in this class of cases, as the organ was always left in a more or less damaged condition, and was a possible menace, particularly in young women.

**The Unusual Association of Fibrous Sarcoma of the Ovary with Carcinoma of the Rectum.**—Dr. Vineberg showed this specimen, and reported the history of the case. The patient was a woman 31 years old, in whom a slight enlargement of the right ovary was first detected eighteen months ago. This proved to be a fibrosarcoma, which was removed. Subsequently she developed intestinal symptoms and one day passed a large quantity of blood at stool. Examination revealed a carcinomatous growth involving the anterior wall of the rectum. This was operated on by Dr. Vineberg about four weeks ago, and the patient made an uneventful recovery, with the exception of a fecal fistula, which he hoped to close by means of a plastic operation in case there was no further early recurrence.

**Multiple Fibroids of the Uterus, Associated with Large Fibrosarcoma of the Right Ovary.**—Dr. Vineberg showed this specimen, which was removed from a case in which the uterus was found to be filled with fibroids, while behind the lower part of the posterior vaginal wall there was a mass which proved to be a fibrosarcoma of the right ovary.

**Carcinoma of the Cervix with the Uterus Studded with Small Fibroids.**—Dr. Vineberg also showed this specimen, and said he regarded the association of these two conditions merely as a coincidence, and not, as some held, in the light of cause and effect. He did not believe that any etiological relationship existed between the uterine fibroids, degenerated or otherwise, and a malignant process of the cervix.

**Three Cases of Tubal Pregnancy.**—Reported by Dr. L. J. Ladinski. The speaker said he felt justified in reporting in detail these three cases, which had recently come under his observation, because they brought out some important factors in regard to the early diagnosis of this condition. In all three cases, the history was of no assistance in the diagnosis. In two of them a false history was purposely given, and in all three a positive diagnosis was made entirely from the physical signs. The positive diagnostic signs of early tubal pregnancy were as follows: 1. Enlarged uterus. 2. Bleeding from the uterus. The character of the bleeding was peculiar to this condition: it was a dark, grumous blood, and did not present the light color and peculiar odor of menstruation, nor the profuse bleeding, with clots and membranes, of abortion. 3. Characteristic mass on one side. The distension of a part or the whole tube caused by the gravid sac presented a fusiform, peculiarly elastic, sensitive, movable mass. There was no other pathological condition excepting hematosalpinx that would present a similar feel to the palpating finger. It could readily be differentiated from the hydrosalpinx, pyosalpinx, or an ovarian or parovarian cyst, nor was there any reason for mistaking it for a retroverted pregnant uterus, pelvic abscess, uterine tumor, etc. 4. Pain, paroxysmal in character, was always present. 5. Amenorrhea was invariably present, although the history to that effect was not always obtained. The negative signs were: 1. Absence of intrauterine pregnancy. Early intrauterine pregnancy could invariably be recognized or excluded by the presence or absence of the characteristic sign of early pregnancy on the anterior wall of the uterus. 2. Absence of rise of temperature. In tubal pregnancy, before rupture of the tube, there was never any rise of temperature, any more than there was in intrauterine pregnancy. Elevation of temperature appeared sooner or later after rupture, and indicated infection of the blood extravasated into the peritoneal cavity. In the presence of all the above signs and symptoms, Dr. Ladinski said, tubal pregnancy could be diagnosed with certainty. When one or several of the cardinal signs were absent, and in the absence of signs pointing to other lesions, a presumptive diagnosis might be made. When one or more ruptures of the tube had occurred, there were other signs and symptoms to be considered, such as sudden pain, shock, collapse, extreme anemia, rapid pulse, evidence of fluid in the peritoneal cavity, etc.

Dr. Brettauer said that while cases of tubal pregnancy were comparatively common, he wished to impress upon the members of the Section another aspect of the subject, namely, to report the cases in which a diagnosis of ectopic gestation had been made, and which afterwards proved to be something else.

Dr. Brothers, apropos of Dr. Brettauer's remarks, said he could recall two cases during the present year that he had wrongly diagnosed as ectopic gestation, and he had no doubt that others present had had a similar experience. The diagnosis could not be positively established in every instance, but even in those cases which proved to be something else, it was usually of such a nature that an operation was justifiable.

Dr. Vineberg said that in the diagnosis of tubal pregnancy there was usually a history of amenorrhea or something atypical about the menstruation. He could recall three cases, however, in which the last menstruation had been perfectly normal, and seventeen days later symptoms of ectopic gestation developed. The most common condition with which tubal pregnancy was confounded was miscarriage. Not infrequently, in these cases, the history obtained was that the woman had gone a week or two over her time, and that instrumentation had been resorted to in order to induce menstruation. The speaker raised the query whether tampering with the uterus in this way might not have been an etiological factor in the causation of the ectopic gestation, and might perhaps help explain the frequency of the condition at the present time?

Dr. Ladinski, in closing, said he regarded amenorrhea as an invariable symptom of tubal pregnancy, even though the patient did not admit it. In all three of the cases he had reported, the history was of no assistance in the diagnosis, and in two of them a false history was purposely given. Although, as some of the speakers had said, ectopic gestation was now comparatively common, it was still worthy of careful attention, and no one could make the positive diagnosis in every case. Still, it could be recognized with a fair degree of certainty. Intrauterine pregnancy could be excluded by the absence of the elastic circular area at the junction of the cervix and the anterior wall of the uterus. This he had found to be a very early and reliable sign of intrauterine pregnancy.

**A Study of the Results of Abdominal Hysterectomy for Fibroids with or without Drainage.**—Dr. Joseph Brettauer read this paper. The speaker said that prior to 1902,

after abdominal hysterectomy for fibroids, he had always drained through the vagina and sewed up the peritoneal flap, and he had had no reason to feel dissatisfied with the result of that operative procedure. About that time, the superiority of doing the operation without drainage was advocated, and this induced Dr. Brettauer to test the relative merits of the two methods. From the first of December, 1902, to the first of December, 1904, he had a series of 54 cases of abdominal hysterectomy for fibroids; in 32 of these he completed the operation with drainage, and in 22 without drainage. No difference was noted in the results of the two methods. All made an uneventful recovery; there was no difference in the effect on the pulse, temperature, or other symptoms. Since the first of December, 1904, he had operated on eighteen additional cases without drainage, and the results were equally satisfactory.

Dr. Vineberg said the results obtained by Dr. Brettauer showed that what we often regarded as essential steps in the technique of an operation were after all unimportant. More depended upon the operator himself than upon the technique that he employed. Personally, Dr. Vineberg said, he sewed up the cervix and peritoneum in every case, excepting where the cervix was lacerated and hypertrophied or otherwise diseased; that he considered it a good plan to remove it, either *en masse* with the tumor or subsequently by itself.

Dr. A. H. Goelet said he thought the idea that drainage was necessary in these cases arose from the fact that silk was formerly regarded as the best suture material in the ligation of the uterine arteries. Since catgut had been substituted for silk, and could be used with perfect safety, he saw no necessity for draining the uterine cavity in this class of operations.

Dr. Brothers said the two series of cases reported by Dr. Brettauer scarcely offered a fair basis of comparison, as in both he sewed up the peritoneal flap. If the peritoneal cavity had been left open and drained, the comparison would have been more interesting.

Dr. Ladinski said it was his custom to sew up the peritoneum and do away with drainage, and his results had been entirely satisfactory. For some years past, he had favored the abdominal route, both for operation and drainage, and he avoided, as far as possible, putting dressings through the vagina after he had opened the abdominal cavity.

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**The Blood Changes Following Typhoid Inoculation.**—W. B. Leishman reports the results obtained in estimating the blood changes in eighty-six members of a regiment vaccinated with typhoid serum as a prophylactic against the disease. The inoculations were carried on for about one month. The vaccine was made from a strain isolated from the spleen, and about five years old, being of low virulence. The culture flasks were incubated for forty-two hours, tested, mixed, and sterilized. They were then standardized by counting the bacilli. The author and his assistants tested the dose on themselves, and found 0.1 cubic centimeter sufficient. The men were divided into groups of five to eight men. Their blood was tested to ascertain what changes had taken place in it. Even very small doses of vaccine caused a remarkable development of protective substances in the blood. Four weeks after the first inoculations the amount of these substances remained considerably above normal. In no case did the reaction appear excessive. At the end of forty-eight hours all symptoms had disappeared, except in a few cases, in which there was pain and tenderness at the site of inoculation. The reaction was proportionate to the dosage. The largest doses produced the largest amount of protective substances. There was no evidence of a negative phase on first or on reinoculations. The interval between the first and second inoculations was eleven days. At this time the protective substances are rapidly increasing, and reinoculation stimulates rather than retards their further development.—*Journal of the Royal Army Medical Corps.*

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending September 23, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 69 | 1 |
| Diphtheria and Croup | 155 | 18 |
| Scarlet Fever | 62 | 1 |
| Smallpox | .... | ..... |
| Chickenpox | 20 | ..... |
| Tuberculosis | 350 | 142 |
| Typhoid Fever | 124 | 15 |
| Cerebrospinal Meningitis | 11 | 15 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | ..... |
| Totals | 791 | 192 |

**Acid Autointoxication in Infancy and Childhood.**—John Lovett Morse tells us that the urine of healthy sucklings does not contain acetone, or it is in only very small quantities. In abnormal conditions, when it does appear, it is mainly excreted by the lungs, and not by the urine as in adults. The organism of the child reacts to the acidosis by an increase in the excretion of ammonia. The author has tested a series of 150 cases, and believes that acid bodies are present in the urine of infants and children under about the same conditions as in adults. They are often present in acute diseases with high fever, and disappear with the fall of temperature. Certain disturbances of digestion associated with the presence of acetone have peculiar symptoms, which are probably due to acid intoxication, which is not primary but secondary. In some cases of recurrent vomiting with acid intoxication the symptoms are due to the acid. In spite of the fact that the amount of acid is much smaller than that found in diabetes, its presence is of importance in making the diagnosis and in the treatment. Acetone bodies are never found when the diet is of milk alone; on pure meat diet they appear, and disappear on the substitution of a carbohydrate diet. The symptoms of aciduria are concerned with the nervous system—excitability and insomnia; or gastrointestinal, vomiting and constipation. The odor of acetone is in the breath, preceding the vomiting by twenty-four to forty-eight hours.—*Archives of Pediatrics.*

**Maternal Diet with the Object of Lessening the Bony Development of the Fetus.**—William Gillespie discusses the question of whether, in case we were able to find a diet which would limit the formation of bone in the infant skull, it would be of any advantage to the mother at the time of labor. Since we do not always find ill-developed children when the mother has had excessive vomiting, he concludes that the nutrition of the fetus is not affected by that of the mother in respect to the ossification of the bones. Should we interfere and obtain less development the fetus might not go to term, and might then be too undeveloped to live. Unless the mother has a deformed pelvis we cannot be sure that all her labors will be abnormal because the first one has been so. A child whose head is soft and undeveloped is found practically to present an obstacle to quick delivery, because the uterine force cannot be exerted to advantage in pressing on this soft body. A harder head, and a less yielding spine are found to assist the exercise of the uterine contractions. The slowest labors are those that come on prematurely. In the case of a large, vigorous child, the transmission of the force is more perfect. There is also a lessened amount of reflex stimulus to contraction furnished by a soft head. The author concludes that a lessened amount of lime in the bones would be a clear disadvantage to the mother in labor.—*The Lancet-Clinic.*

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 15. Whole No. 1822. | New York, October 7, 1905. | $5.00 Per Annum. Single Copies, 10c.

## Original Articles.

### THE CHOICE OF METHOD IN OPERATING UPON THE HYPERTROPHIED PROSTATE.*

By WILLY MEYER, M.D.,

NEW YORK.

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Before I proceed to the subject of my paper, I wish to express my sincere thanks for the invitation extended to me and to assure you that I keenly appreciate the privilege of appearing before your society, many of whose members I have met before or know well from their writings, and of whose distinguished president I have long been an ardent admirer.

As you will have seen from the program, the subject I shall speak on to-night is "The Choice of Method in Operating Upon the Hypertrophied Prostate." The main purpose of my remarks is to emphasize the desirability of the surgeon's practising each of the three standard operative measures recognized to-day in the operative treatment of prostatic enlargement. There are many surgeons who make use of but one method to the absolute exclusion of the two others. Often, at medical meetings, we hear them declare the one method of their choice to be the only one worthy of consideration and adoption. Such a position I believe to be decidedly wrong. If we find it incumbent upon us to individualize in so many other surgical diseases, I see no reason why we should not do likewise when operating upon prostatics—who are in addition usually afflicted with the infirmities of old age. Why should we withhold from these patients any of the benefits that may be bestowed by exploiting to the full all the possibilities afforded by advanced prostatic surgery? There can be no question but that each of the three operations, *i.e.* perineal and suprapubic prostatectomy and galvano-caustic prostatotomy (Bottini's operation) has its decided merits and will hold its own distinct place in the surgery of the prostate.

A discussion of the choice of *method* of operation for prostatic enlargement, although principally of surgical interest, also concerns the general practitioner. Of course, the question that is of primary importance to him is, *When* shall operation be recommended? In a previous paper (Medical Record, June 25, 1904) I stated that a well-to-do patient who is perfectly able to observe all necessary aseptic precautions may be allowed to practise self-catheterization, if he be opposed to operation. However, when it comes to the rank and file of prostatics, the men who have to toil for a living for themselves and family, surgical intervention should, by all means, be urgently advised as soon as the time has arrived when the catheter must be given *into the hands of the patient himself for regular use.*

And surely, in view of the present status of prostatic surgery, I think we are not only justified, but in honor bound, to give such advice; for the death-rate following operative procedure in trained hands is 5 per cent. and less; whereas the mortality due to pyelonephritis resulting from self-catheterization in this class of patients would surely prove to be much greater could reliable statistics be compiled.

Personally, I have tried to obtain due experience with every one of the operative procedures now recognized, and, as a result of such experience, I now practise not one, but all three methods, making my selection in accordance with the conditions found in the individual case.

I started with Bottini's operation, and, partially encouraged by the results obtained, partially goaded on by the unwarranted opposition the operation met with on this side of the Atlantic, I extended this period over five years, from October, 1897, to October, 1902, operating in all upon fifty-nine cases. They are not considered in this article. (See Medical Record, October 24, 1903.)

During this time I satisfied myself that by means of galvano-caustic prostatotomy not only relief of the condition under consideration, but a cure may be effected, and this sometimes in cases in which neither of the more radical operations could possibly have been done to advantage. I thus came to the unassailable conclusion that Bottini's operation cannot in justice be denied a place among the operations at our disposal for the relief of prostatic hypertrophy.

From October, 1902, up to the present time, I have performed perineal prostatectomy nine times, (once prior to this time for a suppurating enlarged gland), the suprapubic operation twenty-two times, and Bottini's operation seven times.

Among the nine patients treated by the perineal route, one, a man of seventy-eight years, with far-advanced paralysis agitans, had suppuration of the gland. He was septic at the time of operation, and only his intense suffering and total infirmity induced me to operate. However, the enucleation, though successfully performed at his home, did not save him; he was beyond surgical help, and died under septic symptoms sixty hours later. Another patient died on the table, with the operation almost completed, of general anesthesia, administered by a young, inexperienced narcotizer.

Deducting these two deaths, which surely cannot be attributed to the operation as such, my mortality in perineal prostatectomy so far is *nil.*

Of the seven patients that survived operation, I would here relate the history of but one, a gentleman, fifty-seven years of age, who had a stone crushed by one of our New York surgeons in 1899. In June, 1900, I performed a litholapaxy for recurrent vesical calculus. The cystoscope showed two stones and a somewhat enlarged prostate. Visual inspection eight days, and again seven months after crushing showed the bladder entirely free from débris. One and a half years later five small calculi

* Read, by invitation, before the Chicago Medical Society, May 24, 1905.

were seen in the bladder, and removd by litholapaxy. In the summer of the same year he again felt annoyed by the same symptoms. With good illumination, I counted nineteen small vesical calculi, the largest being of about the size of a big pea. Questioned by the patient how I explained such continued recurrence, I could but say that the gravel discharged by the kidneys could not pass out of the bladder on account of the obstruction caused by the prostate, and that it would probably be advisable to have cystoscopy performed at regular intervals, adding evacuation whenever necessary. This prediction proved to be correct. Three times later, at intervals varying from six to eight months, the patient had to submit to cystoscopy and evacuation by suction. Although I, personally, was opposed to prostatectomy on account of the very slight palpable and visible enlargement, the patient by this time insisted upon it. Thus, in January, 1904, I did the perenial operation, which proved rather difficult technically on account of the glands not representing a tumor of certain size that could be attacked, but being made up of many small round tumors of a pea's to a hazelnut's size. The ejaculatory bridge was carefully preserved. Many small calculi were washed out of the bladder. Rapid recovery followed, the patient leaving the hospital just two weeks after operation. Since then he has had no further trouble. At the time of the last examination, six weeks ago, there was not a drop of residual urine, and the cystoscope showed no trace of calculi in the bladder.

The foregoing represents a typical case of early operation dictated by the wish of the patient on account of unbearable subjective annoyance. From an operative standpoint, it proved to be a difficult task, confirming the experience so often made in these cases, that the smaller the prostate the more difficult the operation and *vice versa*.

Of the twenty-two patients upon whom I did suprapubic prostatectomy, three were affected with cancer of the gland. Two of these latter made a good recovery from the operation, but died soon after, one of embolic pneumonia, in the fourth week after operation; the other, who had multiple pre- and retrovesical cancerous glands, of pyelonephritis, nine weeks after operation. The third case afflicted with cancer was that of a decrepit man, seventy-six years of age, on whom I had operated merely to relieve his intense suffering. He survived the immediate effects of the operation, but died suddenly on the second day. Of the remaining nineteen patients suffering from benign prostatic enlargement, seventeen recovered, and are living to-day, with their bladder function fully restored; two died, but in neither of these can death be attributed to the operation as such. One, a man sixty-three years of age, with total retention of recent date, who had to be catheterized at regular intervals, developed urethral fever the day after his bladder had been emptied by a night orderly. Continued intraurethral and intravesical instrumentation being required, the temperature, of course, did not go down. With the patient in this condition, I performed prostatectomy, emboldened by the successful issue of the same operation under similar conditions in a man eighty years old, done a few days before. But this time the procedure proved to be an unwise step. I should have merely opened the bladder, providing for thorough drainage, and removed the gland at a second sitting, after the temperature had become normal. As it was, the patient reached his bed with a temperature of 104°, which rose to 105° the next day, and continued high, accompanied by suppression of urine, until death, forty-eight hours later. Post morten was refused. In the absence of clinical manifestations of lung complication, death in this case, evidently, was due to acute septic pyelonephritis.

The lesson I have drawn from this sad experience is never to enucleate the gland in the presence of fever and suppression of urine (urethral fever), but to be satisfied with establishing drainage, removing the prostate through the same opening after conditions have become normal again.

The second patient was a much reduced man of seventy-four, with an immense gland and marked arteriosclerosis. He had been a sufferer for some ten years. Total enucleation, not intracapsular enucleation, was carried out, as the right point of cleavage could not be made out. The capsula propria was found to be fully three-quarters of an inch thick, a great mass of glandular tissue being firmly adherent to its inner surface. The patient was out of bed on the third day after the operation, with good drainage and normal temperature. On the eighth day after the operation, without any apparent reason, he suddenly began to refuse nourishment. In spite of very careful nursing he succumbed on the eighteenth day after operation. No autopsy.

In view of the great emaciation of the patient, Bottini's operation in this case perhaps would have been the safer procedure. It was the large size of the prostate that prompted me to do the extirpation. In this case again, the still existing defect in our therapeutic resources in regard to proper nourishment by hypodermic injection, was brought home to me. As matters were, we could only resort to nutrient enemata and hypodermoclyses, which were given twice every twenty-four hours for ten days. Food, poured into the stomach through a tube, was regularly rejected.

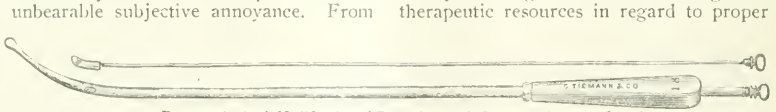


Fig. 1.—Author's Modification of Trendelenburg's Prostatic Catheter Sound.

In two of the patients in whom the perineal operation was done, and in three in whom the suprapubic route was chosen, the trouble was complicated with vesical stone.

Among the seventeen cases that recovered after the suprapubic operation, and are living to-day, there are two of sufficient interest, I think, to warrant me in briefly relating their histories.

Case XIII.—At midnight, on February 13, this year, I was hurriedly called in consultation on a case of total retention in a man eighty years of age. I found a well-preserved man who had had prostatic trouble since about a year; frequent catheterization, done by the family physician, had become necessary. For several hours prior to my arrival attempts had been made to enter the patient's bladder, but without avail; severe hemorrhage had set in. Now the bladder reached above the umbilicus; the agony was intense. As in so many instances before, Trendelenburg's prostatic catheter sound* here, too, passed with ease, but the intravesical hemorrhage continued. Twelve hours later the patient had a chill; his general condition rapidly became very poor. Immediate operation at the hospital suggested and consented to by the family on one condition, namely,

*I would again call attention to this beautiful instrument as I had it modified fourteen years ago; its merits do not seem to be sufficiently recognized by the profession generally. I described it in the *New York Medical Journal*, August 6, 1902, recommending its use. (See Fig. 1.)

that the prostate be removed at the same sitting. Against my better judgment I agreed, for the patient's condition demanded relief. Superficial general anesthesia. Bladder distended to its utmost capacity, filled with an immense amount of old blood clots and a small amount of foul urine. Time consumed in enucleating gland, five minutes. Entire bladder wound left open; drainage as usual. A few interrupted layer sutures of muscle, fascia, and skin in the upper part of the wound. Sixteen hours later, intermittent heart, edema of lungs; patient unconscious. He was at once taken out of bed and placed in an easy chair, kept awake by continual conversation and hypodermic as well as internal stimulation. He was kept in a sitting posture day and night. Slow but steady improvement was apparent. In the course of the fourth night after the operation the patient was allowed a nap of two hours in bed. With very careful nursing, I had the satisfaction of seeing the old gentleman recover entirely. To-day he is in perfect health.

This case teaches the possibility of successfully removing the prostate with the patient in such a precarious condition, but it also shows the dangers of such a procedure. It certainly seems best to delay extirpating the gland until the patient has recovered from the operation of establishing the absolutely imperative drainage. More lives will thus be saved and our statistics improved.

This case further shows the great value of the erect posture as an aid in our efforts to overcome the threatening lung complications. I am convinced that, had I allowed the patient to remain in the horizontal posture for another hour or two, there would have been no chance of pulling him through.

I hope not to become tiresome if I add right here the history of another patient whose condition has been of great interest to me for the last seven years.

Case XVII.—Mr. S., very anemic, fifty-four years of age, was sent to me for Bottini's operation in the fall of 1898. The cystoscope showed the presence of a large median lobe. I did the operation on November 11. Five weeks later, he had not a drop of residuum. Gradually his urine became absolutely clear. One year after the operation I considered the result obtained in this case the best I had had up to that time, but slowly increasing difficulty in urination and a corresponding residuum reappeared. This was hard to understand in view of the excellent original result. The cystoscope explained the cause. I saw clearly that I had divided the median lobe in two, the two halves now acting as valves blocking the outflow whenever the detrusor contracted. I now advised prostatectomy. But both he and his wife, who, besides, was seriously ill at the time, were opposed to the cutting operation. I therefore agreed to do a second Bottini, hoping that by still further lowering the point of exit in relation to the trigonum, some improvement might be brought. This hope was not realized. The second galvano-caustic operation (December 13, 1900) did not bring material benefit. I then lost sight of the patient. Four weeks ago he reappeared at my office. I learned that his wife had been successfully operated upon last summer and that he was now ready for more radical work. He had been using the catheter with vesical irrigation for the last year and a half. The cystoscope showed the same condition as four and one-half years ago, but somewhat more pronounced. I could clearly see the three grooves that had been cut, lying in the half shade, and had to conclude that in spite of my having successfully lowered the originally greatly raised internal urethral orifice by the second Bottini down to the basfond, the two parts of the divided soft gland became tightly shut on contraction of the detrusor, acting just like the two halves of a double swinging door. Suprapubic incision, done on April 22, 1905, fully corroborated the cystoscopic diagnosis: the entire prostate with its median lobe had been divided perpendicularly. Evidently the intravesical tumor had been somewhat irregular in shape, since the greater half of the prostate lay on the right side, although it had been divided exactly in the median line. The subsequent enucleation was, of course, more difficult than usual, but could be well done in spite of the double Bottini, although there was more hemorrhage than seen in the average case. It was shown by the continuation of the hemorrhage, after the patient had been returned to his bed, that the small arteries of the capsule had lost their elasticity on account of the former cauterization. Four hours later the pulse was very weak in spite of hypodermoclysis and an intravenous saline infusion. I had to reopen the bladder under general anesthesia, clear out the blood clots, and tie off a projecting portion of the capsule, from the tip of which, drop after drop, the arterial blood trickled down, representing a typical parenchymatous hemorrhage. Now a Mercier's catheter was tied in the urethra and the bed of the prostate firmly packed around the same. The bladder was also filled with gauze and left wide open. Muscle, fascia, and skin were closed with layer sutures in the upper half of the wound. The patient made an uninterrupted recovery. On the fifth day after the operation he was out of bed. To-day his wound is almost healed and the bladder function fully restored. This case nicely illustrates:

1. How deep and wide it is possible to cut the grooves with the galvano-caustic knife; for at the time of doing the prostatectomy, I could with ease pass my finger through the median furrow down to the base of the bladder;

2. That a median lobe should represent rather a contraindication to Bottini's operation, if the patient's general condition is such as to warrant the more serious operation of total enucleation. I say this on the basis of this one, but important experience, and although in my series of sixty-six cases of Bottini's operation, I have a number in which, despite the presence of a median lobe, the bladder function has been restored to such a degree as to justify me in calling them cured;

3. The value of the cystoscope in explaining the mechanical conditions at the vesical neck;

4. That Bottini's operation, even though done twice, does not preclude the successful performance of prostatectomy at a later date;

5. Not to rely in such cases upon the spontaneous ceasing of the hemorrhage, as usually seen, but to promptly stop bleeding at the time of the operation.

The seven patients in whom I did galvano-caustic prostatectomy, since October, 1902, all recovered. They were thus operated upon, as prostatectomy was refused or did not seem justifiable,—my rule now being to always do the more radical operation, unless there be contraindications, such as far-advanced diabetes, serious heart lesions, evidence of malignant disease that has transgressed the prostatic capsule, etc.

One of them, sixty-four years of age, had advanced diabetes, was very weak, and did not appear to me to be a fit subject for major surgical intervention. I therefore cut three grooves through the obstructing gland, and had the satisfaction of seeing the patient fully recover. At a recent examination he still had two ounces of residual urine, but considers himself entirely cured, not being obliged to ever use the catheter.

The second patient was a man seventy years of age, with a very large obstructing gland. This case, from a surgical standpoint, seemed to me to be the

best suited for prostatectomy. However, the man had such serious and alarming attacks of angina pectoris, that on one occasion he almost succumbed to ordinary catheterization which had to be regularly performed for his total retention. He suddenly developed edema of the lungs, and almost died under our hands. Bottini's operation was therefore resorted to, under local anesthesia, followed by a most careful after-treatment. At the end of four weeks he had regained voluntary micturition, and was discharged with a residual urine of not quite one ounce. At the present time his urinary functions are in excellent condition, although he has since had another most severe attack of cardiospasm.

Advanced chronic valvular disease of the heart was found a contraindication to the cutting operation in a third patient; general debility with great emaciation, in a fourth. In the latter Bottini's operation was advised and done as a preliminary step to prostatectomy. However, the improvement after the galvano-caustic division was so great, that later he refused all further surgical intervention. In two other patients the family was unalterably opposed to the use of the knife. Bottini's operation rescued both from catheter life, the only alternative remaining. In the seventh case, a man seventy-six years old, rectal palpation showed the prostate hard, nodular and ill defined. The suspicion of malignant degeneration was strengthened by the cystoscopic examination. Bottini's operation seemed to me indicated rather than the cutting operation, and has brought decided improvement so far. Should future developments prove the suspicion of cancer to have been unfounded and the patient be dissatisfied with his condition, prostatectomy can still be added.

Bottini's operation, being a purely intravesical intervention in which the gland causing the obstruction is not removed, but merely furrowed, has, of necessity, a larger percentage of failures, while the death-rate is about the same as that of the operation with the knife. In addition to this, Bottini's operation sometimes entails a difficult and tedious after-treatment, greatly taxing the skill, time, and patience of the attending surgeon. This is also one of the reasons why I now invariably advise ward patients to submit to prostatectomy rather than to Bottini's operation, as long as the patient's condition seems to warrant extirpation.

But, in spite of all this, we should not lose sight of the fact, which my personal experience and observation now extending over a period of almost eight years, have confirmed, namely, that galvano-caustic prostatectomy, too, can, even in difficult cases, improve or cure the trouble in question. Surgeons, therefore, have no right, it seems to me, to at once relegate to the catheter patients who refuse the operation with the knife, or in whom the same is contraindicated. Nay, they are in duty bound to give such patients the benefit of Bottini's operation. Only if any kind of operative intervention is refused should the catheter be suggested.

Reviewing my consecutive work in prostatic surgery from October, 1902, until March, 1905, and excluding the two fatal cases treated by means of perineal prostatectomy, in which death could not be attributed to the operation, as such, as also the three with cancer of the prostate, operated upon by the suprapubic route, it appears that in a series of twenty-six operations (seven perineal and thirteen suprapubic prostatectomies and six galvano-caustic prostatotomies) for benign prostatic obstruction, done within twenty-nine months, there was no death. Since that time, as stated above, I have done six further suprapubic enucleations with two deaths. This experience shows the truth of Pilcher's words (*Annals of Surgery*, April, 1905, p. 565): "There must of necessity be some mortality in any and every kind of surgical intervention in prostatic patients. Sepsis, urinary insufficiency and the multiple degenerations incident to old age are complications in varying degrees of combination, that have to be reckoned with in many instances and which must determine a fatal exit unavoidably in a certain proportion." And later, "At present it would seem that the surgeon must expect a death-rate for prostatectomy of from 5 to 10 per cent. While he may in some instances possibly have the good fortune to have a considerable series of cases without a death, yet a longer continuation of work has been found, even in the experience of the most careful and fortunate, to be attended with a share of mortality."

With reference to the functional results and sequelæ in my cases of prostatectomy, I would state that every one of the twenty-four patients whose gland was enucleated, regained full power of urination. Persistent dribbling or incontinence was not observed. One man of sixty-four developed a small rectourethral fistula on the eleventh day after removal of the gland by way of the perineum. A large mass of fecal matter, too large evidently to be passed per anum, in spite of purgatives and enemata given before and after the operation, had produced pressure necrosis in a very small place. It had to be removed piecemeal with the fingers. To-day, two and one-half years after operation, the fistula is still present without causing any appreciable annoyance. Now and then during micturition some urine runs into the rectum. The sphincter ani muscles have been trained, however, to retain the urine in the rectum, which is not irritated. The patient always sits down for urination. My proposition to close the communication by operation has been refused.

Such a rectourethral fistula would, of course, never occur after the suprapubic operation, a point in favor of the latter. Nor have I personally ever seen a suprapubic vesical fistula.

Epididymitis and an obstinate perineal fistula occurred in one patient, whose gland harbored an abscess at the time of operation. Epididymitis without abscess formation was noticed in four other cases—two perineal and two suprapubic prostatectomies—at various times after the operation, and without the catheter having been passed for vesical irrigation or the sound for stretching the urethra. None of the patients in whom I did suprapubic prostatectomy developed ventral hernia, as others claim to have seen it after this operation. This, I think, is ascribable to the fact that I carefully suture each layer of the median incision, muscle, fascia, and skin, separately, down to the lower corner of the wound through which the drainage tube and tampons emerge.

Examination of the specimens obtained has convinced me that the prostatic urethra cannot possibly be preserved intact in every case. Even by exercising the greatest care and gentleness it is sometimes unavoidable to remove one-sixth to one-fourth inch of the urethral mucosa immediately attached to the internal urethral orifice. In fact, I consider it a technical impossibility in some cases to prevent this, especially in those with the fibrous variety of gland, in which the urethra is closely surrounded by the tissues of the hypertrophied prostate. In the cases with considerable lengthening of the canal (up to 25-27 cm.) I often consider the loss of some of this superfluous length an advantage, in that the urethra is more likely to maintain a straight course when not quite so long. At any rate I have found no

difference as regards final results in the patients in whom a small portion of the vesical end of the urethral canal was removed, and those in which it was preserved entire.

As to whether we attack the prostate by way of the perineum or by the suprapubic route is, I think, of little consequence. It may be said to be a matter of personal inclination more than anything else, at least up to the present time. Surely, both methods are highly commendable, for both yield equally good and satisfactory results.

The objection raised by many that in suprapubic prostatectomy one has to rely entirely upon the sense of touch, while perineal enucleation, especially if done with the help of tractors, can be carried out under direct visual inspection, is not supported by the facts. The loosening of the prostate from the base of the bladder—surely the most important part of the perineal operation, especially in the presence of a median lobe—must always be done by the sense of touch.

A condition which makes the suprapubic operation somewhat more disagreeable to the patient is the continuous leakage above the pubes during the first one and one-half to three weeks, so long as permanent suction drainage is not provided for. Perhaps this slight disadvantage will be overcome in the course of time. If, for instance, in favorable cases we were to abstain from packing the bed of the gland with gauze, and invert the anterior vesical wall around the drainage-tube (Kader-Gibson method), the hole left in the bladder after the removal of the tube would cause little or no leakage, and would heal up quickly. For cases in which gauze packing is imperative, we should have to search for other methods. Perhaps secondary closure of the wound with chromicized catgut, the sutures being placed at the time of the operation, might here prove of value.

In cases of perineal prostatectomy, the chances are that the patient will regain control of the muscle very soon after the removal of the tube, provided material injury to the internal sphincter muscle has been avoided, possibly by the enucleation resection (preservation of the ejaculatory bridge). He then would discharge his urine on call, through the urethra and perineal wound, with rapid decrease of discharge through the latter route, surely a more comfortable condition than suprapubic leakage.

In patients with but moderate or no vesical infection, one might leave the membranous urethra intact and enucleate the gland, according to the usual custom, through a longitudinal incision of the capsule on either side. The patient could then urinate normally, or the bladder could be drained through a catheter introduced through the entire length of the canal. Of course, in proceeding in this way, we should have to forego the advantage of using a tractor in pulling down the gland. But if the operation were successfully carried out without injury to the prostatic urethra and vesical mucosa, normal conditions would be speedily restored in an almost ideal way.

As to the technique I employ in prostatectomy, I would say that in perineal enucleation it is the same as that generally practised. I have worked with and without tractors. They certainly simplify the work, but are not, it seems to me, essential.

In the suprapubic operation my procedure differs from the one I find usually described. After thorough irrigation, with warm 1 per cent. boric lotion, 8 to 10 ounces are filled into the bladder, the catheter is plugged and held within the urethra by means of a roller bandage, which is sufficiently tightly wound around the penis to prevent leakage alongside the catheter. The vesical end of the latter is made to enter the bladder for at least one inch. It represents a convenient landmark during the shelling-out of the gland, and is removed with the bandage right after enucleation has been accomplished. I open the bladder by a liberal cut, about two to two and one-half inches long, with the patient in Trendelenburg's posture of about 30°, view the vesical mucosa and the prostate, comparing its actual condition with the cystoscopic appearance, the borders of the wound being held apart by blunt retractors, and incise the prostatic capsule close to the internal urethral orifice, under the guidance of my eyes. Then enucleation of the gland is proceeded with. The resulting hemorrhage, of course, forbids further inspection. In difficult cases and stout patients all five fingers of the hand dip below the level of the abdominal wound and enter the bladder. The wound in the latter can be easily stretched. I have found it of advantage to change hands during the work, *i.e.* to commence enucleation with the left fore- and middle finger and then use the right hand in pronounced pronation to finish the task. In this way, it will be seen that the "good deal of physical strength" that some surgeons claim to be required to carry out this operation are not essential. Any man can do the operation, even if he has little strength. The smaller the hand, the easier it can dip into the bladder, and the operation can be done without the aid of an assistant to press the gland up from the rectum, a help which I have not needed in a single case. It simplifies the procedure if the surgeon alone attends to the enucleation.

In view of these advantages, I consider this changing of hands of importance. I am sure it will help to make friends for the suprapubic enucleation.

The tampon of aseptic gauze is placed under the guidance of the eye with the patient in high Trendelenburg posture, after the bed of the gland has been dried by sponging, and pressed firmly in place for a few moments. The cut borders of the gauze tampon I have of late folded inward and provided with a seam on three sides to prevent threads of gauze from coming loose and acting as foreign bodies in the bladder. Then the bladder wound is sutured below the tampon with chromacized catgut. Formerly I used interrupted sutures for this purpose, but have recently tried a continuous suture, which facilitates this part of the work. Of course care has to be taken not to include the mucous membrane in the grasp. The needleholder known as "Küster's Swan" I have found very handy for placing the deep sutures. Now the table is lowered again.

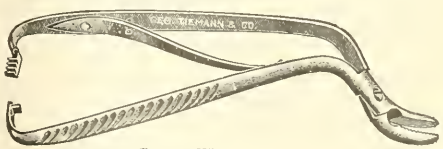


Fig. 2.—Küster's Swan.*

Before closing the upper angle of the vesical incision with a few interrupted stitches of chromicized catgut, a drainage tube, the size of a pencil with an additional hole near its tip, is pushed down to the base of the bladder right above the tampon. It is fastened to the vesical wall with a stitch of ordinary fine catgut. The prevesical and properitoneal space also each receive an aseptic gauze tampon. Tube and tampons emerge at the lower angle of the wound, which is kept open, the other two-thirds

* The illustration represents a modification of Küster's original design, which, I hope, will be found useful also by others.

having been closed layer by layer, chromicized catgut being used for muscle and fascia, and silkworm gut for the skin. Before dressings are applied, the drainage tube is again anchored to the skin by a loose stitch of silkworm gut. With this treatment the healing of the bladder wound does not take longer than if a smaller incision had been made. It always closes promptly. The wound in the abdominal wall also invariably heals by first intention.

Regarding the time consumed by the operation, it may be said in a general way that the suprapubic enucleation can usually be accomplished in less time than the perineal extirpation. I have repeatedly succeeded in completing the operation as such in four minutes, *i.e.* counting from the time of making the skin incision to the moment that the gland is delivered from its bed. More than six minutes are rarely needed. This point is, of course, of real importance only in the very aged. The average time used till the completion of the dressing is from fifteen to twenty minutes.

With reference to anesthesia, it may be worth mentioning that all but one of my prostatectomies were done under general anesthesia, with a mixture of chloroform, ether and ethyl chloride (anæsthol), preceded by a hypodermic of morphine (¼ grain). The one exception was operated upon under spinal anesthesia. All stood the narcosis very nicely. Of course, the time of anesthesia was made as brief as possible, by preparing the patient on the operating table before beginning the administration of the anesthetic, and allowing him to come out of the narcosis, to some extent or entirely, with the completion of the enucleation.

Regarding the after-treatment, I might mention that for the first two days patients are kept in the lateroabdominal posture, alternately on the right and left side, securing thorough vesical drainage by gravitation, the tube being connected with a bottle under the bed. Frequent breathing exercises are insisted upon. Urotropine, usually with salol, is given internally. The tampons are removed after forty-eight hours, the tube, according to convenience, on the fifth to seventh day after the operation. The patients are usually out of bed on the second or third day, older men on the morning following the operation. Before removing the tube the bladder is thoroughly flushed through the tube with a 1 per cent. boric acid solution followed by a solution of ichthargan 1:5000. After this the bladder is left alone and the wound dressed with balsam Peru gauze and a pad of gauze with borated vaseline, until cicatrization is completed. Gauze cotton pads placed on top of this dressing, and changed frequently, absorb the leakage above the pubes. The patients usually commence to urinate through the normal channel in the course of the third week after operation; some begin as early as the seventh, ninth, or twelfth day to pass almost the entire twenty-four hours' urine through the normal passage. Of course, the suprapubic wound then dries up quickly. The average time of hospital treatment is three weeks. Some of my patients left earlier and were treated by the family physician, or came to the office to have the dressings renewed. Some stayed longer. The wound usually becomes closed some time between the twenty-sixth and thirtieth day after operation. Sounding I consider superfluous during this time, although it may become necessary later in case of a sinus or stricture. I had this experience in one case only, and that in an early operation on a fibrous prostate, in a patient from the West Indies, who feared not to have the proper treatment at home in the event of sudden retention. Part of the gland was firmly adherent to its capsule, and this, in turn, to one spermatic vesicle. The latter was pulled up into the abdominal wound together with the tumor, gently stripped off and replaced after a small rent in its wall had been stitched up with catgut. I think it would have been wiser had I extirpated the respective vesicle, as I imagine the organ did not slip back into its normal place, but partially blocks the urethral canal.

As to cystoscopy, I believe that in patients with a prostate palpable per rectum and in whom the suprapubic operation is to be done, this examination may be dispensed with, although a more definite knowledge of intravesical conditions will often be found an advantage.

In patients in whom the perineal route of operation has been decided upon, cystoscopy is indicated in order to determine the presence or absence of a median lobe and of calculi.

In the cases that are to be operated upon by Bottini's method, cystoscopy should never be omitted.

Cystoscopy is, furthermore, absolutely essential in that 33 per cent. of prostatics, who present all the clinical symptoms of prostatic enlargement, but in whom no tumor can be palpated per rectum, the growth being entirely intravesical or entirely missing (prostatism).

The fact that I found three sure cases and one highly suspicious of prostatic cancer among the thirty-eight patients operated upon within the last two and one-half years, has made me meditate upon the subject. Perhaps this trouble is much more common than is generally believed. Such a possibility might almost induce one to question the advisability of practising Rydygier's enucleation-resection (Young's preservation of the ejaculatory bridge), especially if it were shown that equally good functional results can be obtained by removing the entire gland through the suprapubic incision, and even better results, as present experience seems to indicate, in regard to the preservation of sexual power. The advisability of accepting as a routine measure the retention of a portion of the gland as a protection against possible injury to the ejaculatory ducts might certainly be doubted in view of the abovementioned possibilities.

It is true our experience so far does not furnish sufficient cause for such an apprehension; yet enucleation resection is an operation of very recent date, and it certainly must be conceded that it is not an altogether theoretical objection to say that, in view of the possible presence of a beginning prostatic cancer at the time of operation, total removal of the gland is preferable to partial extirpation, especially if the results of the former are equal or even superior to those of the latter.

In the more advanced cases of carcinoma, I personally believe Bottini's operation to be preferable to enucleation. For, in these cases the prevesical and retroperitoneal glands are nearly always more or less extensively involved, so that it hardly seems worth while to subject the patient to the more serious operation and run the risk of adding to the already existing misery, without the possibility of effecting a cure. Freudenberg of Berlin has recently published a number of such cases in which the patients were materially benefited by Bottini's operation.

Personally, I am still of the opinion that the selection of the route may have to depend upon the merely social question of not interfering with the sexual power, where this point has still to be considered. As far as my own experience goes, the suprapubic operation seems more promising in this respect than the perineal. Three of my patients operated upon by the perineal route have certainly become impotent since the operation, while in none

of the patients operated upon by the suprapubic route has this phenomenon been observed. They all claim to have the power of erection and cohabitation, although the ejaculation of semen has ceased to appear at the time of orgasm in three, evidently due to the interference with the normal condition of the ejaculatory ducts. Perhaps one might say that this preservation of sexual power after the suprapubic operations is a mere chance, and it would be difficult to either prove or disprove this, so long as we do not fully understand the cause of the appearance of impotence, which, by the way, should not be confounded with sterility, as I have pointed out in my last article on this subject. I should not be at all surprised if further observation should show that the trouble is caused, to a great extent at least, by our injuring an important part of the nerve or blood supply in advancing through the perineum towards the gland; also, perhaps, in addition, by the operation as such, which produces relaxation of the normal condition of the veru montanum and the prostatic urethra, both of which are necessary to induce proper reflex action for erection; or, possibly, at last, by our injuring the ejaculatory ducts, which latter accident produces sterility and might, by way of reflex, also produce impotence.

When doing the intracapsular enucleation by the suprapubic route, the disturbance of the nerve and blood supply furnished by way of the perineum, is reduced to a minimum. We also generally do not interfere with the ejaculatory ducts. Only in one case, as stated above, did I pull up one spermatic vesicle into the suprapubic wound, it being firmly attached to the adherent capsule of the lateral lobe.

Summarizing, I beg to offer the following:

1. We have to-day three useful methods for the operative relief of prostatic obstruction, *i.e.* suprapubic and perineal prostatectomy and galvanocaustic prostatotomy (Bottini's operation).

2. Unassailable proof has been furnished to show that all three methods deserve to be recognized as standard procedures, each being capable of bringing permanent relief.

3. Wherever the patient's condition, irrespective of age, seems to warrant it, prostatectomy should be done, since the total removal of the mechanical obstruction naturally represents the most surgical procedure.

4. While it is true that either method, perineal or suprapubic, can be successfully employed to the exclusion of the other in removing the hypertrophied prostate gland, it certainly means facilitating our work and is in the interest of the patient if we use both procedures, choosing in each instance the one that seems best suited to the particular case. The selection of the route, on strict indication, is not an easy matter at present. Further reports by surgeons practising both procedures are needed to decide the question. Both methods are excellent and useful ones. The choice up to the present time is largely a matter of individual inclination. Perhaps we are warranted in saying, on basis of our present experience:

*a.* Glands palpable per rectum and rising not far from the sphincter ani muscles can be advantageously attacked from below.

*b.* If situated higher up and if the growth projects well back into the bladder, they should be enucleated from above, all the more if the cystoscope has shown the presence of a median lobe.

*c.* An hypertrophy of soft character in the early stages, so frequently found to be made up of a number of smaller nodules, each of which can be enucleated by itself, is best attacked from below.

*d.* In the 33 per cent. of cases in which no tumor is palpable per rectum, but in which vesical enlargement is recognized by the residual urine or total retention, and seen distinctly by means of the cystoscope to be the obstructing cause, the suprapubic route deserves the preference.

*e.* If the enlargement be complicated by a vesical calculus or calculi of larger dimensions, too large to be easily extracted through the dilated internal sphincter muscle, the suprapubic route is indicated.

*f.* In patients with very foul urine, where immediate drainage of the bladder is imperative, the suprapubic incision should be chosen. The gland may then be removed at a second sitting.

*g.* The comparatively frequent appearance of carcinoma of the prostate may prove to become an important factor in deciding in favor of complete removal of the gland from above.

5. The question of the preservation of sexual power is an important one. Further experience and investigation are needed to enable us to definitely determine whether there is any difference in results as to this point btween the two methods of operation. As it seems to-day, the suprapubic operation is superior in this respect to the perineal method, even though in the latter the portion of the gland immediately surrounding the prostatic urethra and the ejaculatory ducts have been preserved. If future statistics should prove that with suprapubic prostatectomy the sexual function is more frequently preserved than with the perineal procedure, this must necessarily decide the choice of route in patients in whom this point has still to be considered.

6. If operation with the knife be refused, or there be contraindications to such intervention, Bottini's operation is in order.

7. Only if this operation, too, be refused or impossible are we justified in relegating a patient to the regular use of the catheter.

8. Cystoscopy is absolutely necessary before doing Bottini's operation; it should also precede perineal prostatectomy in order to enable us to determine the presence or absence of a median lobe and calculi; it may be dispensed with if the suprapubic operation has been decided upon, although a previous, distinct knowledge of intravesical conditions must be welcome to the operator. In that 33 per cent of prostatics who present no enlargement on rectal palpation, the cystoscope alone can establish a distinct and refined diagnosis.

9. The time for operation, at least in the rank and file of prostatics, has come when regular catheterization has become imperative. The catheter should never be entrusted to them for regular use. Well-to-do patients, being in a position to take the time and care necessary for the carrying out of self-catheterization on aseptic principles, may be allowed to do so if opposed to operative intervention.

Another strict indication for operation is persistent severe pains in the perineum, neck of bladder and glans penis, resisting ordinary treatment.

10. Surgeons should familiarize themselves with perineal and suprapubic prostatectomy as well as with galvano-caustic prostatotomy (Bottini's operation), in order to be able to do justice to the prostatics entrusting themselves to their care, for no one method of operation can be employed in all cases of prostatic enlargement to the best advantage of the patient. In other words, we must select the operation that suits the case.

# ON THE IMPORTANCE OF DIFFERENTIATION IN THE USE OF ELECTRIC MODALITIES.*

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The term Electricity is in a way generic and includes a wide variety of manifestations. In atmospheric electricity we see in highest degree these varied manifestations, magnitude, voltage, with infinite rapidity of oscillation, and the combination is simply deadly in its effects. Man has, in a measure, triumphed over this lethal energy, has analyzed and dissected it, as it were, and made it subservient to his uses, both commercially and therapeutically. In therapeutics we utilize it in the form of the continuous current, one manifestation of which is represented by what is commonly termed the galvanic current with its magnitude and low voltage, the other by the faradic current representing a far higher voltage with negligible magnitude.

Static electricity represents a still higher voltage with practically no magnitude, while high frequency currents are still other manifestations of electric force, with electromagnetic induction effects, kindred to those from the primary circuit of an induction coil, but widely differing in the degree of their physical, physiological, and therapeutic effects. The principles of the ordinary induction coil are here all carried out, the jars taking the place of the cells, with a spark gap instead of a rheotome or current breaker. Like the ordinary faradic current, high frequency currents require for their development some form of initial electric force transmitted through the medium of condensers, coils of wire of varying thickness and length, and like the ordinary faradic current, the relationships of magnitude and tension depend altogether upon the character of the initial force and the intermediate coils of induction. In the same way, therefore, as the faradic current can be made to differ widely in its effects—according to the character of its coils—so, too, with high frequency currents. It is the degree of the step-up process through which high frequency currents are obtained that determines their efficiency, and as there seems to be no uniform constructive standard among manufacturers it is difficult, if not impossible, for different workers to compare results with absolute accuracy.

Now, if there is any one thing more than another that has retarded, still retards and will continue to retard the all round and scientific development of electricity in medicine, it is the increasing tendency to neglect the subject of differentiation in the selection of the various electric modalities. Neglect is but another name for ignorance of the subject neglected, and ignorance leads not only to unsatisfactory therapeutic results, but in the case of so potent an agent as electricity, to damaging results that may be more than transient. I venture to say that the majority of physicians who are doing electrotherapeutic work to-day, whether as a side issue in general practice, or as in some sense specialists along this line, have failed to take a broad and comprehensive survey of the field upon which they have entered, and would be unable to define the principles which underlie the therapeutic uses of this agent.

The individual experiences suggesting these reflections have been many and frequent, one of the more recent of which I beg leave to offer as my text:

A physician who had made much use of electricity consulted me some time ago as to its use in a case of pelvic pain. I suggested the high tension current by the bipolar method. He attempted the treatment but succeeded only in inducing in his patient, a delicate nervous young woman, a most violent tonic muscular contraction. The result was hysteria, increase of pain, and a general nervous breakdown, from which the victim has by no means yet recovered. In addition, the doctor was threatened with legal proceedings, which have been prevented only by much tact, aided by some substantial pecuniary consideration.

In this case the trouble was caused through ignorance of the relation of quantity or volume, and tension, and the measure of their combined or respective influence on living tissue, together with unfamiliarity with the mechanism of the apparatus employed. It was desirable to produce a sedative effect through the use of the high-tension coil. To secure this effect and avoid injury in the application of the varied manifestation of inductive energy, one must appreciate the fact that, through high resistances such as the skin, the high tension current exerts a vigorous action, while an induction current of low tension through the high resistance of the skin, acts much less vigorously. On the other hand, when applied through the low resistance of a mucous membrane, the high tension current acts with little vigor so far as muscular contractions are concerned. Its efforts are gentle, sedative and barely perceptible.

On the contrary, the induction current of low tension and increased magnitude acts as powerfully through the low resistance of the mucous membrane as do high tension currents through the high resistance of external surfaces; but producing effects that are irritating and decidedly painful.

A little personal experimentation will readily convince one of the striking difference in the action on nerve and muscle of these varying combinations of magnitude and tension. It is very easy accidentally to demonstrate this principle to the injury of the patient, and the astonishment and chagrin of the physician. This is what may very readily occur, and what actually did occur in the case above recorded. A bipolar application with the current of tension is being made to some one of the mucous surfaces. The patient complains of an uncomfortable sensation which may or may not be due to the action of the current, and the slide is shifted so as to exchange the current of great tension but negligible magnitude, for one of lesser tension but appreciable magnitude, which, according to all the experiences of external application, is infinitely weaker. Instantly a shock is occasioned, associated with the acutest pain and rigid contractions, that astonishes the operator and terrifies the patient. In all this reference is made to that much neglected, but eminently useful modality commonly termed the faradic current, the physiologic and therapeutic action of which varies within its range of power in the same way as do high frequency currents. In the use of the latter, I have had frequent occasion to differentiate between its various manifestations, and have seen illustrated in a very positive manner, their relative therapeutic as well as physical effects. It will be conceded that nutritional effects in greater or less degree attend the use of every electric modality; it is indeed this fundamental idea of its nutritional effects upon which in great measure must be based its utility in medicine. That it works both ways—that alternating currents of high voltage may disturb as well as improve the processes of nutrition, has been recently observed among the employees in

* Read before the American Electro-Therapeutic Association, September 19, 1905.

great powerhouses, where, exposed for long periods of time to such influences, grave functional disturbances of nutrition are not infrequent. My own use of high frequency currents has been mostly with static electricity as the initial force, connected with the ordinary condensers, and for the primary and secondary coils, wires respectively 25 and 200 feet in length. It seems to me, after a considerable experience, that with this arrangement we get the two extremes of high frequency effects that will accomplish about all that can be expected from more elaborate combinations. The current from the secondary coil with its tension and enormous frequency but without magnitude yields, as one would naturally infer, results that are quite superficial; valuable for its effects upon the periphery, but much less efficient so far as constitutional or deep-seated nutritional effects are concerned.

The current from the primary coil with lower tension and frequency, but with far greater magnitude, not only influences the periphery and superficial skin lesions, but exercises a distinctly deep-seated nutritional effect. An interesting confirmation of this fact was recently observed in a case of pseudohypertrophic muscular paralysis. Now, muscular paralysis of this type is admittedly an incurable disease. During the course of my experience a number of such cases have been subjected to a thorough course of electrical treatment, including continuous and static methods, but never with the slightest benefit. The developmental tendency to tissue growth, which is its essential element, has thus far baffled every effort. While, like locomotor ataxia, this disease is progressive, there is often seen, as in the latter condition, periods of retardation and apparent arrest, so that certain drugs, such as arsenic and phosphorus, have been supposed to exert a distinct influence in temporarily, at least, arresting the progress of tissue growth, but thus far there has been no satisfactory proof that this arrest is anything more than a part of the natural course of the disease. What has interested me in two cases that have come under my observation, was not simply an apparent arrest, but a very positive improvement under the influence of high frequency currents of magnitude, administered not by the indirect method of D'Arsonvel, or the method of autoconduction as it has been termed, but by the administration of the spark itself by the direct bipolar method. This improvement manifested itself in three pronounced ways; First, by the ability of the patient to get in and out of a street car without assistance, something that she had been unable to do before in the progress of the disease, for the past six months; second, in the ability to walk unaided without frequently falling; third, in such an increase of power over the waist muscles as to enable her, when bending far over, to raise her body to the erect position without the aid of her hands.

Further progress has not been and in all probability will not be attained, and the progress of the disease will not be permanently checked, but the case illustrates in a very interesting way the superiority of a magnitude over pure tension and frequency in influencing the nutritive processes, and is but another illustration of the importance of differentiation.

The rationale of the superiority of currents of magnitude in not only ameliorating the symptoms of many organic conditions, but aiding in the cure of deep-seated congestive conditions, may be explained by its superior vasomotor influence with relief of blood pressure, improvement in nutrition of degenerated nerve cells and consequent development of potential energy.

The superiority of the continuous current of magnitude (galvanic current) over all other manifestations of electricity for the relief of inflammatory exudates, is, or ought to be, too well known to need any emphasis of mine. And yet it is not uncommon to find physicians using other forms of electricity and especially high frequency currents, in the belief that they were utilizing the best methods; forgetting that the rationale of the action of electricity upon all inflammatory exudates, is based upon chemicophysical action, and that in the continuous current of magnitude alone do we get appropriate and satisfactory electrolytic and absorptive effects. In discussing the admittedly difficult subject of differentiation, there is one combination of electric forces that deserves consideration. I refer to combined electrization or the transmission to the body through the same electrodes of the direct and to and fro currents, (the galvanic and faradic). To determine its distinctive value is certainly more difficult than to differentiate between the individual modalities of electricity. It is very much a question of practical experience aided in some degree by our knowledge of the physical and physiological action of the various modalities. Each of them possesses a certain limited power to relieve pain, one succeeding where another fails, and the reason for success or failure, can often be accounted for through misapplication—the application of stimulating effects where sedative effects are called for and *vice versa*. Combined electrization is not efficient for the relief of pain in any such degree as the various single manifestations of electricity. On the contrary, it is more likely to increase than to decrease any form of pain, simply because its combined mechanical and chemical or electrolytic action is bound to act counter to the effect desired, whether it be sedative or stimulating. On the other hand, its musculosedative effects are pronounced, rendering it distinctly more valuable in the relief of spasmodic conditions than any single modality. The superior effects of galvanofaradization in the treatment of constipation and enterocolitis, which I have often observed, and which have been emphasized by some others, notably by Bordier and Delherm, I am inclined to attribute to this control of muscular spasm, which is believed to be a not infrequent accompaniment of intestinal atony.

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## ATONY AND ASSOCIATED PATHOLOGICAL CONDITIONS OF THE RECTUM AND COLON, WITH MECHANICAL METHODS OF TREATMENT.*

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Probably one of the most universal complaints met by the practitioner is atony of the lower bowel. The term atony signifies lack or loss of contractile power. The following terms are also used to indicate this condition: Motor insufficiency, myasthenia (muscle weakness), idiopathic dilatation, paralysis, etc. The term atony is an old one, but has been especially emphasized by Todd, and the condition it expresses been called by various names, according to what each author considered to be the most important symptom or condition.

Atony is characterized by a deficiency or failure of peristaltic action. Before we can comprehend the full significance of atony we must have before our minds the normal condition or physiology of peristaltic motion. Briefly stated, it is a coordinated

*Read at a meeting of the Missouri Valley Medical Society at Council Bluffs, August 24 and 25, 1905.

rhythmical muscle contraction. Rhythmical contraction implies alternating contraction and relaxation, whereby the contents of the bowel are propelled onward. If the muscle wall of the colon remains in a relaxed state or in a contracted condition, stasis of the contents results.

Tone implies a state of moderate degree of contraction constantly present, and is essentially associated with normal peristalsis.

*Physiology of Peristalsis.*—Without discussing the myogenic or neurogenic theory of peristaltic movements, we may state that the principal cause of bowel movement is the bowel contents, and as Illoway concludes: "Still the principal factor of peristalsis here is the coarse particles of the undigested food residue." Nowak and Brautigam[1] regard the flatus as the important stimulus to peristalsis, by the distention of the intestines. I have found experimentally that peristalsis is promptly excited by distention with air, and that in the beginning the contractions are confined to the area of such distention.

In experiments on dogs, by inserting a small rubber bag attached to a tube through an opening made in the bowel, I found that on distending the bag different areas of the intestines varied much in the promptness with which contractions took place. The upper part was more responsive than the lower —the colon the most sluggish in its response.

The mechanical factor of distention enters largely into the causal relation of peristalsis of the intestines, and this is also in accordance with what I found experimentally in the stimulation of gastric movements.[2] That other factors—such as those of psychical origin—may also originate intestinal peristalsis, we have considerable clinical evidence.

Cannon observed experimentally that inhibition of peristalsis occurred when the animal was teased or tormented. Nothnagel[3] states that "mechanical irritation is a palpably necessary factor for the excitation of peristaltic movements." We may safely conclude that whether the distention is with air, gas, water, feces, or accumulated mucus, peristalsis is evoked.

*Pathology.*—In atony of the intestines, according to Nothnagel, "the driving power of the intestinal wall becomes insufficient, the contents of the affected segment of the intestine become stationary and are not propelled onward, stasis of the bowel contents and accumulation of fecal material naturally occur. Where this occurs all the processes and conditions seen in cases of mechanical obstruction of the intestines develop."

Bodenhamer[4] holds that by distention of the bowel causing atony no irreparable damage is done. "Neither is it a true paralysis, such as occurs in paraplegia, but is merely a local impairment of muscular contractility"; and he further regards this deficit of muscular power in the rectum "the result of prolonged distention of its walls."

*Experimental Observations.*—It will naturally occur to anyone to inquire what transpires in the muscle wall during such local distention, as frequently results from failure to "attend to the calls of nature." In my experiments with dogs, I found that by keeping up intermittent distention of the hollow viscera without a sufficient period of rest, fatigue and finally marked dilatation would result. The stomach would not recover for several days, while the small intestine would recover far more promptly. The colon, when fatigued, was slow in recovery, the lower portion especially.

It required five to seven hours of intermittent distention to produce complete fatigue; this accomplished, the viscera were removed, ground up and the fatigue toxin extracted. Injecting dogs with the toxin thus obtained produced fatigue and dilatation similar to that obtained by mechanical means. An antitoxin was obtained which neutralized the fatigue toxin both *in vivo* and *in vitro*. Since my first publication[5] of these experiments, Weichert[6] has obtained similar results in general fatigue, showing that the laws of fatigue of striated (voluntary) and unstriated (involuntary) muscle, if not identical, are closely related.

The cause of fatigue is evidently a toxin formed during muscular action, which produces only local effects because the toxin of fatigue is not dialyzable (Weichert), and remains in contact with the muscle. The antitoxins usually form and neutralize the toxin during the rest period. Massage hastens the process —the union of the antitoxin with the toxin.

*The Relation of Atony to Fatigue.*—The terms used to signify this process are numerous, but mostly represent the same idea. Thus Nothnagel speaks of the condition as a "fatigue"; Hemmeter, an "exhaustion"; Riegl, a "weakness" of the muscle wall; and T. Lauder Brunton[7] says "feeble," and "hangs down much lower than it ought to." The site of atony is usually found in hollow viscera, where resistance to muscular contraction is greatest. This is in cavities used as reservoirs—such as the stomach, colon, urinary bladder, and gall-bladder. Conducting tubes which convey the contents are not so subject to fatigue, as each segment put upon a strain in removing the load is placed at rest as soon as the contents are propelled onward, hence no fatigue of the muscle occurs, no atony, and consequently no retention.

Retention within certain limits of time and quantity is the normal condition in hollow viscera designed as reservoirs and cisterns. If accumulation occurs from any cause, producing distention beyond the normal resistance or beyond the normal limits of time, fatigue toxins form in greater excess than their respective antitoxins, and what we call atony is the result.

Prolonged and excessive distention produced by any substance that will stretch the muscle and excite contraction or attempts at contraction will ultimately result in overwork and fatigue. This may be brought about by air, as shown by my experiments, or by gas, as shown by Nothnagel, food, liquid, or the end products of digestion. Boas[8] says: "Habitual constipation, over-distention of the ampulla recti, gradually leads to paresis of the rectal muscle and sphincters." Nothnagel says: "At all events, in habitual constipation, the stasis of fecal matter is always limited to the large intestines, or at least originates in this portion of the bowel."

The conclusions I am forced to make, founded on experimental and clinical observations, are:

1. That atony, fatigue, or exhaustion is due to a toxin which renders the muscle atonic, a loss of tone, and of peristaltic energy.

2. That fatigue is produced by "overwork," such as distention or stretching without adequate rest.

3. That no exhaustion exists—nothing is lost, but the toxin is formed which inhibits the normal cell action.

4. That the toxins are neutralized by the antitoxins formed during the rest period.

5. That excessive toxin or a reaction insufficient to produce the antitoxin results in fatigue.

*Disturbed Circulation of the Splanchnic (Abdominal) Vessels.*—My experiments with various agencies, both chemical and mechanical, causing dilatation of the stomach and intestines, showed that atony and dilatation produce marked disturbances of circulation, especially of the abdominal vessels, and, on the other hand, congestion of the abdominal circula-

tion profoundly inhibits the peristalsis of the hollow viscera.[9]

Von Braam Hockgeest[10] and Nasse[11] have shown that venous stasis inhibits peristalsis of the intestines. Fatigue of any muscle occurs more readily in the presence of venous stasis. Recently Weichert[12] found experimentally that muscle becomes more easily fatigued in the presence of carbonic oxide, and oxidation deprives the toxin of fatigue of its virulence.

We may conclude that the important factors to be considered in atony are: (1) The fatigue of the muscle wall of the intestine; (2) the congestion of the intestinal blood-vessels.

*Secondary and Associated Pathological Conditions.*—One of the innumerable secondary results or associated conditions of atony is constipation, or constipation alternating with diarrhea. The atony with constipation produces a condition demanding special attention, namely, that of hemorrhoids. This is emphasized by nearly every author on the subject. The pressure of the fecal mass upon the hemorrhoidal vessels, and the increased intraabdominal pressure in the effort to expel the bowel contents persistently obstruct the return flow in these veins, lead to dilatation of the vessels, and result in hemorrhoids.

Since the hemorrhoidal veins contain no valves, when the perivascular support is lost through atony of the bowel, they necessarily give way under the pressure and form a sacculated or varicosed mass. Eichhorst noted the hemorrhoidal formation in persons playing wind instruments, caused by the more or less constant increase of the intraabdominal pressure.

*Rectal Prolapse.*—A frequent complication of hemorrhoids is rectal prolapse. This is especially noted where these atonic conditions are well marked; usually the mucosa alone is involved. Procidentia recti (prolapse of all the coats), with or without hemorrhoids, is usually found where there is extreme relaxation of the ligamental supports of the rectum, combined with atony of the levator ani and muscle walls of the bowel.

A form of intussusception occurs when the upper portion of the rectum telescopes down through the lower part without protrusion through the sphincter. When atony is extensive and extreme, involving the sphincter, the rectum presents at the anal orifice, gradually assuming a permanently prolapsed condition, with ulceration and inflammation of the protruding mass.

*Enteroptosis.*—Rectal prolapse is frequently but a part of general prolapse (splanchnoptosis). Some individuals are more inclined to prolapsus than others—a congenital defect. Thus we have a type recognized by all clinicians, which possesses a "predisposition" to gastroenteroptosis. There is a large class which acquires the condition of ptosis of one or more of the abdominal organs. This subject (splanchnoptosis) is engaging the attention of both physicians and surgeons throughout the world—a fierce controversy having arisen among different observers. Surgeons look upon the ptosis *per se*, the postural anomaly, as the chief factor accounting for the general and local disturbances. Kemp[13] has recently concluded that prolapse of the gastrointestinal tract is a powerful factor in the production of many nervous disorders. Regal [14] has frequently noted the total absence of all symptoms, abdominal or general, in gastroenteroptosis. He does not regard the postural anomaly as the cause of the nervous disturbances.

Kussmaul regarded as the cause of the symptoms a perversion of motor power. Hemmeter,[15] after a careful review of the literature, concludes that "the symptoms are brought on by the gastric and intestinal atony"; and that enteroptosis is not an anatomical process.[16]

*Summary.*—1. Clinically, anatomical displacements are frequently without symptoms because no fatigue or atony exists.

2. Where symptoms arise, they are usually due to atony or fatigue.

3. Correcting the atony or fatigue of the intestines results in disappearance of symptoms, except in atrophy or the presence of actual obstruction.

4. "Predisposition" to this condition may be considered as a deficiency in the resistance of the body, which in the modern idea is a deficiency of formation of antitoxins or "antibodies."

*Diagnosis.*—There are many means of diagnosing atony of the colon. One is the symptomatic. Constipation is the most common symptom, but diarrhea is also a symptom of atony; or, again, we may have no marked difference in the frequency or apparent character of the stools. Some cases of atony with marked toxic symptoms that I have noted are in those who have asserted that their bowels are as "regular as clock-work." Examination frequently showed a residue always present. It is not the purpose here to discuss the various methods of diagnosis, but we may state two of greatest value: (1) The examination of the feces removed from the bowel through the tube, during colonic lavage; and (2) the reaction of the colon to the stimulus of distention.

The chemical and microscopical examinations are of great importance, especially after certain test meals, but frequently I can determine better the condition of the peristalsis, etc., by the gross or macroscopical appearance of the discharge through the tube, whether flat or round, hard or soft, sand-like bodies or mucus, etc. It is important to know the distribution of these masses along the colon; whether the accumulation is in the sigmoid, high up or low down; and to note whether the rectum is transformed into a reservoir instead of remaining a canal. These determinations are largely a matter of experience.

The manner in which the colon acts after distention with air—the local puffing up in the region of the sigmoid, the ballooning of the rectum, and the dilatation of the cecum, are all of value in determining the degree of the resistance of different portions of the colon. Hence the degree of atony can be fairly well estimated. The degree of force with which air returns through the tube or escapes alongside of the tube, and the action of the sigmoid give valuable data.[17] If, on pressing out the air from the sigmoid, peristalsis soon follows and the residual air escapes through the tube, there is not such a high degree of atony as in other cases where no such results are observed.

In colonic lavage similar observations may be made, and differential diagnosis determined between spastic contraction producing obstruction and simple atony without spasm. The differential diagnosis is important to make in order to carry out the line of treatment best suited to each condition. While spastic contraction is an expression of an atonic state of the colon, it requires a modification of the treatment of simple atony without spasm of the bowel.

*Treatment.*—In the treatment of atony of the intestines with associated disturbances, such as prolapses, hemorrhoids, and pathological conditions of the mucosa, various methods have been utilized—many of great value, while some have been total failures. The treatment by mechanical means, such as gymnastics and massage, is more generally applied to strengthening the abdominal walls than directly affecting the muscle wall of the intestines.

Nothnagel[18] contends that while the strengthening

of the abdominal muscles by massage and other exercises materially aids the individual in the act of defecation, it exerts no material influence upon peristaltic movement of the intestine. In prolapse and dilatation, surgical measures have offered considerable promise in eradicating the difficulties, such as taking up the folds in prolapses, stitching up the sigmoid—all of which are valuable in so far as they correct flexures; but atony is a disease of the muscle wall, and even excision of the entire sigmoid has been attempted,[19] with the result that within fifteen months' time a new sigmoid flexure developed, which filled the lower part of the abdomen.

In cases of obstruction produced by tumors, cicatrices, and adhesions, the obstruction must be removed by surgical means. In some forms of extreme atony with infection, the colon can be best placed at rest by right-sided colostomy—until the restoration is complete.

The treatment of atonic state of the colon is usually divided into that of dietetics, physical, mechanical, and medical treatment. By careful analysis of most methods in vogue it will be seen that in reality they are mostly of a physical and mechanical character. Coarse-grained food depends for its action largely on its mechanical effect, that of distention.[17] Bran, which is chemically inert, furnishes bulk and excites movement, by the same means we employ in the laboratory experiments on animals, viz., distention, or, to be more technical, *tension*, followed by a release of the tension. If the substances which produce such tension are of such a character that they are moved onward, releasing the tension of the segment where such tension is produced, then peristalsis continues without fatigue; but if such is not the case, and the tension is continued for any reason, fatigue ensues and atony is increased.

The increased production of gases and quantity of fluid is another mechanical factor in certain forms of diet used to excite peristalsis. Many drugs owe their value largely to the mechanical stimulus which they induce through increased secretion. Drinking water in large quantities has a similar effect. Instead of drinking water or exciting the secretion, fluid is frequently injected into the bowel. Distending the bowel, as we have seen, causes prompt response.

In order to avoid the evil effects of over-distention with water, I have for many years allowed only a small quantity of fluid to enter the bowel at a time—100 to 300 c.c.; then disconnecting the reservoir, this fluid is allowed to escape through the tube, as in lavage of the stomach. By increasing the temperature according to the condition, a high degree of stimulation is obtained. By repeating the process, we produce a form of exercise for the colon.[20] In weakened and atonic conditions, the water used even in the manner described is not all recovered, but remains partly in the bowel; this results in fatigue, and tends to increase the atony. By inflating the bowel with air and pressing upon the abdomen, the air is forced out.[17] Repeating this a few times, peristalsis is induced, and the water may then escape from the bowel through the tube. By connecting the tube with a Politzer bulb and alternating compressing the bulb and releasing the pressure, the entire column of air as far as the cecum is set in a vibratory motion, which excites peristalsis.

In some forms of atony it will be noted that when the sigmoid is distended with air directly, the air remains in the sigmoid, even when the tube is left open, as the walls are too weak to force out the air. If the air is allowed to remain, fatigue will result, but if the sigmoid is pressed upon from the outside over the abdomen the air is forced out, or a good portion of it, the result being a stimulation to contraction (peristalsis). In a large proportion of cases even this is not possible to attain by the direct method; therefore the indirect method of exercising the colon (as devised by me and in use in my practice for the past ten years) is attempted, and that is done by first introducing a small, thin, rubber bag attached to a tube into the bowel, then inflating the bag with a Politzer bulb, thus moderately distending the viscus, and then releasing the pressure, all the air escaping promptly;[21] thus no fatigue occurs, but instead a stimulus to contraction. If this is repeated, the colon receives a high degree of exercise without fatigue, which in time corrects the fatigue and atonic condition.

Not only does this mechanical method produce valuable results in weakness of the muscle walls of the intestines, but, as would naturally follow, it acts as massage to the mucous membrane, and is of excellent service in hemorrhoidal conditions of the rectum.

In prolapse of the mucous membrane it has proved useful. In prostatitis and some bladder disturbances the gentle massage and exercise have given excellent results. Each distention not only raises the walls of the bowel, but during the inflation the surrounding viscera are also lifted up by the pressure. It would suggest itself as a useful means of treating the pelvic organs of both male and female. In retrodisplacement and prolapse of the uterus this method has been found of great service. Before entering into a discussion of the application of this method to the associated pathological conditions in atony of the colon, it will be necessary to describe the apparatus and its technique in application.

We usually use three different forms of rubber bags—fusiform, pear-shaped or round (Fig. 1) or double sphere with double tube (Fig. 2), one leading to each bag or balloon, according to the location in

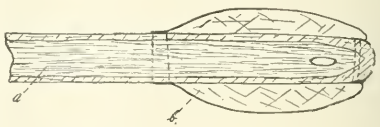

Fig. 1. Single tube (*a*) with bag (*b*).

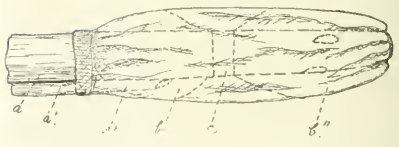

Fig. 2. Double tube; *a*, large tube; *a'*, small tube; *b*, bag, with band at (*c*) dividing into compartment *b'* and *b''* as per dotted lines.

the intestine where it is to be applied. The size of the bag varies also according to the special use desired. In large dilated conditions the larger size, such as used in the stomach, may be of service. In sensitive and nervous conditions a large size may be used at the outset of treatment, but as very little tension is desirable, only partial inflation is used.

The small sizes are used where greater tension is desired, the inflating of the bags causing a firmer degree of pressure upon the walls, but a lesser degree of excursion of each motion.

The degree of thickness of the wall of the bag makes considerable difference, whether used for distention of the muscle wall or the massage effect upon the mucous membrane of the intestine. The thin bag will produce less massage or rubbing upon the mucous membrane.

Bags may be improvised by using thin finger cots

for the purely gymnastic effect; thicker ones for massage purposes.

The tube is made of red rubber, with end and side opening. The caliber of the tube and thickness of the wall are sufficient to prevent occlusion. A large-sized catheter, or a small-sized stomach tube will do. The rubber bags are attached to the tubes by tying with silk. The double tube is used for special purposes.

Bags made for me are attached to the end of the tube in the same manner as my intragastric bag,* so as to prevent buckling, and also tied to the tube at the neck of the bag with silk. (The thread may be covered by folding back the neck). The bag is inflated with air by an eight-ounce Politzer bag with a valve.

I have used compressed air at a low pressure of two or three pounds, connected with a manometer, but have found that the hand method with the Politzer bag is more satisfactory.

When the bag is inflated to the desired degree of distention, the finger is placed over the valve opening of the Politzer bag. Compressing the bag and releasing the pressure will cause alternating distention and partial collapse of the bag inside the bowel.

*Technique.*—If the lower portion of the rectum is to be treated, the bag is oiled and inserted, care being taken not to have the tube bend upon itself. It is frequently of advantage to use local medication with ointments or medicated solution in slippery elm emulsion. Should the sphincter be tightly contracted so the bag cannot be introduced, gentle massage of the anus externally with vaseline or a little green soap will cause the muscle to relax.

On first inflating the bag, sudden pressure must not be exerted, but gradual distention, as sudden expansion may cause distress. As soon as the bag is slightly distended, the air is allowed to escape, and this is repeated a few times, with no pain or distress to the patient. By gradually distending the bag with air until say one or two Politzer bags full of air have been introduced, then by alternately pressing the Politzer bulb and releasing the pressure the exercise of the rectum is produced. If it is desired to reach the bowel in the region of the lower portion of the sigmoid, the tube can be directed alongside the finger upward above the promontory of the sacrum, or inserted through the sigmoidoscope, the bag being held in this position by holding the tube firmly against the sphincter, or by author's self-retaining attachment for rectal tubes. The double bag with double tube, however, is especially designed for the purpose of the gymnastic exercise of the sigmoid. The proximal bag is first inflated, in order to hold the tube and distal bag high up in the colon, and then the Politzer bag is connected with the tube leading to the distal bag. The gymnastic exercise can then be accomplished as desired through this distal bag.

Slow distention or small, rapid vibrations may be used in the exercise, as an apparatus may be attached which will give rapid vibrations when desired. The treatment then consists of:

1. Slow, intermittent movements of considerable displacement or distention, using a full eight ounces of air in the Politzer bag.

2. Rapid vibrations either compressing the bulb with the hand or with the special apparatus.

3. Massage of the mucous membrane by the friction of the bag against the wall of the intestines.

The physiological action of the method is to produce (1) local effects by the distention and relaxations; (2) reflex effects.

*A bag with a small socket at the bottom has been made under my directions for years, and is found in the catalogues of dealers in instruments and rubber goods. Some concerns reinforce the socket.

1. It excites muscle contraction (peristalsis) of the wall of the intestine.

2. It causes contraction of the sphincter.

3. It stimulates the local circulation.

4. The pressure and effect on the circulation have a salutary effect upon the glands of the mucosa.

5. By inserting an extra bag connected with a manometer the increase of pressure in the rectum is shown to be 10 mm. to 15 mm. Hg. of distention over normal.

6. Inserting the stomach bag of the gastric motormeter[22] into the stomach, during each compression of the Politzer bulb, and distention of the rectal bag show corresponding effects.

*Massage.*—1. By the friction back and forth the muscles receive a massage effect.

2. The mucous membrane is massaged; débris of cells and mucus is removed from the surface, the same as is attempted by the application of solutions of nitrate of silver. This treatment restores the normal sensation to the mucosa, the loss of which accounts for many cases of constipation. The painful and nervous state frequently observed in these cases is much relieved by this massage method.

The deep and superficial hemorrhoidal veins are markedly affected, the friction with pressure emptying these vessels, and gradually the tone of the venous wall and supporting tissues is restored; for, as Recklinghausen has clearly stated: "Fluid contained in a flaccid and dependent sack (varicosed hemorrhoidal veins) always sinks to the bottom; thus dilatation and elongation of this sack occurs." The greatly increased tone of the hemorrhoidal veins produced by the use of this method soon overcomes the varicosity, and there is gradual absorption, with complete disappearance of the hemorrhoidal condition.

Where true benign tumors (angiomata) of the character described by Reinbach[23] with sclerotic tissue are found, such must be removed by surgical means.

*Effect on the Pelvic Organs.*—If the hand is placed upon the abdomen it will rise and fall with each intermittent distention of the intracolonic bag, as the bladder rises and falls during each inflation.

In making a bimanual pelvic examination, while an assistant operates the Politzer bag, it is observed that the uterus is lifted upwards and forward in the pelvis, thus affording a very effectual and practically painless method of obtaining massage, and at the same time strengthening the suspensory ligaments and other supports of that organ. Partly through the effect of direct massage, and partly through the stimulation of the blood supply of the pelvic viscera, the nutrition of the ovaries and uterus is greatly benefited. By the direct pressure upon the prostate and seminal vessels a delicate and valuable massage effect is obtained.

*Reflex Effect.*—By the alternating increase and decrease of the intraabdominal pressure, the splanchnic circulation is affected, and when combined with the vasomotor reflex upon the medulla we obtain a valuable stimulation of the general circulation. The reflex effect obtained by this method is analogous to that of stretching the rectum, which has been useful in collapse. There is also obtained the stimulating effect of pressure exerted upon the sympathetic ganglia.

The heart is usually slowed 10 to 15 beats on the distention of the bag in the rectum, and acceleration follows. The blood pressure is raised 10 to 20 mm.

In sigmoiditis with prolapse and retroversion of the uterus, which are frequently associated, the symptoms arising in these conditions are usually due to atony, and not to the mere displacement. The con-

gested condition of the circulation is a part af the clinical picture; one, therefore, can readily understand why correcting the atonic conditions of disordered circulation will have much to do in restoring many of these sufferers to a condition of health. In carrying out the treatment it would be necessary to appreciate the application of the method to the different conditions, thus, where we wish to produce exercise of the muscle wall we may use a thin rubber bag, but if we wish to get more powerful direct massage effect upon the mucosa, we would use a bag of thicker rubber.

Where we wish to correct hemorrhoids, especially those forms which tend to prolapse, we may in certain cases use to advantage the double bag and tube, one bag internal, and the other remaining external to the sphincter. Both bags are inflated. On compressing the Politzer bag leading to the inner bag, the outer one is drawn upward, compressing the sphincter.

These methods are not presented with the idea of exclusion of any of the present methods of treating many diseased conditions of the rectum and colon, but are offered as an adjunct which for years I have found to be of great service.

It will not be practicable to give detailed reports of the many cases treated, as they will be presented in separate communications. The following illustrative cases, however, may be of interest, as they combine several associated pathological conditions with atony of the colon:

Mrs. F. S. W. was referred, suffering from pain in the lower abdomen, emaciation, and general weakness. She had alternating constipation and diarrhea for several years. She complained of uterine trouble, including dysmenorrhea, for which she had been treated locally, having worn a pessary with no beneficial results. Medical treatment had failed. Sanatorium treatment, rest, external massage, and baths produced no improvement in the symptoms. Examination showed general loss of nutrition and anemia. She was tender over the region of the descending colon and sigmoid, which was dilated. The uterus was retroverted and prolapsed; enlarged and tender to the touch; no adhesions. There were sigmoiditis, proctitis, and internal hemorrhoids. There was a mucomembranous discharge from the bowel. Before instituting treatment, Dr. C. S. Bacon was called in consultation for gynecological examination. Treatment was then carried out by daily exercising the colon with the thin, soft rubber bag inserted behind the uterus through the rectum. At first the least pressure excited pain and nervous symptoms. By cautious and slow distention, increasing the pressure each time gradually, the painful symptoms lessened, until no distress or pain was experienced.

After each treatment there was noted an improvement in the general circulation. At the end of one month's treatment there was general improvement, and the movements of the bowel were more regular and improved in character. The treatment was three times weekly for two weeks, after which treatment was given twice a week. At the end of two months the patient had gained in weight and complained of no uterine or bowel trouble. Examination showed a retraction of the dilated sigmoid, a disappearance of the loose, flabby condition of rectum, and no pain on pressure anywhere in the pelvic region.

At the end of ten weeks no mucous discharge; no constipation or diarrhea; disappearance of the hemorrhoids. The uterus retracted; the fundus no longer pressed upon the rectum. No further treatment was carried out.

In one year after the patient was again examined, and no uterine symptoms or pathological conditions found. The patient recently examined, three years after, shows the excellent results obtained are permanent, and without any subsequent treatment.

An interesting point in the above case is that not only the atonic condition of the bowel disappeared, and the uterine trouble, but the mucous membranous colitis did not return. This result I have obtained in most cases. This may be partially, if not wholly, explained by the recovery from the atony and relief from the constipation, as Dommer[24] recently concluded that membranous colitis is the result of atony with constipation. The cause of mucous colitis has recently been studied post-mortem by Elsner,[25] who found that atony and obstipation were the chief factors in producing the condition.

The following case, Mr. A. C. O., aged fifty-two years, was admitted to the Institute, suffering with severe rectal prolapse, internal hemorrhoids, and proctitis. The prolapse included all the layers of the rectal walls, with protrusion. The condition had gradually grown worse for ten years, and in the last three years the patient became a nervous wreck, losing in that time twenty-five pounds. Had not been able to attend to any work for two years previous to his coming to Chicago. Obstipation, with well-defined autointoxication symptoms. Frequent spells of vomiting. When movement of the bowels was forced by drugs or enema, symptoms of collapse followed. The rectum protruded two to three inches, with prolapse of part of the muscle coat. When the protruded bowel was replaced, walking across the room resulted in prolapse; dilated sphincter, with loss of control. There were proctitis with infiltration; three large hemorrhoids, one of which was indurated; general varicose condition of the veins of the rectal mucosa; a chronic ulcer. Operation refused. Treatment was instituted by pneumatic exercises with rectal bag. Treatments were given each morning by very slow and partial distention of the bag in the rectum. Gradually the local painful symptoms disappeared, and more active treatment was instituted by increasing the distention of the bag with air and using more rapid vibrations.

A gradual improvement was noted each week. Treatment was suspended at the end of two weeks for three days; then resumed every other day for one month, with an intermission of one week. The treatment was continued again two or three times a week, another month.

The improvement continued, and the patient left the city for a visit, and returned in three weeks. The treatment was resumed for another month, with continued improvement of general health, as well as local conditions. The bowels moved regularly without drugs or enemata. The rectum did not protrude and the prolapse was reduced. The hemorrhoidal condition disappeared, except the large indurated hemorrhoids, which were removed surgically. Recovery was complete.

The following case shows the relation between diseases of the rectum and prostate: M. F. E., sixty years; widower. Suffered for six months before examination with intense nervousness, hemicrania, insomnia, and fainting spells. Frequent micturition. A mucopurulent discharge from the urethra. Loss in weight, twenty pounds. Three years before had "nervous prostration," with rectal disturbances. After-treatment both local and general for six months; recovered. Treatment of present condition had failed to bring any relief.

Examination showed mucopurulent discharge from urethra. No history of exposure. Microscopically: Leucocytes; epithelial cells; a few diplococci (extracellular); no pus organism; no tubercle bacilli; bacilli resembling colon bacilli present. Re-

peated examinations failed to identify gonococci. Anal sphincter dilated and prolapse of mucosa; ulcer, hemorrhoids, intense hyperemia; very sensitive to touch. Prostate enlarged; soft; hyperemic. Prolapse of the sigmoid. Rectal enema increased the suffering.

Treatment by internal pneumatic exercise of the rectum and colon was carried out daily. At first the pain and nervousness of insertion of the soft tube made progress slow; soon a tolerance was induced, until no distress accompanied the treatment. Rapid progress followed. At the end of six weeks the urethral discharge stopped, without giving any intraurethral treatment or drugs. All symptoms disappeared at the end of two months. The action of the sphincter returned. The hemorrhoids and ulcer disappeared. The prolapse and atonic condition of the bowel retracted, and all tenderness and pain subsided. The hyperemic condition of the prostate was reduced. The excellent results obtained in this case were evidently due to the local exercise and massage.

Mr. D. S. G., sixty years; height 6 feet 1¾ inches; weight 155 pounds. Complained of indigestion, nervousness, insomnia, anorexia, great depression, and weakness. Loss in weight, 35 pounds. The physician referring the case was his son, and reported that the patient in his younger days had not suffered from any neurasthenic symptoms. The usual line of treatment had produced no results. Exploratory incision had been suggested, but refused. Briefly abstracted from the history sheets, the following conditions were found: Heart, liver, kidney, stomach, and small intestines negative. Examination by the rectum showed prolapse of the sigmoid and upper portion of the rectum. Marked atony, with sigmoiditis and proctitis. Mucous membranous colitis. Rectal ulcer; hemorrhoids (internal). Great tenderness. Could not sit down without the use of an air cushion. Treatment was mechanical. Pneumatic exercise of the rectum and colon by both direct and indirect methods. Use of the rectal rubber bags. Improvement was constant. Discharged August 8. Weight, 165 pounds. All symptoms disappeared, as well as the pathological conditions. No drugs or surgery were found necessary. One year after, August 8, report shows weight, 190 pounds—gain, 35 pounds. Patient without symptoms. Recovery complete.

*Contraindications.* — The contraindications are similar to those of lavage, but in fact we may use air where lavage with water cannot be used. I have for many years utilized the great benefits derived from the application of the distention of the hollow viscera with air without harm. Inflation of the stomach and intestines has long been used, principally for diagnostic purposes. My experience coincides with that of Regal,[26] who states: "I have performed artificial inflation daily for a long time, and have never seen any disadvantages or any serious symptoms from this method."

*Conclusions.*—(1) Atony of the intestine is a failure of the normal function of muscle coat.

(2) The principal cause of normal peristalsis is the distention produced by the bowel contents, whether that be feces, or undigested food, water, gas, or air.

(3) Excessive or prolonged distention will result in exhaustion or fatigue of the muscle coat of the muscle wall.

(4) In experiments on dogs, prolonged and intermittent distention of the intestine with air results in the production of a toxin of fatigue, which produces atony and dilatation.

(5) Antitoxins generated by fatigue toxins are obtained which neutralize the action of the fatigue toxins, which normally occurs during the period of rest.

(6) Toxins of fatigue are not dialyzable, and remain where formed. Rubbing, massage, or gentle exercise hastens the union of the antitoxin with the toxin, resulting in recovery from fatigue.

(7) The site of atony of hollow viscera is usually found in those organs used as reservoirs, such as stomach, colon, etc., because fatigue more readily occurs where the work is more apt to be in disproportionate excess to the rest period.

(8) The abdominal circulation is an important factor in relation to atony of the intestine. Venous blood predisposes to fatigue.

(9) The indications for treatment of atony are therefore: (*a*) The restoration of the chronic fatigue atony; (*b*) restoration of the congested vessels.

(10) Diagnosis, in connection with history and symptoms, can be made accurate by examination of feces observed during colonic lavage, and the reaction of the colon to distention.

(11) Drugs are useless as a cure; they aid certain symptoms, but ultimately increase the fatigue of the colon.

(12) Surgery does not correct the atony of the wall, though obstructions by tumors, etc., must be removed surgically.

(13) Treatment by general gymnastics is only indirectly helpful. They may strengthen the abdominal muscle, but do not increase peristalsis, or correct the atony of the intestinal wall.

(14) All methods of treatment usually resolve themselves into some form of mechanical treatment. In dietetics, coarse-grained food; cathartics producing excessive fluids. Drinking large quantities of water; gymnastics; exercises.

(15) Enemas of water are useful for the purpose of cleansing out the colon, as they excite peristalsis by distending colon, but do not correct the atony, on account of the resulting fatigue. They rather tend to create the enema habit, and increase the atony. Colonic lavage with high temperature, as described by the author, is useful.

(16) Injection of air directly is helpful, but in atonic colicky condition retention of air follows, and may result in increased fatigue or atony. This is, however, a useful method if the air is removed through the tube by pressure and massage upon the abdomen.

(17) By confining the air in the bag, and the rubber bag in the bowel, the degree of exercise by distention is under the direct control of the operator. Intermittent distention of the bags in the rectum or colon for a short period gives sufficient exercise and massage of the muscle wall to gradually restore the atony and fatigue of the muscle to a condition of normal peristalsis. If the colon is partly distended with air, then the rubber bag inserted into the rectum or sigmoid, with intermittent compression of the Politzer bag, causes vibration of the air in the entire colon to the cecum.

(18) The massage effect gives a valuable mode of treating various pathological conditions of the rectal mucosa—hemorrhoids, ulcers, proctitis, etc.

(19) It is useful in prolapse of the bowel.

(20) Associated pathological condition of the pelvic viscera; in certain diseases of the uterus and appendages, in female; and prostate, in male.

(21) The results have shown the restoration to be permanent.

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## A CASE OF COMBINED EXTRAUTERINE AND INTRAUTERINE PREGNANCY.

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Mrs. B——, apparent age 40 years; has had two children, daughters, who were born six and fourteen years ago. She has always enjoyed good health, except that in 1902 she was successfully operated on for strangulated hernia. Has always menstruated regularly until the fall of 1904, when there was a change in the menstruation, though it did not cease with the same regularity as in a normal pregnancy. The pain in the right side at times was quite noticeable. In the early part of November the abdomen in the region of the right iliac fossa became prominent. Though at times there were fainting attacks, there were never manifested symptoms of shock. In the latter part of January (1905) menstruation ceased entirely, only to commence again in the latter part of February. The flow was irregular and there were present all the symptoms of an impending abortion. About the middle of March the patient was attacked with an acute localized peritonitis in the right iliac region. From the history of the case, learned from her attending physicians, this attack must have been a severe one. During the attack of peritonitis the distention of the abdomen and the pain were so severe that a careful examination could not be tolerated. However, a tumor could be detected in the region of the right ovary. At this period the patient drifted into other and not scientific hands, and while she had seemingly recovered from acute symptoms she did not recover her former health; the abdomen remained prominent and she was always conscious of pain in the region of the right ovary.

While I had operated on the patient for the strangulated hernia, I did not see her for the present trouble until about the fourth day of May. I found, upon examination, a tumor about the size of an infant's head, occupying the region of the right iliac fossa, and the uterus, considerably enlarged, crowded into the left iliac fossa. From this history it was the opinion that there existed an extrauterine pregnancy dating from some time in the autumn. This being the conclusion, and an operation being deemed imperative, the patient was removed to the hospital. On the ninth of May the abdomen was opened, and a cystlike tumor, about the size of an infant's head, was found occupying the right iliac fossa, crowding the uterus over into the left iliac region. The tumor was composed of a membranous envelope, like the wall of an ovarian cyst. Some of the adhesions, which were quite numerous, were of recent origin. After freeing the tumor from its adhesions to the adjacent viscera it was found to possess a well-defined pedicle, composed of blood-vessels and the right Fallopian tube. The enlarged uterus excited a strong suspicion of there being an intrauterine pregnancy.

The walls of the tumor were about an eighth of an inch in thickness; at its lower pole was found a mass composed of tissue resembling in every particular the placenta; the center of this mass measured, roughly, about half an inch in thickness, while at its periphery it was lost in the walls of the tumor. In the pedicle was found an organized blood-clot protruding into the cavity of the sac. The cavity of the sac was distended with dark-colored blood, in which were floating masses somewhat resembling broken-down tissue—probably the fetus having undergone retrograde changes.

The patient left the operating-room in excellent condition, the time for the operation consuming twenty-five minutes. She did well until the morning of the second day after the operation, when I received word from the interne that the patient was having a serious flooding and was suffering severe pains. Before I could reach the hospital she had been delivered of a perfectly formed fetus of about four months. This coincided with the cessation of the menstruation in the latter part of January. The patient from now on made an uneventful recovery.

## ASTHENOPIA DUE TO LATENT HYPERPHORIA.

By G. DeWAYNE HALLETT, M.D.,
NEW YORK.
SURGEON TO THE N. Y. OPHTHALMIC HOSPITAL.

During the last several years, and by reason of the minute and exhaustive muscle testing which is applied to each asthenopic and refractive case examined, it has been my fortune to relieve distress in numerous instances, of which the following is a marked example.

Dr. F. B. E., a physician of this city, consulted me October 2, 1904, saying that he was referred by Dr. B., and that he despaired of relief through attention to his eyes, although he believed the fault to be there. Several oculists of wide reputation had had every opportunity, but failed to relieve his distress.

For over fifteen years he had suffered from fearful neuralgic headaches, which would incapacitate him for professional work for two or three days at a time. His only relief was obtained by rest in a darkened room and the ingestion of phenacetin and other coal-tar products, which he took frequently and in large quantities at all times in order to keep about at all. This drugging he felt was undermining his health, and he feared he would have to give up his practice. There was a severe pain in the back of the neck, specially bad in the morning if he had used his eyes during the previous evening or ridden much on the trolley cars. Another type of headache he had was a supraorbital neuralgia,

with lacrymation and blepharospasm. For about a year he had been wearing the following constant correction for astigmatism:

R. eye + 1.25 D. c. axis 180°.
L. eye + 1.25 D. c. axis 160°.

He was so nervous and irritable that he was almost in despair. No muscle fault was corrected, although it had been tested for on the suggestion of the patient.

My examination disclosed a need for:

R. eye + 1.50 D. c. axis 5°.
L. eye + 1.50 D. c. axis 150°.

Esophoria D. V. 2°; adduction 18°.
Exophoria N. V. 3°; abduction 5°.
*Left hyperphoria* ½°. Vision normal in each eye.

For trial purposes a prism ½° base down in the left eye was loaned him to wear over his old glasses until the next examination, nine days later, when he reported that the grab-front loaned him had been a comfort, and he had desired to keep them constantly on.

The test was the same as before, except that the *left hyperphoria* was ¾°. The following glass was prescribed:

R. eye + 1.50 D. c. axis 5°.
L. eye + 1.50 D. c. axis 150° *and prism ½° base down.*

October 17. While testing the new glasses to see if they were made according to prescription I again examined for the vertical fault, and found *left hyperphoria* 1-½°.

Further correction was loaned in a grab-front with ½° prism base up in the right eye.

October 24. Total *left hyperphoria* 1-¾°.

October 26. Total *left hyperphoria* 1-¾°. Loaned a grab-front with a ½° prism base up in the right eye and down in the left.

October 31. Total *left hyperphoria* 2°. The grab-front continued.

November 7. Total *left hyperphoria* 1-¾°, and the loaned grab-front continued.

November 14. Test as before, and I then changed his glasses to

R. eye + 1.50 D. c. axis 5° and prism 1° base up.
L. eye + 1.50 D. c. axis 150° and prism ½° base down.

During this time and following this the doctor was much more comfortable in every way, and could use his eyes in the evenings and at other times, and in ways not hitherto possible.

January 9, 1905. Lately has had an unsteady feeling in the eyes, and wonders if there is further vertical fault manifest. I found total *left hyperphoria* 2°, and loaned a grab-front ½° prism base down in the left eye.

January 23. Total *left hyperphoria* 2-¼°, and the glasses were changed to:

R. eye + 1.50 D. c. axis 5° with prism 1° base up.
L. eye + 1.50 D. c. axis 150° with prism 1° base down.

April 4. Total *left hyperphoria* 2-½°.

July 27. Total *left hyperphoria* 2-½°, and again the glasses were changed to:

R. eye + 1.50 D. c. axis 5° with prism 1-½° base up.
L. eye + 1.50 D. c. axis 150° with prism 1° base down.

These latter changes have each been made upon some slight return of the patient's old symptoms, each change giving relief.

Because cases of this kind are still strange and subject to doubt by many physicians every positive contribution has a certain value.

128 West Eighty-fifth Street.

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**Climacteric Hemorrhage Due to Sclerosis of the Uterine Vessels.**—A. H. F. Barbour calls attention to the importance of carefully investigating uterine hemorrhage in patients at or near the menopause. He then discusses sclerosis of the uterine vessels, stating that the condition of the arteries in other parts of the body does not give information as to that of the uterine vessels; arteriosclerosis is found in them when it is not present elsewhere; the only treatment for this condition is hysterectomy. After studying the literature of the subject, the writer classes the cases that have come under his notice under three headings: Cases of arteriosclerosis, usually in women advanced in life, with hemorrhages and other marked naked-eye changes in the uterine wall, but no external bleeding of consequence; cases of uterine hemorrhage so severe as to call for hysterectomy, of which no pathological account is given, or in which nothing was found to account for the bleeding; cases of severe hemorrhage calling for hysterectomy, in which arteriosclerosis is the prominent lesion; while other minor changes in the mucosa are present, such as small-celled infiltration, there is no evidence of hemorrhage or infarction such as characterized the first group The writer cites a case of this nature which came under his care. Nineteen weeks before admission to the hospital this patient had a severe hemorrhage, which began on the day of her expected period, and which continued for sixteen weeks; hysterectomy was performed a week after admission. Arteriosclerosis was the prominent lesion found in the uterus.—*The Scottish Medical and Surgical Journal.*

**Scarlatiniform and Urticarial Eruptions After the Use of Diphtheria Antitoxin.**—J. Sabrazes and A. Delaunay tells us that the eruptions after the use of serums have been attributed to the precipitation, in the vessels, of the heterogeneous serum by the antibodies of the person receiving the injection, the result being the formation of minute thromboses in the skin, the origins of the eruption. This is supported by the precipitation occurring *in vitro* as a result of the contact of the serum of the patient with that of the injection. But in diphtheria it has been shown that there is no such precipitation, and that in seven out of nine cases there is no change in the skin. It is usually on the eighth to the twelfth day after the injection that the eruption occurs, exceptionally the thirteenth to the twenty-fifth day. The authors report a case of diphtheria, treated with serum, in which the eruption occurred very soon after the injection, and at each injection was renewed. The bacteriological examination showed diphtheria bacilli, streptococci, pneumococci, and staphylococci. The blood examination showed diphtheria bacilli, diplococci in the leucocytes, polynuclear leucocytes in great number, eosinophiles and lymphocytoidos. The scarlatiniform eruption appeared two hours after the injection of anti-diphtheritic serum. This early eruption could hardly be a serum eruption. After the second injection, on the following day, the eruption had extended and increased. The reaction of precipitation was tested *in vitro* without result. This case is opposed to the idea of precipitation of the serum introduced.—*Gazette Hebdomadaire des Sciences Médicales.*

MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

THOMAS L. STEDMAN, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, October 7, 1905.

## THE INFLUENCE OF MENSTRUATION ON THE ORGANISM.

THE pathological aspects of menstruation have been largely discussed in medical literature, but little attention has been given to what is denominated normal menstruation, and its effects on the physical and mental states of women. Those who have written on the subject are agreed that the menstrual act exerts a well-marked influence on the various bodily functions, and that this depends on chemical processes. A stimulus which proceeds periodically from the genital system, gives rise to an increased metabolism, which in turn manifests its effects on blood-pressure, temperature, muscular energy, etc. These superfluous metabolic products are then believed to find their way back to the genital system, there to be eliminated until the physiological balance is again restored.

A recent contribution to this question, and perhaps the most complete and extensive, has been published by Maria Tobler (*Monatsschrift für Geburtshilfe und Gynäkologie,* Vol. XXII, No. 1), in which are presented the results of investigations made in 1,020 German women, comprising all classes of society, and affording a fair average aspect of the female population in a civilized country. The investigation shows that menstruation among our modern women, contrary to what ought to be expected, is synonymous in most instances with a period of lowered vitality and impaired energy. This abnormal condition must not be, as it commonly is, regarded as essential and unavoidable. On the contrary, it is the result of a degeneration—a degeneration which can be referred on the one hand to an impaired constitution, on the other to an incorrect manner of living. The increased metabolic products already referred to, are not properly excreted or used up by the body, and exert a toxic effect on the latter. That this is not a normal condition is shown by the fact that a large number of women become the subjects of menstrual disturbances only after periods of prolonged freedom from trouble of this kind. Again, there are others who have never suffered, and some have even experienced during this time, a period of increased vital energy, as might, in theory at least, be expected during a time in which the system prepares for the possibility of forming and developing a new being.

Proper education of the young and growing girl in all that pertains to her menstrual function, is the only solution of the problem of how to increase the number (only 16 per cent., according to Dr. Tobler's investigation) of women free from untoward symptoms during this period. Such figures, and they can, without doubt, be duplicated in this country, are really appalling, when we consider how closely the sexual life is related to the community at large, for the welfare of the latter depends directly and indirectly on the ability of healthy mothers, not less than healthy fathers, to produce healthy offspring. The subject of venereal diseases receives a great deal of attention in the discussion of social questions, but it seems that some attention might, with profit, be directed to the subject here noted. A mother should see to it that her daughters are properly instructed in the significance of the menstrual period, and the important bearing on the latter of proper rules of living, of dress, and of hygiene. This would relieve much of what is now regarded as suffering to be borne without comment, and would tend to make one of woman's most important functions normal in more than name.

## LAMINECTOMY FOR THE PARAPLEGIA OF SPONDYLITIS.

IN 1889, Trendelenburg of Leipzig reported eight cases in which this operation had been done for the relief of paralysis due to deformity resulting from vertebral caries. Although the results were encouraging, but few surgeons have been tempted to resort to the procedure, only a small number of cases having been recorded in addition to those noted. Sultan has lately reported in the *Deutsche Zeitschrift für Chirurgie,* Vol. 78, Nos. 1 to 3, another series from the same clinic, and the data obtained from the entire number, fourteen, should prove of interest in judging the value of the procedure. Of Trendelenburg's patients, six were living at the time of the report, five being cured and one unimproved. Of the other six patients operated upon since then, three died at varying periods after operation without much improvement having taken place. A closer study of these cases shows that a laminectomy can be done most successfully when the vertebral caries is restricted, when the tuberculous process is quiescent, when the patient is not over twenty, and, finally, when the lesion in the cord is brought about by a stenosis of the bony canal. But even in the presence of epidural tuberculous processes, the removal of the arches will be followed by favorable results, because the cord is freed and better circulatory conditions are established. Where the lesion is high up in the cord, it would seem that the operation should be done early, as the prolonged decubitus, which cannot be avoided, greatly diminishes the patient's chances. The presence of vesical and rectal paralysis is considered an important factor in favor of operation, for laminectomy will obviate the complicating cystitis and ascending renal infection which usually sound the deathknell to these patients. It has happened, however, that a previously normal bladder has become paralyzed after operation, and although this condition is usually only temporary, the experience teaches caution in advising laminectomy when the bladder is not involved.

It is very important to possess some means by which one can recognize whether in any particular case, one is dealing with an irreparable lesion of the cord, or merely a simple compression. Unfortu-

nately, such a method has not yet been devised, and some patients will be subjected to operation needlessly. American surgeons have not expressed themselves very favorably with regard to the procedure, advising more conservative measures and reserving such radical treatment for cases where the latter have failed. It cannot be denied, however, that very brilliant results have been obtained in selected cases both here and abroad, and the large number of patients with spinal caries constantly met with in our clinics, renders any suggestion for bettering their condition, worthy of thought and attention.

## INSANITY IN ENGLAND.

As usual the report of the Commisisoners in Lunacy recently published in England, has excited great interest. Lunacy has increased in the past decade by leaps and bounds, although for some few years now the situation has shown improvement. In 1896 one in 319 of the English population was insane, while at the present time the proportion stands at one in 285. The most alarming increase was in the first five years of the decade. Naturally, the report contains some very instructive features.

To those who regard the deplorable increase of insanity in almost all civilized countries, as mainly due to the pressure of modern life, and especially to the struggle for existence in large cities, the report will present somewhat curious reading. The Commissioners state that "there is no apparent relationship between the density of population and the ratio of insanity." We commented, some few years ago, on a Scotch report on lunacy which drew attention to a similar state of affairs in the northern portion of Great Britain. It was then claimed that the monotony of country life was responsible for the greater prevalence of insanity in rural districts. However, this is, of course, by no means a full explanation. The fact must be borne in mind that the country districts are being continually drained of their best blood, to the corresponding benefit of the towns. Again, many which have been ruined in towns return to the country to end up in the insane asylums of their native districts. Nevertheless, it certainly seems an anomaly that the most sparsely populated counties of England should give the highest proportion of insane to the population.

The connection between drink and insanity is also dealt with in the report, and especial attention is drawn to alcoholic intemperance as one of the most fruitful causes of lunacy. During the five years, 1899-1903, intemperance was the cause assigned by medical superintendents of insane asylums in 22.7 per cent. of the male admissions, and 9.4 of the female; the rates for "private patients" being 16.7 males, 8.6 females, and for those in the pauper class 23.6 males and 9.6 females. As to whether the weak brain is the cause of drink or its sequence, the Commissioners are not decided. They state that "it should be borne in mind that intemperance is frequently as much an effect of brain weakness as a cause, and the intermingling of these renders it impossible to arrive at precise conclusions. In any case, it cannot be denied that alcohol is a brain poison, and it is, therefore, incumbent to show what part it plays in insanity."

The Commissioners with due caution and reservation, publish a provisional list of the causes, which they are of the opinion approximate to the truth. Of the moral causes we have: Domestic trouble, males 3.6 per cent., females 8.8 per cent.; adverse circumstances, males 5.6 per cent., females 3.5 per cent.; mental anxiety, worry, and overwork, males 5.5 per cent., females, 5.9 per cent.; religious excitement, males 1.1 per cent., females, 1.6 per cent.; love affairs, males 0.5 per cent., females 1.9 per cent.; fright and nervous shock, males 0.6 per cent., females 1.7 per cent. Among the physical causes are mentioned: Intemperance in drink, males 22.7 per cent., females 9.4 per cent.; sunstroke, males 1.3 per cent., females 0.1 per cent.; accident or injury, males 4.3 per cent., females 0.8 per cent.; fevers, males 1.2 per cent., females 0.8 per cent.; privation and starvation, males 0.9 per cent., females 0.9 per cent.; old age, males 7.1 per cent., females 8.5 per cent.; other bodily diseases or disorders, males 14.0 per cent., females 13.1 per cent. Hereditary influences were ascertained in males in 18.8 per cent., in females in 24.9 per cent. The cases in which the cause was unknown were, males 17.4 per cent., females 15.0 per cent.

With regard to the connection between drink and insanity, it is interesting to note that a great change has characterized the attitude of the medical profession in Great Britain towards the drink question of late years. Many, if not the majority of the most prominent medical men in the country, now hold that drink is most distinctly a brain poison, when used to excess, and that individuals in health are better without alcohol. Insanity would appear to be on the increase throughout the civilized world, and it would be instructive to ascertain whether statistics bearing on the matter in other countries than England show that lunacy is more prevalent in country districts than in cities.

## The Yellow Fever Germ.

It has been asserted several times, with a good deal of circumstantiality, in New Orleans despatches to the daily press, that the parasite of yellow fever has at last definitely been found by the Drs. Archinard and others working independently. The former have not yet published an account of their work, but four others, Drs. Pothier, Hume, Watson, and Couret, who have been studying the blood of yellow-fever subjects at the Isolation Hospital, have recorded the result of their investigations in the *Journal of the American Medical Association*. They regularly found in the blood certain cells of varying size and shape, some lying on (not within) the erythrocytes, but most of them entirely extracellular. According to their physical appearance and staining properties, these cells could be classified in four main groups. They were never found in the blood of healthy individuals, or those suffering from other diseases. So far as these investigations can be relied upon, and they appear to have been conducted with every care to eliminate the chance of error, it would seem that there are certain cells to be found in the blood in some, if not all, cases of yellow fever which are not always, if ever, present or visible in the blood in health, or in those suffering from other diseases. But it would be rash to conclude, without further proof, that such cells were parasitic, or that they had any pathogenic relation to yellow fever. They might have been degenerate forms, resulting from the cytolytic action of the yellow-fever germs, or they

might have been platelets; but that they were the germ itself is improbable. It is hardly possible that the many acute observers who have for years been searching the blood and the organs of yellow-fever subjects, and the bodies of stegomyia mosquitos that have sucked the blood of such subjects, in the hope of detecting the cause of the disease, should have failed to see cells varying in size from twice the diameter of a pneumococcus to one-fourth the diameter of a red blood corpuscle. The Marine Hospital Commission at Vera Cruz, of which, we believe, Dr. Pothier was one of the members, did, indeed, find cells of this size and appearance, but the claim that these were the specific organisms of yellow fever was very speedily disproved. If the pathogenic parasite of this disease is ever discovered, it will doubtless be found to be very small, if not of ultramicroscopic size, for it is almost certain that it is too small to be held back by a Berkefeld or Pasteur-Chamberland B filter.

### The Relation of Typhoid and Paratyphoid Infections.

The failure of the Widal test in certain cases presenting all the symptoms of a mild typhoid fever has led to the recognition of a new disease, called, for want of a better name, paratyphoid. This has been found to be associated with the presence in the body of a bacillus, morphologically distinct from Eberth's bacillus. The origin of the disease is as yet imperfectly understood, though it is probable that it is transmitted in the same way as typhoid fever, by means of contaminated water and food. Some experiments conducted by A. B. Smallman and reported in the *Journal of the Royal Army Medical Corps* for July, 1905, are suggestive in this relation. This investigator treated a number of guinea-pigs with living and dead typhoid bacilli, injecting pure cultures of the microorganisms into the abdominal cavity. About two hundred animals were subjected to the experiments. All died at varying periods following the injection. The bacilli cultivated from those animals after death, were in the majority of cases true typhoid bacilli; but in twenty-two cases in which living typhoid bacilli had been injected, the microorganisms found were of the type of the paratyphoid bacillus of Gärtner. They failed to stain with Gram's method, all showed a trace of indol, and they presented the morphological characteristics of paratyphoid organisms. The interesting question is whence they came. They were not found in the feces of the control guinea-pigs, but were present in the intestinal contents of the animals which had been inoculated with typhoid germs, and it would seem, therefore, possible that a transformation had been effected within the animal. It would be interesting to follow this clue to determine whether the paratyphoid bacillus in the lower animals is the analogue of Eberth's bacillus in man, and whether the latter may not be regularly transformed into the former in passing through the domestic animals, the dog or the cat for example, and so cause this infection in man. Whether an attack of paratyphoid fever confers immunity against genuine typhoid fever, is another point which it would be interesting and profitable to determine. If it does confer immunity, and if passage through one of the lower animals transforms the typhoid bacillus into the less virulent paratyphoid, there may here be a suggestion of protective inoculation against the more serious disease.

### The Health of New York.

The report of the Health Commissioner of New York for the first six months of the present year, which has just been submitted to the Mayor, makes an excellent showing, and bears gratifying testimony to the efficiency of the Board of Health of this town. From this report we learn that the death rate of the city has been reduced from 22.24, in the first six months of 1904, to 19.23 in the corresponding period of 1905. This is based upon an estimated population of 3,938,000, although the new census indicates a much larger population, which would give a corrected death rate of a little over 17, the lowest recorded since 1798. The total number of deaths was 37,969, as compared with 42,690 in the first half of last year. Dr. Darlington attributes much of this improvement in the mortality figures to the rigid watch which has been kept over the food supplies. Nearly 60,000 specimens of milk were examined and more than 19,000 quarts of adulterated milk were spilled, upward of $10,000 in fines being collected for violations of the law against milk adulteration. Over 4,000,000 pounds of fruit, 7,500,000 pounds of food and 1,000,000 pounds of meat and fish were condemned and destroyed. There was also a notable diminution in the number of cases of contagious diseases, only 17,456 being recorded, against 39,114 for the corresponding period of the previous year. For the week ending last Saturday —a week of nearly perfect weather conditions, it must be admitted—the death rate was only 15.75, as compared with 17.14 for the corresponding week of 1904. The figures would have been still lower had they been based on the new census. There may be and may have been certain favorable climatic or other factors contributing to the better health of the city, but the chief credit for the improved conditions must in all fairness be given to the Health Commissioner and his sanitary staff.

## News of the Week.

**The International Tuberculosis Congress** was opened in Paris on October 2, in the presence of President Loubet, the Cabinet Ministers, and the Ambassadors. Over 3,500 delegates were present. The American official delegation consisted of Dr. Henry Barton Jacobs of Baltimore, Dr. S. A. Knopf of New York, Dr. Lawrence F. Flick of Philadelphia, and Medical Inspector Henry G. Boyer, of the United States Navy. Many other Americans, delegates from various societies, were present. The opening address was delivered by Dr. Hérard of the French Academy of Medicine, who was chosen President of the congress. The report of Dr. Letulle, the secretary, said that thirty-three nations were represented in the Congress. An invitation has been extended through the American Ambassador to hold the next Congress in this country.

**Opening of the Columbia University Medical School.**—Dr. Samuel Lambert, dean of the faculty of the College of Physicians and Surgeons of Columbia University, in his opening address delivered on September 28, took as his theme "Some Present Fallacies in Medical Education." One of the practices he criticised was that of the students who, by substituting in hospitals before the examinations for internes are held, endeavor to find out the special points of each examiner in order that the information so secured may give them better chances at the examinations. Such "tips" he said were very rarely useful to the candidates. Another fallacy to which the speaker directed

attention was what he termed "trade unionism in medical education," by which the more able students were restrained from working to the full extent of their capacity in order that they might not seem to enjoy greater opportunities than their less intelligent and less well-prepared fellows. There has been a marked falling off in the size of the entering class at the medical school, owing to the increased requirements for admission, and the higher tutition fee, which is now $250. The first-year class in 1904 numbered 85, this year it has 79 members.

**Seaman Prize Awarded.**—At the fourteenth annual meeting of the Association of Military Surgeons of the United States, which opened in Detroit on September 27, Major Jefferson Randolph Kean, U. S. A., of Washington, D. C., was announced to be the winner of the Seaman prize for 1905. This is a prize of $500 offered for the best essay on "The Prevention of Disease in the Army and the Best Method of Accomplishing that Result." Major Kean's paper contained a plea for the reestablishment of the canteen at army posts, and he showed by statistics that since the abolishing of the canteen all kinds of diseases traceable to dissipation have increased among the soldiers of the regular army.

**Yellow Fever.**—Although the number of cases in New Orleans has passed the 3,000 mark, and the deaths are in the neighborhood of 400, the reports of the sanitarians continue to be very favorable. The Louisiana State Board of Health and Dr. White of the United States Marine Hospital Service have invited all the Louisiana towns to withdraw their quarantine against New Orleans, telling them that it is perfectly safe. All the public schools, except one, have opened. The remission in the outbreak is especially notable among the Italians, who at first were the greatest sufferers from the infection. In spite of these encouraging features, both Alabama and Texas have made their quarantines more strict, and a mounted force is patrolling the entire Alabama-Florida line. A few more cases are reported from Natchez, Vicksburg, and Pensacola. Reports on yellow fever from the Canal Zone have been unusually favorable of late. In the first two weeks of September there were but seven new cases and four deaths. Since September 15 there had been no new cases reported up to the first of this week. There is at present practically no yellow fever in Mexico, only a few scattered cases being reported by the Superior Board of Health, and the passage of September without an outbreak is regarded as a great victory for sanitary science. Cooler weather will soon set in, and then all danger will be over. A coal passer on the Panama Railroad's steamship *Havana*, was found sick of yellow fever on the arrival of the vessel here from Colon last week. He died after a few days' isolation at Swinburne Island.

**Death Rate in New York State.**—During August almost 12,000 deaths were recorded in New York State, a number about 1,000 in excess of the average during the past five years. The increase was largely due to an unusually large number of deaths in the rural towns, though 112 fatal cases of typhoid fever were reported from the maritime district, which includes New York City, and sixty-five fatal cases of whooping-cough from New York City and vicinity. The total number in the State was typhoid fever, 189—average for five years, 158; whooping-cough, 126—average, 80. Of the total number of deaths in the State, 1,090 were from tuberculosis, and 541 from pneumonia.

**Diphtheria at Annapolis.**—As a precaution against further spread of the epidemic of diphtheria at the U. S. Naval Academy, the authorities contemplate postponing the opening of the institution until October 15. Bancroft Hall, the original focus of the disease, has been vacated, and all midshipmen not affected, after fumigation of their belongings, have been removed to the United States Steamship *Hartford*, lying in the Severn River.

**Typhoid Fever at Norwich, N. Y.**—When the recent flood deluged this town, most of the wells became filled with impurities, but in spite of warnings from the authorities, the residents continued to use water from these sources. As a result, an epidemic of typhoid fever has broken out.

**Diphtheria at Oxford, N. Y.**—All of the lower schools in Oxford have been closed, owing to the prevalence of diphtheria. It is believed that the unhealthful conditions following the recent flood have been a factor in keeping up the infection.

**Iowa State Tuberculosis Association Organized.**—At Des Moines, Iowa, August 1, prominent representative medical men from throughout the State, together with a large number of laymen, met and organized the State Association for the Study and Prevention of Tuberculosis. The officers elected were as follows: *President*, ex-Governor Wm. Larrabee, Clermont; *First Vice-President*, Dr. R. E. Conniff, Sioux City; *Second Vice-President*, Dr. A. L. Urick, Des Moines; *Treasurer*, Prof. F. I. Herriott, Des Moines; *Secretary*, Dr. E. Luther Stevens, Des Moines. The committees appointed are composed of some thirty-five of the most prominent physicians, legislators, and educators in the State.

**The Killed and Wounded in the Japanese Fleets During the Russo-Japanese War.**—The following table of the killed and wounded in the Japanese navy during the late war was presented by Dr. S. Suzuki in his interesting paper, read before the Association of Military Surgeons, at the meeting in Detroit, September 28 (see page 597). The statistics embrace the period from the beginning of the war, to August 15, 1905. To the casualties here collected must be added those occurring during the burning and sinking of the *Mikasa*, a few weeks ago.

| Battles. | Killed | Wounded | Total | Termination of the Wounded | | | |
|---|---|---|---|---|---|---|---|
| | | | | Died | Recovered | Invalided | Under Treatment |
| Attack upon Port Arthur (February 9, 1904) | 3 | 69 | 72 | 6 | 59 | 3 | 1 |
| Battle of the Yellow Sea (August 10, 1904) | 65 | 161 | 226 | 6 | 133 | 17 | 5 |
| Battle off Ulsan Bay (August 14, 1904) | 36 | 96 | 132 | 10 | 80 | 3 | 3 |
| Naval Artillery Brigade at Port Arthur (From June 26 to last day of December.) | 30 | 313 | 343 | 27 | 258 | 20 | 2 |
| Battle in the Japan Sea (May 27-28, 1905) | 88 | 611 | 699 | 20 | 470 | ..... | 118 |
| Other Petty Battles and Accidents (1904-05). | 1,669 | 541 | 2,210 | 39 | 470 | 30 | 2 |
| Total | 1,891 | 1,791 | 3,682 | 11 | 1,470 | 73 | 131 |

**Dr. W. H. Wilder,** of Birmingham, Ala., has been elected president of the Tri-State Medical Association of Tennessee, Georgia, and Alabama, to succeed Dr. H. L. Appleton of Gadsden, Ala., who recently resigned.

**Dr. Jacobi at McGill.**—The opening address to the students of the medical faculty of McGill University was delivered on September 19, by Dr. Abraham Jacobi, of New York. In the evening he was the guest of honor at a banquet attended by the leading medical men of Montreal.

**Washington County (Vt.) Medical Association.**—At the annual meeting of this association, held in Barre, on September 12, the following officers were elected: *President*, Dr. Wm. Lindsay of Montpelier; *Vice-President*, Dr. C. F. Camp of Barre; *Secretary*, Dr. O. G. Stickney of Barre; *Treasurer*, Dr. C. E. Chandler of Montpelier.

**New President of the British Medical Association.**—At a meeting of the Toronto branch of the British Medical Association recently held, Dr. R. A. Reeve, of that city, was elected president of the association in anticipation of the projected meeting of the British Medical Association to be held in Toronto next year. This is in accordance with the custom of having the presiding officer for each annual meeting chosen from among the medical men of the city in which the association convenes.

**Medical Control of Marriages.**—The homeopathic practitioners of Colorado, are endeavoring through their State society to have the Colorado legislature at its next meeting enact a law restricting marriage to the physically fit. The proposed bill provides that all applicants for marriage licenses, both men and women, must submit to a physical examination, and if any couple is unfit to wed because one or both has some incurable disease, or is undeveloped, then a license shall be denied.

**Increasing Sale of Opium in New York.**—It is stated that there has been a great increase in the sale of opium for illegal purposes of late. Many dangerous Chinamen who left the East side when the strife between the rival tongs became too hot are now located in "Poison Row," on Seventh Avenue between Twenty-ninth and Forty-second streets, and in other parts of the Tenderloin, selling opium in large quantities. It is alleged that this violation of the law is openly carried on with the connivance of the precinct detectives.

**The Cholera.**—It is officially announced that fifty cases of cholera, with twenty-eight deaths have occurred in Poland, between September 20 and September 27. In Germany, the authorities appear to have thorough control of the situation, and the cases are so few in number that regular reports of new cases and deaths are no longer made. The water of the River Spree has been declared contaminated and residents along its banks have been warned not to use the water.

**The Brooklyn Water Supply.**—In a statement relative to the occurrence of colon bacilli in the Brooklyn water supply, given to the public press by Health Commissioner Darlington, he again urges the necessity for establishing sand filter beds for the city, and advises the residents of Brooklyn to use no water that has not been boiled.

**A Vermont Sanatorium for Consumptives.**—Senator Proctor, in a letter to Dr. W. N. Bryan, of Ludlow, Secretary of the Vermont State Tuberculosis Commission, announces that he will purchase a site and erect a sanatorium at a cost of about $50,000 for treatment in incipient cases of tuberculosis. In addition, the Senator promises an endowment fund of $100,000 for the institution, which it is intended shall accommodate from twenty-five to thirty patients. The site has not been selected but will soon be announced.

**Turning Condemned Criminals to Use.**—A correspondent of the *Lancet* suggests that condemned murderers be given the option of submitting themselves to some simple pathological experiment as an alternative to being hanged. The writer urges that a life which is forfeited by the State should be used for some good end, instead of being wasted. He says that both tuberculosis and cancer offer problems that could easily be settled in this way with great resulting benefit to society at large, and expresses the belief that most criminals would choose the chance of life afforded by such experiments. The proposal is not new, and, though it has certain features to commend it, is hardly in accord with modern principles of humanitarianism.

**The Quatercentenary of Sir Thomas Browne.**—Sir Thomas Browne, the author of "Religio Medici," was born on October 19, 1605, and the quatercentenary will be celebrated at Norwich on the same date this year. The memorial statue of Sir Thomas Browne, erected in the Market Place, will be unveiled at 12.30 P. M. by Lord Avebury, F.R.S.; afterwards a luncheon will be held at the Blackfriars Hall. At 8.30 P. M. there will be a service in memory of Sir Thomas Browne in the Church of St. Peter Mancroft, Norwich, near which he lived for many years, and in which he worshiped, and lies buried; the sermon will be preached by the Right Rev. Bishop Mitchinson, Master of Pembroke College, Oxford, of which college Sir Thomas Browne was a member. —*British Medical Journal.*

**Report of the Ray Brook Hospital.**—The trustees of the New York State Hospital for Incipient Pulmonary Tuberculosis in the Adirondacks, have issued their report for the first year. Two hundred and seven patients were admitted during the year, more than half of whom were incipients. There were no deaths. Of the 105 patients discharged, fifty-two were apparently cured.

**Suicide in Maine.**—According to the statistics compiled by Dr. A. N. Young, Registrar of Vital Statistics, suicide is increasing in Maine. Seventy-seven persons took their own lives this year, as compared with fifty-nine last year. Of this number sixty were males and seventeen females. Of the males twenty-one were farmers. The youngest suicide was a girl of seventeen, and the oldest a man of eighty-five. The largest number of suicides in any month was nine, in May. The rate for the State per 10,000 of population was 1.11 per cent. Twenty-one persons committed suicide by hanging, 21 by shooting, 15 by drowning, 13 by poisoning, 4 by cutting throat, 2 by jumping from high places and 1 by asphyxiation. The largest number of suicides were between the ages of fifty and sixty years, and the smallest number between the ages of ten and twenty years

**Work of the Strauss Milk Depots.**—The Nathan Strauss pasteurized milk stations in the parks and on the recreation piers have been closed until next year, but the stations at 151 Avenue C, 241 East Fifty-ninth street, 441 West Thirty-third street, 169 West Houston street, 301 East One Hundred and Eleventh street, and 45 Monroe street, remain open throughout the year. The de-

mands on the laboratory were so great during this summer that it was taxed to the utmost, and the necessity for increased facilities is urgent. The number of bottles of milk dispensed in the year was 2,668,397, as against 2,149,194 for the previous year. In addition, 807,070 glasses of milk were sold at a cent a glass. The Health Department statistics show the death rate among children under five years of age in 1890 and 1891, prior to the use of pasteurized milk among the poor, was 96 in 1,000, while for the year 1904 the rate was 63 in 1,000.

**Diphtheria in Boston.**—The week ending September 23 shows a gratifying decrease in the morbidity from this disease. For the corresponding week of last year forty-one cases were reported, but this year the number is only twenty-two, with two deaths.

**California State Board of Dental Examiners.**—The commission appointed by the Governor to investigate the charges against the California State Board of Dental Examiners, after holding meetings for two weeks and examining ninety witnesses, has reported in effect that there was no urgent necessity for the investigation. They found that several members of the board were injudicious in their handling of the question papers, as well as in their criticism of their fellows, but there was no intentional wrongdoing and the financial accounts were correct. The entire difficulty arose from professional jealousies. The report intimated, however, that the usefulness of at least two members of the board was at an end.

**A Knights Templar Asylum.**—The Knights Templars of San Francisco, at a recent banquet, subscribed $65,000 for the building of an asylum, the estimated cost of which is about twice the amount thus raised. The work of construction will begin immediately.

**A Study of the Diseases of Insect Pests.**—The department of agriculture of the University of California has been engaged for several years in the study of the diseases of the insects that destroy various crops in this and other states, and in several instances have met with great success. Since July Prof. Clarke, assistant entomologist, had been studying a bacterial disease that completely exterminated the grasshoppers at Los Banos. The disease was of unknown origin and in the course of a month destroyed a countless army of the insects, after they had entirely devoured the alfalfa crop.

**Dr. Hermann E. Hasse** has recently tendered his resignation as chief surgeon to the hospital of the soldiers' home at Sawtelle, near Los Angeles. Dr. Hasse received his degree at the University of Wurzburg in 1861, then came to America and served in the civil war. He was instrumental in establishing the soldiers' hospital eighteen years ago and has had charge of it until the present time. He is now seventy years of age, and the desire for rest is the cause of his resignation.

**Vaccination Tetanus.**—A third death within a year from tetanus following vaccination has recently occurred at Oakland, California. In this case, however, five weeks had elapsed before infection of the wound became apparent and it is quite unlikely that the virus had become contaminated. Unfortunately the child was the son of an anti-vaccinationist who had consented to the vaccination after having kept his child out of the public schools for a year or more to avoid it.

**A French Consumptive Sanatorium.**—Near Lille, in the heart of the "Black Country" of France, we hear from *The Hospital*, there has lately been established a sanatorium for tuberculosis which differs in several respects from any established in this country. The sanatorium is really a village, and comprises a building for unmarried men, another for unmarried women and twenty-four "villas," which form forty-eight houses for families. The rules of the colony demand that each patient shall take the rest and fresh air cure for six hours a day, but the time may be divided at will so that nothing more than a frequent lounge is consciously demanded of him. In fact, this French village for consumptives seems intended to produce the maximum of benefit with the minimum of restraint.

**Suit to Retain a Medical License.**—The Supreme Court of California has granted a writ returnable in October, calling for a reconsideration of the charges against a female cancer doctor in consequence of which the State Board of Medical Examiners revoked her license to practice, and requiring a reissue of the license if the charges prove to have been false as the accused physician claims they were.

**To Study American Methods.**—A number of medical men and others, composing the sub-committee of the Royal Commission on the Care and Control of the Insane, sailed from Liverpool for New York on Saturday last to investigate American methods of treating the insane

**Obituary Notes.**—Dr. A. J. VIDAL of Gainesville, Fla., died on September 22, after a long illness. He was a Confederate veteran, and was wounded several times during the war. He was graduated from the Medical College of the State of South Carolina, in 1869.

Dr. E. D. STEEL of Monkato, Minn., died on September 21, at the age of forty-three years. He was president of the Blue Earth County Medical Society, and for many years was secretary of the Minnesota Valley Medical Society. He was graduated from the University of Minnesota, in 1889.

Dr. C. S. BOYNTON of Indianapolis died on September 23, at the age of seventy-two years. He was graduated from the University of Buffalo, in 1857, and practised in Elizabethtown, Ind., until 1871, when he removed to Indianapolis. He was a veteran of the Civil War.

Dr. GEORGE H. RICKER of Minneapolis died suddenly of heart failure on September 23, at the age of fifty-one years. He was born in Bangor, Me., but grew up in Minneapolis, and was graduated from the Habnemann Medical College of Philadelphia in 1878. He was made professor of surgery in the Minnesota State College of Homeopathy in 1888, and retained the position until his death. In 1903 he was appointed city physician.

Dr. A. A. DREHER of Cleveland died on September 18, at the age of forty-six years. He received his diploma from the Western Reserve Medical College.

Dr. F. A. SMITH of Springfield, Mass., died on September 26, at Belbort, Texas, while on his way to El Paso, where he was to spend the winter. He suffered from tuberculosis during the past five years, and traveled from place to place, in hope of finding a suitable climate. He was fifty years of age, and was graduated from the Harvard Medical School.

Captain G. C. M. GODFREY, Assistant Surgeon United States Army, died suddenly at Fort McPherson, Ga., on September 23. He was a son of Col. Edward S. Godfrey, Ninth Cavalry, and was born in Ohio, October 12, 1870. He was appointed

an assistant surgeon in May, 1893, and received the rank of captain in October, 1898. Captain Godfrey was a graduate of the College of Physicians and Surgeons of Baltimore.

Dr. Thomas Milton Todd, a native of Ohio Co., W. Va., died on September 15, at the age of sixty-six, in East Auburn, Cal. He received his degree from the Miami Medical College, Cincinnati, in 1869, and has resided in California since 1876. A brother of the deceased, Dr. J. Hamilton Todd, resides in Oakland.

## Obituary.

### HENRY DORWIN DIDAMA, M.D., LL.D.,

SYRACUSE, N. Y.

Dr. Henry D. Didama, one of the most widely known and respected physicians of western New York, died on Wednesday of this week, at the age of eighty-two years. His death followed a fracture of the hip received in a fall several months ago. He was born at Perryville, Madison County, N. Y., June 17, 1823. His father was at one time a prominent practitioner in New Jersey. He was a graduate of the Albany Medical College in 1846. He was for more than two decades one of the faculty of the School of Medicine of Syracuse University, and was dean of the faculty up to June of the present year, when he was made dean emeritus. Dr. Didama was a member of the Syracuse Academy of Medicine, of the American Academy of Medicine, of the American Medical Association, of the American Medical Temperance Association, and of the New York State Medical Association.

Dr. Didama was a founder of the New York State Medical Association, and for many years one of its most enthusiastic members; he served for a term as president of the association. He was a strong advocate of abstinence from the use of alcohol and never prescribed this drug in his practice.

## Correspondence.

### THE COUNTRY DOCTOR AND THE SURGEON.

To the Editor of the Medical Record:

Sir: Your editorial in the issue of the Medical Record for September 23 on Dr. B. R. Riley's article of recent date in the *Medical News* as to the mutual relations between the city and country doctor is timely and of interest to both the country and the city practitioner. May I, as a city practitioner and teacher in one of the post-graduate medical schools, be permitted to say a few words on this subject?

While I agree with Dr. Riley in the main in what he says concerning the relations of the city and country doctor, I am inclined to believe that he is mistaken in the conclusion that the present tendency of specialism in medicine is to weaken the country practitioner, particularly in a surgical way. Now, my own experience as a teacher in the city, and observation in the small country towns in the middle West, which I visit every summer, lead me to disagree with his view of the subject. Indeed, since the founding of the post graduate medical schools in this city in 1882, and later in other cities—Chicago, Philadelphia, etc.—and hospital clinics have been opened to the country practitioner, he has not been weakened, but, on the contrary, immeasurably strengthened, and especially along surgical lines. Twenty years back major surgical operations in small towns were almost unheard of; but to-day, even in country villages, the major surgical operations are performed, and successfully. In the larger towns of 20,000 to 50,000 inhabitants usually a general hospital is to be found wherein not only major surgery is done, but original surgical technique is developed—witness the Mayos in the West. And even in the country villages one is surprised at the number of "private" hospitals, wherein there may be only two, four, six, or, exceptionally, as many as a dozen beds; capital operations are performed, and almost, if not quite, with the success following those done in the metropolitan centers; the strong constitution of the patient and fresh air counterbalancing, if you please, to a great extent the superior technique to be had in the city hospital.

The following, an actual occurrence, is an example of what country practitioners may be called upon to do at a short notice: A call into the country of about six miles from the small town at twelve o'clock at night, to an old gentleman, seventy-one years of age, suffering with strangulated hernia. Operation decided upon immediately. Assistants, two old ladies, to hold oil lamps, and a fellow neighboring practitioner to give chloroform. Operation with resultant complete cure, and patient discharged one week later.

It happens, too, nowadays, that trained nurses may be had from neighboring cities to take care of surgical cases, which was not possible twenty years ago. Altogether, the country practitioner finds himself much better prepared to-day to take care of his surgical cases than formerly; and, what is more to the point, he is taking care of a great many cases that he formerly sent to his city brother. Specialism has not weakened him, in my opinion, but, on the contrary, strengthened him. We might pause to ask what has been the factor in bringing about this change for the better—that is, the establishing of private hospitals in smaller towns, and public hospitals in small cities? Manifestly the founding of these hospitals is due to the fact that more men have been qualified to practice the art of surgery, and the one factor more than any other to bring this about has been clinical instruction at the post-graduate schools and at hospital clinics. Mind you, we are not among those who believe in making a man a specialist after six weeks' instruction. The successful men who have gone out from these schools are those who in the beginning took out a six months' or even a year's post-graduate medical course, and who later, as well suggested by Dr. Riley in his paper, returned to the city every two or three years for further instruction. In this way they are kept abreast of the times, and the patient, even in distant parts, is taken care of—thanks to clinical instruction.

A. Edward Davis, M.D.

New York.

### OUR LONDON LETTER.

(From Our Special Correspondent.)

VACATION CLOSING—AMALGAMATION OF SOCIETIES—REPORT ON INSANITY—REPORT OF MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD—SCOTCH CROFTERS—DEATH IN ASYLUM—CAMPHOR POISONING—VEGETARIANS.

London, September 15, 1905.

The long vacation is drawing to its close, and a number of teachers have already returned from their holidays to prepare for the coming session. The question of amalgamation of the medical societies will then come up once more, and many are sanguine that this time union will be effected. There are some 7,000 members of about twenty societies whose interests have to be considered. I hear that the report of the committee appointed is practically completed, and will probably be discussed in October. This report is in favor of amalgamation, or perhaps the creation from the old institutions of a new body under the name of Royal Society of Medicine, or, better still, as I suggested last year, Royal Academy of Medicine, to bring it into line with other similar bodies, continental and American. The Irish societies amalgamated into an academy with several sections some years ago, and surely the English should be able to reconcile their several interests. It is said the committee suggests sixteen sections of the new academy. I suppose as the Medico-Chi., our previous society, is royal, the new one may have the title. The Medical Society of London will most likely first consider the project, and its decision will greatly influence the younger societies.

The fifty-ninth annual report of the Commissioners in Lunacy appeared this week as a Blue Book dealing with a great number of things connected with asylums, such as the annual movement of our asylum population, the proportion of first attacks, the causes of insanity, and its forms. The duly certified insane under care on January 1 last in England and Wales numbered 119,829, being 2,630 in excess of the number on the same day in 1904. This increase may be compared with 3,235 for 1903, 3,251 for 1902, and 2,769 for 1901. In relation to the estimated population, the insane stood on January 1 as 1 to 285. The increase of population in the last nine years is put at 10.8 per cent.; that of the insane has been 24.2 per cent

It is pointed out that in the present state of knowledge all that can be done to determine the cause of an attack is to record as carefully as possible the antecedents which seem to stand in relation to it. This is the more difficult as several antecedents may be concerned, while in other cases the responsible agent may be also the cause of the impaired resistance of the brain. Special attention is directed to alcoholic intemperance, which appears as the assigned cause in 22.7 per cent. of the male admissions and 9.4 per cent. of female. These figures are from the returns of superintendents of institutions for the five years 1899-1903, and in reference to them the commissioners remark that intemperance is often "as much an effect of brain weakness as a cause, and the intermingling of these renders it impossible to arrive at precise conclusions. In any case, it cannot be denied that alcohol is a brain poison."

Density of population does not seem to imply a high rate of insanity. In fact, some of the sparsely populated counties give the highest proportion of insane to their respective population. During last year the statistics show a greater increase in rural districts than in towns. A good deal of speculation is already rife as to the cause of this. Medical men are unable to account for it, and the newspapers are inclined to discuss it. The suggestion that it is a "freak of nature" should come only from those who possess a supernatural faith in statistics and their ability to interpret them. It is far more probable that many persons now registered as lunatics have previously been passed by as eccentrics, or half-witted, or daft. Heredity again is the favorite explanation of many, and they say that in villages this is reinforced by intermarriages more than in towns. Some of them go so far as to say that in-and-in breeding is itself a cause of both physical and mental degeneration, though their view does not gain any support from the experience of animal breeders. The struggle for existence and the survival of the fittest are phrases quoted by others as a complete explanation. But others, again, declare it is the wear and tear of our strenuous life with its constant excitement—though surely this should affect the cities more than the villages. Poverty and vice are common to both classes. In fine, we may perhaps do well to admit that we have no satisfactory explanation to offer.

The report of the Local Government Board's medical officer for 1903-4 appeared this week, and is as full and important as usual, as the reports of the inspectors issued during the year are included and the series of appendices on various scientific investigations made for the Board are continued. The chief medical officer, Mr. W. H. Power, draws attention to the failure of the Spenrigmoor (Durham) local authorities. This is by no means the first time that such a complaint has been made, and that body seems to ignore its responsibilities, as it has long ignored the representations of its own medical officer of health, even when they were made at the instigation of the Durham County Council. Two other local boards are pilloried in this blue book. One of them is Whitehaven. You will remember that the outbreak of typhoid there in 1901 led to a special inspection by Dr. Bulstrode, who reported on the urgent need of certain sanitary reforms. A subsequent report by Dr. Farrar shows that the evils found by Dr. Bulstrode still remain. These examples seem to show some authority is needed which should compel such bodies to do their duty. We cannot be always appealing to the legislature to enforce its edicts, and either the Government Board or the County Council must be armed with more powers. When the Government Board has investigated fully and the local body will not follow its advice, it might well exert compulsion, especially in the presence of epidemic diseases. Another subject on which some authorities display neglect and even opposition—vaccination—comes in for notice in this blue book. Mr. Power refers to the report of Dr. Bruce Low on the results obtained in Germany, of which the conclusion is that "it is not possible to deny that had this country given heed, as Germany has done, to the lessons of the smallpox pandemic of 1870-3, London might have been saved the enormous cost which she has since been called on to bear in removal and maintenance of her smallpox hospitals beyond the metropolis."

Among other investigators one cannot pass by Dr. Klein's further report on plague bacillus. He confirms and extends his previous conclusions as to two types of the microbe. The human type is very virulent to rodents, but the rat type is less so. This latter soon loses its virulence in subcultures, but this is not the case with the human type. Dr. Klein found, however, that it is possible to diminish the virulence of the human type so as to make it almost the same as that of the rat. This he accomplished by inoculating rats with highly potent plague material after they had been protected by subcutaneous injections of Haffkine's preventive.

In connection with this interesting research I must mention a report by Drs. Haldane and Wade on the Clayton plan of killing rats on shipboard. On the whole, they favor the method for destroying the rats before discharging cargo if it can be carried out at a reasonable cost. There are, however, several difficulties, and further investigation will be made.

A report to the Scotch Local Government Board issued this week discloses a disgracefully unsanitary condition of some of the Crofters' cottages. Dr. Dittmar, medical inspector, and Mr. Millar, general inspector under the Public Health Act, found among the poorest inhabitants an appalling state of squalor; cottages built of loose stones, with turf roofs, with scarcely any partitions between the byre and sleeping room; drainage channels in front often choked, and other dangerous conditions, and yet in these squalid surroundings healthy-looking young men and women. But they were not surprised to hear that whole households had been carried off by phthisis. Though the elder boys and girls looked well, the young children under five were "miserable, puny, and anemic-looking things."

A strange death in a lunatic asylum seems to call for more careful inquiry than the coroner's inquest supplied. The man was admitted on Saturday, August 19, when the assistant medical officer said he was free from marks of violence. On that day week the same doctor was called to him, and found him in the padded room, dead, his body covered with bruises, and ten of his ribs had been fractured. No explanation was obtained, and it was suggested he had fallen over a hair mattress in the padded room. The foreman of the jury naturally enough declared that it was childish to suppose such injuries could have been inflicted in that way, and another medical man said they were due to direct violence. The verdict ascribed the death to shock and fractured ribs, but how caused there was not sufficient evidence to show.

Another inquest resulted in a verdict of death from "camphor poisoning, but there is no evidence to show how the poison was taken or administered." It appeared that the man left his business, and was found dead ten minutes later. There was no suggestion as to suicide, no trace of camphor was found outside the body, and it was not possible to determine how it got into the stomach.

Some of the Borough Councils are getting up an agitation as to what becomes of the calves used for preparing lymph for vaccination. The Government Board has declined to assist in an inquiry which has been asked for, and so some local authorities are charging it with having permitted the sale for food contrary to the act, or else of unwillingness to allay public alarm.

Vegetarians are generally enthusiastic, and every now and then put forth fresh statements of their experience and expectations. The Hon. R. Russell has just published a volume in which occur assertions which seem to require a grain of salt to digest them. I can scarcely credit that women and children "gloat over the horrible sights of butchery," or are corrupted by reading directions in cookery books to chop up sheep's brains with parsley. It is true that Porphyry attributed many diseases to eating meat, and Richardson thought the use of tea—or, rather, its abuse—was a source of much misery to poor women. John Wesley, too, thought he got rid of unsteadiness in his hands, which he fancied were paralytic, by leaving off tea. But these things hardly justify the conclusions of Mr. Russell that our national degeneration is due only to diet, and that we must give up meat, tea, coffee, alcohol, etc., and content ourselves with porridge, toast, fruits, and vegetables, with perhaps milk, if we would arrest our progress to decay.

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## Progress of Medical Science.

*New York Medical Journal, September 30, 1905*

**Operations for Ingrowing Toe-nail and Hallux Valgus.**—V. Kenerson refers to the customary household procedures for the relief of these conditions. He then describes one or two operations which have proven of service in his hands. Careful disinfection of the entire region of the toes is first practised for several days. Details are given of the method of injecting cocaine into the affected toe. A sharp-pointed, narrow-bladed scalpel is then passed, beginning well back of where the matrix and the root of the nail can be felt underneath the skin. The point of the knife is placed with the blade vertical to the plane of the foot, and the knife is plunged through the top of the toe right down through to the sole, being kept close to the nail, but not cutting the latter at all. The incision is made to the tip of the toe, and the piece of flesh thus loosened is removed. The raw surface left will heal in three or four weeks, and as it does so the natural contraction

will draw the edge of the flesh still further away from the nail. In another procedure the knife should be thrust down through the toe close to the bone, being held vertically to the plane of the foot, and when it has appeared through to the plantar surface of the toe, the incision is made along close to the pharyngeal bone and the edge of the nail that is vertical to the plane of the foot (usually about one-quarter), is cut off. The knife is swept directly through to the tip of the toe. This cuts from the side of the latter a slice approximately three-eighths of an inch thick, containing the skin and surrounding tissue and about one-quarter of the nail, but attached at the proximal end of the flap. This is laid right back on the side of the toe, and all of the nail and the matrix and all of the inflamed and diseased parts should be carefully trimmed away with a pair of scissors curved on the flat. Then the flap is sutured back in place with black silk. In a week the patient is generally able to resume his shoe.

**Sodium Glycocholate in Diseases of the Liver.**—According to H. Richardson this remedy is indicated in all diseases in which toxemia is a factor, and with a few exceptions in all cases of hepatic insufficiency. In many cases of malnutrition from want of proper absorption of fats, it will materially aid in building up a patient. Above all, it is indicated in hepatic colic and gallstones; in the former it is almost a specific, and, in chronic constipation combined with the purgative habit, it is of great value. The dosage is about 5 grains three times a day, though as much as 15 grains may be given without producing nausea. As the action of the drug is cumulative, owing to its resorption from the intestine, it is not necessary to keep up the full dose for any great length of time. In hepatic colic it is advisable to continue the administration for some months. The patient should take about four drachms a month, regularly, as a prophylactic. In all forms of hepatic insufficiency sodium glycocholate is indicated as a hepatic stimulant in conjunction with other treatment. In arterial sclerosis, in conjunction with the administration of the inorganic salts of the plasma in their proper percentage, it dissolves the cholesterin in the atheromatous deposits, while the salts mentioned tend to dissolve and to prevent the deposit of the calcium salts. In diabetes, when increased absorption of fats is necessary to replace loss of carbohydrate, and in tuberculosis, in which fat hunger is a pronounced symptom, the remedy of often of service.

*Medical News, September 30, 1905.*

**The Serum Diagnosis of Tuberculosis.**—The conclusions presented by H M. Kinghorn are as follows: (1) In far advanced cases with very extensive or virulent lesions the serum reaction is generally absent. (2) The reaction seems to appear most often with the most favorable cases. (3) A certain number of favorable cases with well-marked signs of disease fail to show any agglutination. (4) Nine out of 12 persons in robust health reacted to the test. Six of the 9 were in close contact with tuberculous patients. (5) In the tuberculous cases the average agglutination power was 1 to 10, in the healthy cases the average agglutinating power was 1 to 23. (6) Up to the present time the author does not feel justified in relying on the serum test as being a sure and reliable one for the presence or absence of clinical tuberculosis.

**The Vitality of Tubercle Bacilli in Sputum.**—From an elaborate series of experiments D. C. Twichell presents the following results: Tubercle bacilli in sputum in paraffined bottles placed in a dark, moist box, were alive and produced a tuberculous lesion in a guinea-pig at the end of 170 days. No tuberculous lesion was produced after 188 days. With the sputum in paraffined bottles, placed in a dark closet, a lesion resulted after 160 days, but not after 188 days. With the sputum in bottles stoppered with cotton, placed in a dark, moist box, a lesion resulted after 157 days, but not after 172 days. With the sputum in paraffined bottles placed in the diffuse light of an ordinary room, a lesion resulted after 124 days, but not after 175 days. With the sputum in ice a lesion resulted after 102 days, but not after 153 days. With the sputum in sand, in a moist, light place, a lesion resulted after 123 days, but not after 148 days. With the sputum in bottles stoppered with cotton in a dark closet, a lesion resulted after 100 days, but not after 141 days. With the sputum in open bottles, placed out of doors in the winter months, a lesion resulted after 110 days, but not after 132 days. With the sputum in a handkerchief, a lesion resulted after 70 days, but not after 110 days. With the sputum in a woolen blanket, a lesion resulted after 70 days, but not after 110 days. With the sputum on wood, a lesion resulted after 70 days, but not after 110 days. With the sputum in paraffined bottles, in the thermostat, a lesion resulted after 33 days, but not after 100 days. With the sputum on carpet, a lesion resulted after 30 days, but not after 70 days. With the sputum in sand, in a dry, light place, a lesion resulted after 30 days, but not after 70 days. With the sputum exposed to direct sun rays, a lesion resulted after one hour, but not after seven hours. It appears that the conditions most conducive to the prolonged life of the tubercle bacillus in sputum are darkness and moisture.

**Studies of Immunity in Tuberculosis; the Properties of the Serum of Immunized Rabbits.**—From the paper of E. R. Baldwin, H. M Kinghorn, and A. H. Allen certain facts are herewith presented relative to the phagocytosis of tubercle bacilli as influenced by the sera of immunized and control rabbits before and after inoculation. They found that no marked difference was noted between vaccinated and control sera, before and immediately after the virulent inoculation. Both sets of animals inoculated showed considerable individual variations from day to day, but all were weaker on the first two days following infection. The vaccinated sera were usually below the controls in opsonic (devouring or consuming) power from the beginning, and two pairs of animals which had shown the greatest variation, when bled to death, revealed the typical differences between the lungs of the vaccinated and the controls to a marked degree. One pair was killed on the sixteenth and one pair on the twentieth day. If the intense reactive infiltration be regarded as an active phagocytosis, which it appears in part to be, the lower opsonic power of the sera may be accounted for by its exhaustion, though evolved in excess of that in the controls. Finally, the authors state that the intense reaction seen in vaccinated rabbits was observed only in the lungs, where doubtless most of the bacilli lodge; and in a few animals the reaction was evidently followed by such lowered resistance that instead of absorption large caseous areas developed, much more extensively than in the controls. Thus one cannot say that the method of vaccination always succeeds at last in destroying the bacilli and removing the tubercles, though it must be remembered that these inoculations are extremely severe conditions for animals to withstand. Moreover, the absorption of foci in the controls was occasionally observed to nearly the same degree, and the presumption is that the mechanism is the same, but delayed and less active in unvaccinated animals.

**Two Experiments in Artificial Immunity Against Tuberculosis.**—E. L. Trudeau describes his experiments suggested by the previous demonstration of the fact that a human culture of bacilli lost by prolonged cultivation its virulence for guinea pigs, and that its injection gave to these animals a relative degree of immunity. The main object was to determine if the immunity was a result of the struggle between the living bacillus and the cell or cells, the factor of immunity resident in the chemical properties of the bacillus whether living or dead. The details of the experiments cannot be enumerated here. Suffice it to say that in a general way they showed: (1) that dead tubercle bacilli increase, though to a very slight degree, the animal's resistance to subsequent inoculation; (2) that the living attenuated bacillus gives a stronger degree of immunity than the same bacillus killed by heat; (3) that the degree of attenuation of the bacillus used as vaccine bears a distinct relation to the degree of protection it affords in guinea pigs to subsequent inoculation with virulent human cultures. That a culture still capable of producing a very small amount of cell destruction, and of spreading to the neighboring inguinal nodes, gives better protection than one which produces hardly any appreciable and purely localized tissue changes; (4) that cultures derived from cold-blooded animals and which grew only at room temperature, as used above, have brought about no appreciable degree of immunity. (5) The chemical changes produced in killing the bacilli by heat in the first experiment cannot wholly explain the lack of protective power of the vaccination with dead bacilli.

*American Medicine, September 30, 1905.*

**Large Desmoid Tumor of the Abdominal Wall.**—E. E Montgomery and P. B. Bland report this case, occurring in a woman 26 years of age, married at the age of 19, and the mother of two healthy children. The tumor first appeared seven years before operation, gradually increasing for the first six years, but during the last year it grew very rapidly. The tumor after removal measured 76 cm. in its greater circumference, and 66 cm. in its lesser circumference. It weighed 19 pounds. It had its origin in the sheath of the right rectus. It was of a pearlish pink color, of dense consistence. Microscopically it was found to be composed of young connective tissue cells. The blood vessels were numerous, and in many areas the vessel walls seemed to be composed of tumor elements.

**Surgery of the Stomach.**—Bevan deprecates unnecessary operations due to too great enthusiasm of qualified operators, and the undertaking of this class of work by men who are not fitted. He then discusses surgical treatment of gastric carcinoma, and of gastric ulcer, complications and

sequels. He urges for carcinoma radical removal or non-interference, and is not in favor of the palliative measure of gastroenterostomy. In technic, he prefers the suture to the use of either Murphy's button or the McGraw ligature. Ulcer is the province of the surgeon only after intelligent medical treatment fails. The complications and sequels of stomach ulcer which demand surgical treatment without question are perforation, obstruction of the pylorus, hour-glass contraction of the stomach, and such secondary conditions as perigastric adhesions and abscess, subphrenic abscess, etc. One of the sequels which must be considered is that of a carcinoma developing in the ulcer. There can be but little doubt but that this does occur very frequently. Pyloric obstruction and dilatation of the stomach furnish by all odds the most satisfactory groups, as far as the results from surgical treatment are concerned; these cases should practically all be submitted to surgical operation.

**The Vagovisceral Reflexes with Special Reference to the Vagostomach Reflex.**—Dr. Albert Abrams avails himself of the physiological fact for clinical purposes, that the vagus nerve may be subject to mechanical stimulation by directing the patient to draw the head slowly and forcibly backward. Hypertension of the cervical muscles thus elicited results in inhibiting cardiac action which proves of inestimable service in the differentiation of heart murmurs. The same maneuver enables one to recognize an asthmatic lung even in the interparoxysmal period. In the norm, when the head is thrown backward and maintained in this position, percussion over the manumbrium sterni yields a dull or flat sound, whereas in the asthmatic lung the percussion sound over the latter region remains unchanged. The latter sign the author refers to as the 'tracheal traction test." He finds that the lower stomach border by the identical maneuver may be accurately defined by the dullness supplanting tympanicity by percussion. This, taken in conjunction with his "stomach reflex," which causes a recession of the lower border of that organ, enables him to determine the motor power of the stomach as well as the actual lower border of that organ. In other words, after defining the lower border of the stomach by percussison during the time the head is extended, he directs the patient to relinquish extension of the head and proceeds to concuss the Traube area. The difference between the percussional areas obtained after both maneuvers is in direct ratio to the motor power of the organ, which varies in the norm from 2 to 4 cm. The accuracy of his results has been controlled by the *x*-rays, gastrodiaphrane and the conventional methods of determining the lower stomach border.

**Manifestations of Lithemia in the Spine and Lower Extremities, Simulating Orthopedic Conditions.**—Prescott Le Breton calls attention to a group of cases occasionally seen by the general practitioner, in which the chief complaint is pain and tenderness in the feet or back, simulating a flatfoot or spinal condition. On examination by the orthopedist the underlying cause is found to be lithemia, or that state of disordered nutrition in which there are gastrointestinal symptoms, cardiac irregularity, diminished or increased secretion of urea, with anemia and neurasthenia. In addition, tender points over the muscles and various peripheral nerves may be found. General treatment cures these patients, instead of flatfoot plates or jackets.

**Infection of Chinese with Asiatic Blood Fluke.**—H. G. Beyer says this case is interesting, as it represents the second of the kind recognized from China and, at the same time, establishes a new locality for the parasite to which its further spread and distribution may be traced. Its presence in the Philippines may now be discovered at any time. The report is accompanied by a complete clinical history furnished by Dr. O. T. Logan, of Changteh, China. The identity of the parasite discovered in the present case, with the one obtained by Catto from a Chinaman having come from the province of Fukien to Singapore, was easily established by a comparison with one of Catto's original preparations, fortunately in the possession of Dr. Stiles. Perhaps the chief distinguishing characteristics of the egg are its size and the absence of a spine. The average obtained from nine of the eggs is 72 microns in length and 48 in breadth.

*Journal of the American Medical Association, September 30, 1905.*

**Cancer of the Mouth.**—W. W. Grant criticises the usual operation for mouth cancer as disfiguring and only suited for small growths with large mouths. He makes, instead, two straight incisions, one on each side of the growth, connected by a straight transverse incision at the base, leaving a quadrangular space to be filled by flaps. These are formed by incisions downward and backward from each lower angle of the wound, and are separated from the inferior maxilla and united in the middle line. The angles of the mouth are incised and covered with underlying mucous membrane, no denuded surface is left, and no grafting is necessary. The chin tissues are left undisturbed unless diseased. The oblique lateral incisions permit the removal of the submaxillary glands (except the submental which may require a second incision), and the exploration of the anterior triangle can be made. He compares this method with others now employed, and points out the advantages claimed for it—the removal of the glands through the flap incisions, the absence of denuded surfaces left, the slight tension of the lip, the better cosmetic results, etc. Five cases are reported.

**Excision of the Cervical Portion of the Esophagus.**—W. I. Terry reports a case of extirpation at one operation of both submaxillary glands, the remnant of the epiglottis, the hyoid bone, the anterior three-fourths of the esophagus to below the thyroid and the thyroid gland itself in one block of tissue. The posterior one-fourth of the esophagus, being uninvolved in the malignant growth, was left to furnish a mucous covering to the cervical vertebræ, a result which was obtained. The patient had undergone four previous operations, including two laryngofissions and a laryngectomy. Convalescence was uninterrupted and the patient was up and about by the fourth day after the operation. At latest report, about three and a half months after the operation, the patient was able to do all sorts of farm work and had gained in weight, being only three pounds under his normal figure of 150 pounds. The trachea was kept open by a constantly worn silver tube. He masticates his food and swallows it through a funnel-shaped rubber tube suspended above to the opening of the pharynx, the narrowed portion below entering an inch or two into the esophagus.

**Cancer.**—W. L. Rodman considers the parasitic theory of cancer as far from being proved, and also thinks that there may be some overestimation of the increase of the disease in recent times. If parasites are present, it is probable that they play a secondary part and are not the primary cause of the disease. The transmission of a cancer from one individual to another, he believes, is simply a case of successful grafting, and the rare, if not unheard-of infection of operating surgeons is also against the parasitic theory. The old theory of continued irritation of epithelial structures is still largely valid, and the minimizing of heredity has, as with tuberculosis, been carried too far. Probably more than one cause is usually operative. Comparatively little of what is written or said in regard to precancerous conditions, Rodman thinks, is based on indisputable facts. Paget's disease of the nipple, for example, is generally believed to be precancerous, but he considers the association is infrequent, and when it does occur the areolar disease is apt to be secondary. He also questions any necessary connection between phimosis and cancer. That gastric ulcer is often followed by cancer is undeniable, and that cancer of the cecum frequently follows repeated appendiceal infection he has not the slightest doubt. In case of suspicious mammary tumors prompt operation is certainly desirable and exploration is easy, safe and quick. In any case, a thorough operation should be prepared for as the safest course. Three conditions of mammary cancer are too much overlooked, he thinks: 1. The pathologic character of the growth influences the prognosis, scirrhus and ancephaloid being less favorable than adenocarcinoma. 2. The age of the host; metastases being more rapid in the young. 3. The location of the growth, the inner hemisphere of the gland, on account of the danger of mediastinal infection, being most dangerous and requiring most prompt operation. Rodman emphasizes the importance of complete operation in cancer, and holds that the supraclavicular glands should be explored and removed if enlarged, in all cancers situated in the upper part of the mammary gland.

**Extremely Long Pregnancy.**—J. Arthur Lamb gives an account of a case of pregnancy which lasted, dating from the last menstruation, 339 days; and dating from the last coition 313 days. These data seem to be well fixed. The cause attributed by him was a cranial deformity of the fetus, interfering with prompt natural delivery, the exact nature of which is not stated, though it is said that the brain was exposed, giving the suggestion of a breech presentation. It would have been interesting, he remarks, to have known how long this case would have gone had not quinine been given to cause uterine contraction.

**The Musical Heart.**—J. M. Patton gives an account of the well-known musical heart case so familiar to medical clinics and mentioned in the lay press of late years. The special peculiarity was a distinct musical note occurring with the cardiac systole, and heard all over the precordial area with varying intensity, but plainest from the second rib to the fifth interspace along the left parasternal line. The diagnosis made when first seen was double aortic and double mitral lesions with the musical notes originating in the left ventricle and probably due to some abnormal condition of the chordæ tendineæ. The patient was observed by Patton at intervals for twelve years. The musical sound disappeared during the last few months of life. The autopsy

bore out the diagnosis and Patton considers it probable that the musical sound was attributable to the thickened chordæ tendineæ, which were found broken and floating loosely in the ventricular cavity. This, he thinks, will account for the sudden disappearance of the murmur during life. The greater tension on these during systole, which would be the result of their thickening, might easily produce in cords of such length the high-pitched and sustained musical note that was heard. If musical notes require, as here assumed, the rapid vibration of some organized structures of the heart, we must admit they have a different prognosis and a much more serious import than ordinary blowing murmurs. Patton has observed them several times before the fatal termination of severe endocarditis. He, therefore, thinks this case illustrates the fact that they indicate a more serious involvement of cardiac tissues than do the ordinary murmurs.

*The Lancet, September 23, 1905.*

**A Case of Blackwater Fever Treated Without Quinine.**—D. Donald reports the case, his patient being a young man who had returned from Africa, and who was, when first seen by the author, in a state of collapse. Treatment consisted of hot fomentations, champagne, and hot milk, to which phenacetin, caffeine, iron, and strychnine with beef essence were added p. v. iv. The patient responded well, was gradually placed on a more generous diet, and was able to be out of bed on the fourteenth day from the commencement of the attack. No quinine was used at any time, and there was no doubt as to the accuracy of the diagnosis.

**The Treatment of Strychnine Poisoning and of Tetanus by Spinal Anesthesia.**—From a general consideration of this subject, and from certain experimental work, A. E. Russell lays down the following propositions: (1) Strychnine convulsions occur only when the spinal cord receives afferent impressions. If these be cut off by section of the posterior roots the spasms do not appear. Spinal cocainization or eucainization causes a temporary physiological "section" of the posterior roots and experimentally in animals controls the strychnine convulsions. Its trial in cases of strychnine poisoning in man is therefore strongly indicated. (2) The spasms of tetanus are very similar to those produced by strychnine, and are also markedly increased by afferent impressions. One case of tetanus was successfully treated by the author in the way described, and he believes that the method is worthy of further trial. Eucain is preferred to cocain because the solution can be boiled, and the complete sterilization of any fluid injected into the spinal theca is most important.

**Forty Consecutive Cases of Fracture of the Patella, Treated by Wiring.**—This series of operations was seen by Mansell Moullin throughout a period of eleven years. At first he used the plan on only young adults, but more recently he has used the wiring plan in every case except one, that of a case of refracture in an enormously stout woman, in whom no operation of any kind was advisable. In the first twenty-eight cases various methods of wiring were tried and none found satisfactory, except that of Barker, which consists in passing a wire vertically around both fragments, through the ligamentum patellæ below and the tendon of the quadriceps above, and twisting the ends on the cutaneous surface. This plan appeared to give good bony union, but in the submission of the cases to the test of the x-ray when it was introduced to surgery, it was found that the apposition of the fragments was far from ideal, and in one or two instances the results were distinctly bad. In the last twelve cases the author has used the open method. Operation has been performed on the third or fourth day after the accident when the patient has become more or less reconciled to bed and the swelling of the joint has ceased to increase. A semicircular flap is raised from over the fragments, and all the blood clot is carefully turned out. Each fragment is drilled in such a way that the wire does not project through the cartilaginous surfaces. A single stout silver wire is passed through and the ends are twisted together until the fragments are in exact apposition, cut short, and buried. No antiseptic is allowed to touch the interior of the joint. There is no occasion to wash it out, as the blood, being all coagulated, can be removed with ease by means of a scoop and forceps. The torn fascia on the cutaneous surface of the patella is then united with catgut and one or two catgut sutures are used to join together the aponeurosis on either side if it has been extensively lacerated. No drain is inserted, but the angle of the cutaneous incision is left a little open in case there should be any oozing. No splint is used. Deep and superficial dressings are applied and the knee is firmly bandaged. On the third or fourth day the bandages and the superficial dressings are removed and are replaced by a lighter bandage, and the patient is encouraged to flex and to extend the limb more and more each day, until by the end of the fortnight it can be bent to a right angle. Massage is commenced early and the patient is up before the end of the third week. In none of the forty cases was there any post-operative rise of temperature.

**Paratyphoid Fever.**—The paper of F. P. Mackie consists of an elaborate report of one case and certain references to the literature of the subject. This patient was a young officer, aged 22 years, without any malarial history. He had never received anti-typhoid serum. The febrile period of the disease lasted over five weeks and presented somewhat atypical typhoid phenomena, while convalescence was tedious, as the patient was not able to travel until the end of the twelfth week. The author believes that the designation of "paratyphoid" is correct in this case, inasmuch as clinically the disease ran a course not unlike that of many cases of true enteric fever, and yet the serum failed to give the characteristic reaction with no less than three stains of the Eberth bacillus. Instead of the characteristic somnolence and apathy there was a hyperacidity, an almost morbid inquisitiveness, and an apprehensive watching of the most trivial details of nursing. Again the temperature curve was abnormal; the wide diurnal variation within a more or less limited range suggesting a septic rather than a typhoid process. This type is seen during the fourth week of an average typhoid case and corresponds to the time when the ulcers are bare and absorbing small quantities of septic material. In the case under consideration this septic type persisted from the beginning, and in the fourth week the high rises and sudden falls and the rigors and sweats suggested either malarial fever or pyemia. The former was disproved by blood examination, and there was no reason to suppose that true pyemia was ever present. The abdominal symptoms were less marked than usually occurs in a case of such severity. It is true gurgling in the right iliac fossa was marked from the first, but the abdomen was never more than slightly full, and the spleen was not enlarged at any time. The tongue never became dry and sordes never formed. The case was a sporadic one; there was no enteric fever at the place in which he had been located, and twenty-five days had elapsed since he left that station before the first symptom occurred.

*British Medical Journal, September 23, 1905.*

**The High Range of Normal Temperature and Pulse Throughout the Puerperium.**—E. Hastings Tweedy believes that there is no myth in the medical profession more common than the belief that puerperal sepsis has long since ceased to become a scourge. He says that it is not until we compare figures by the thousand that the superiority of the present day methods asserts itself. If judgment be not based on a death standard alone, this superiority is found to be overwhelming. The writer gives some very interesting figures, taken from the early history of Rotunda Hospital. It would seem from these ancient statistics that the majority of women will survive the processes of childbirth under the most disadvantageous circumstances. However, if the well recognized principles of asepsis are not followed out, a small minority only will pass through this ordeal unscathed. It is almost universally conceded that the processes of childbearing have none but the most transitory effects in elevating the temperature above that which is considered normal in health. It is a great mistake, however, to estimate morbidity by any arbitrary range of temperature when taken without consideration of the pulse. The writer urges that some common basis for determining morbidity other than that of the unsatisfactory temperature limit be decided upon. For in this way only can a clear insight be gained into the efficiency of modern methods. A septic condition will show itself by an acceleration of the pulse as well as by a rise of temperature. It is a most convenient plan in the arrangement of bed charts to make these two records apparent at a passing glance. This method is observed at the Rotunda Hospital. The high range of normal temperature is placed at 99 degrees F., and that of the pulse at 90 beats per minute. Even a mild condition of septic absorption will result in the overstepping of these limits, and thus attention is promptly called to any approach of danger. No case is entered on the morbid lists until the abnormal condition has made itself apparent for twenty-four hours. Neither are the irregularities of pulse or temperature which so often occur within twenty-four hours of the period following delivery, taken into account.

**Some Complications and Degenerations of Uterine Fibromyomata.**—S. J. M. Cameron calls attention to these various conditions, illustrating his article with cuts representing different tissues described. The first case mentioned is one of primary carcinoma of the tube attached to a uterus containing fibromyomata. The writer states that it may have been secondary to a hydrosalpinx, as many of the anatomical and pathological appearances present are found in that condition. The next compli-

cation discussed is the sarcomatous growth. Some authorities have denied the possibility of the occurrence of sarcomatous degeneration of fibroids. The report of various cases proves this view to be erroneous. These tumors growing in the uterine wall (muscular) may start in the areas affected by fibromyomata. They may be submucous, interstitial, or subperitoneal. When they result from the degeneration of a fibroid tumor they may involve it partly or totally. It might, owing to the vitality and extent of the growth, be a matter of great difficulty to state precisely in which of these areas the growth had arisen. Generally speaking, the sarcomatous area is softer than the fibromyoma in which it occurs. Sometimes these sarcomata can be shelled out exactly like a fibromyoma. A fair average of the association of adenocarcinoma of the uterine body with fibroids seems to be from two to three per cent. Carcinoma of the vaginal part of the cervix with uterine fibroids is far more uncommon. In a case described in this paper, pain was a very distressing symptom. In cases of fibromyomata, there is often marked increase in the size of the ovarian and uterine arteries. It has been noted that uterine fibroids are often accompanied by a blowing murmur, the seat of which has not been accurately described. Cystic degeneration occurs fairly often in fibroids. This change may be either diffuse or localized. As to thrombosis, in every case studied by the writer in which it appeared to occur, microscopical examination showed the clot to be of recent formation. The writer mentions the interesting fact that tumors undergoing cystic and myxomatous change give an impression of a bullock's heart shape to the examining hand on the abdominal wall. He gives a description of localized telangiectatic condition of a fibroid with tuberculous disease of the ovaries and tubes. Finally, adenomyomata of the uterus are discussed. These growths do not recur if removed, but such tumors have a decided tendency to become malignant.

*Berliner klinische Wochenschrift, September* 11, 1905.

**Direct Methods of Examining the Upper Air Passages.**—Meyer describes the instruments and the technique necessary in examining the larynx, trachea, and bronchi by means of autoscopy and bronchoscopy. The former is accomplished with special tongue depressors of various sorts, provided with means for electric illumination, while the apparatus for bronchoscopy is more elaborate and comprises a set of tubular specula of various diameters and lengths, intended to be pushed into position either through the larynx or through a tracheotomy wound. Meyer, who has performed over one hundred endolaryngeal operations on children by the direct method, believes that in most cases it will be found the preferable procedure in dealing with young patients, though at times he admits the laryngeal mirror will prove more useful. Trial must be made in each case in order to learn which plan is more suitable. He describes a number of cases in which bronchoscopy was successfully employed for diagnostic or operative purposes, particularly in cases of struma, in which the presence of intrathoracic growths was suspected and detected by this means. In one such case dyspnea due to pressure stenosis was greatly relieved by systematic dilation carried out by the introduction of a special instrument. Although not going so far as Killian who foresees tamponade of the lung as a treatment for hemoptysis, Meyer believes that great possibilities are open to the development of these methods, particularly as adjuvants to pulmonary surgery.

**The Protoactivity of the Blood.**—Schälpfer describes experiments made to determine the properties of the blood and hemoglobin in regard to sunlight. The blood of rabbits was collected in Petri dishes and then placed in a camera obscura in close proximity to photographic dry plates. The plates were covered with black paper in which a triangular opening had been cut on the sensitive side. On developing the plates after exposure of a number of hours the negatives gave evidence of some photodynamic property in the blood, so that the outline of the triangle could be perceived. The blood of albino rabbits gave clearer results than that of brown animals, a fact which the author explains by assuming that the pigmented skin of the latter offers a greater resistance to the passage of the sun's rays than that of the former. While admitting that the results of these experiments on rabbits' blood cannot be transferred without modification to human beings, the author considers that a most interesting field is opened up regarding the significance of the cutaneous pigment in different races, in certain affections, such as Addison's disease, etc., and he urges further study of this subject in order that definite principles may be formulated for the practice of phototherapy.

*Deutsche medizinische Wochenschrift, September* 14, 1905.

**Results of the Operative Treatment of Carcinoma.**—Dollinger summarizes the results obtained in the University Clinic of Budapest. The total number of cases operated for cancer during the four years from September 1, 1897 to September 1, 1901, was 226. Circular letters were sent to all of these patients and 175 replies were received. In making up his statistics Dollinger included those cases in which death occurred in conjunction with the operation through some complication such as sepsis, pneumonia, etc., and also those dying later on of some intercurrent disease, as although these groups are often omitted in such classifications, he does not believe that they should be excluded from the mortality lists of the disease. On the other hand, while it is likely that the proportion of those dying of carcinoma is greater among the patients from whom no replies are received than among those who respond to inquiries, there is nothing possible but to leave them out of the reckoning. Dollinger's results show freedom from recurrence during three years in 40 per cent. of 175 cases, and during five years in 41.25 per cent. of 80 cases. Since the Halstead-Kocher operation has been employed the percentage of cures in carcinoma of the breast has risen from 16 per cent. to 41.17 per cent. The statistics cover cases of all varieties of carcinoma except that of the pelvic organs, which comes in the domain of the gynecologist.

**Spirochætæ in Syphilis.**—Scholtz reports on fifty cases examined for the spirochæta pallida. Thirty-seven of the number were syphilitic, and among these the spirochæta pallida was found twenty times and the refringens five times. In thirteen control observations on non-syphilitic material of various sorts the spirochæta pallida was found once and the spirochæta refringens seven times. The author assumes a very conservative attitude in discussing the significance of the organism, and says that while its presence in syphilitic tissues is very striking and worthy of consideration, there is still much lacking to the proof of its etiological relation. The fact that the spirochæta pallida was found in large numbers in a case of pointed condylomata, and its infrequency in uninjured syphilitic papules at least indicates the necessity for caution in interpreting its position. Even if the spirochæta had no causative relationship with syphilis its frequent and almost exclusive appearance in this disease might be readily explained, since the tissue changes in syphilis are so specific that they might easily furnish an especially suitable habitat for the spirochæta pallida. Grouven and Fabry publish notes on twenty-one cases examined for the spirochæta. The organism was found in all but six cases, but it was somewhat doubtful whether all of these were really syphilitic. While certainty can follow only successful cultivation of the organism, the evidence so far seems greatly in favor of the etiological relationship of the spirochæta pallida to syphilis.

*French and Italian Journals.*

**Preservation of Living Fish.**—Buisson speaks of the difficulty, especially in summer, and in spite of the rapid methods of transportation, of obtaining, in towns far from the seashore, fish which are fresh enough for safe eating. Billard and Bruyant, naturalists, have some months ago, discovered that a certain green alga—microscopical—propagates itself very easily and rapidly in water where it is planted, and preserves it almost indefinitely in all its purity. It colors the water an intense green. These investigators have succeeded in keeping alive in a vessel of this water, for six weeks, the spawn of trout, which, as is well known, are extremely delicate and which are very greedy for running water. The young fish have been transported in this water on a journey of seven hours on the railroad, without the death of a single fish. Evidently this alga is of value through the function of its chlorophyle, decomposing carbonic acid produced by the bronchial respiration of the fish, and giving up to the water the necessary oxygen. Besides this, it acts like a yeast, decomposing the excrements or toxins elaborated by the fish and renews for them the conditions necessary for the functioning of their organisms. —*La Normandie Médicale*, August 15, 1905.

**Pulmonary Gangrene in an Infant Eighteen Months Old.**—Thirion observed this case. Pulmonary gangrene is rare in young children, especially in those under two years of age. The child whose case is here reported was brought to the hospital with grave pulmonary symptoms, and the diagnosis of tuberculous bronchopneumonia was made. A focus was noted at the right apex which was thought to be a cavity. The illness had followed an attack of measles six weeks before. Although the child was carefully treated at home, it gradually became worse, and was put into the hospital. On the day following its entrance, a fetid odor was noticed, but it was supposed to be due to the diarrhea from which the child suffered. Death occurred on the following night. Tuberculous bronchopneumonia was discovered at autopsy. The right apex was found to be gangrenous. The writer remarks that it seems remarkable that this gangrenous condition did not give any sign of its presence till the last hours of the child's life.—*La Presse Médicale*, September 9, 1905.

# Book Reviews.

The Principles and Practice of Medicine. Designed for the Use of Practitioners and Students of Medicine. By William Osler, M.D., Fellow of the Royal Society; Fellow of the Royal College of Physicians, London; Regius Professor of Medicine, Oxford University; Honorary Professor of Medicine, Johns Hopkins University, Baltimore; Formerly Professor of the Institutes of Medicine, McGill University, Montreal, and Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia. Sixth Edition. New York and London: D. Appleton & Co., 1905.

It is hardly necessary or possible to review a book so well known as this, which is recognized as in many respects the best individual treatise on general medicine that we have in the language, ranking with Flint, and Watson, and Bristowe, and Niemeyer of the olden times. The author was always regarded as one of the best of diagnosticians, and so far as this depended upon knowledge rather than intuition he has done what he could to impart the secret of his success to his readers. In pathology also he is well versed, and the sections on pathology and morbid anatomy in the several chapters are unsurpassed in any other treatise of medicine.

The weakness of the work is due to Osler's black, hopeless, helpless therapeutic pessimism. Concerning the antitoxin treatment of diphtheria he does cautiously admit that "there are no reasonable grounds for skepticism on the part of intelligent practitioners"; he calls syphilis "one of the most amenable of all diseases to treatment"; he goes so far as to say, concerning the salicyl compounds in rheumatic fever: "There can be no question as to their efficacy in relieving the pain in the disease"; and he actually says boldly, as though without fear of contradiction, that "in quinine we possess a specific remedy against malarial infection." But we think we have included in this list all or nearly all his admissions of therapeutic faith; in most cases he either denies the efficacy of any treatment, especially drug treatment, or is carefully noncommittal. This is a great pity, for it renders the author an unsafe guide in the most important and practical part of medical science.

The several diseases are treated of under general sections, such as diseases due to animal parasites, specific infectious diseases, the intoxications and sunstroke, constitutional diseases, etc. There are, however, some apparent inconsistences, such as the separation of malaria from relapsing fever and from yellow fever. It is true the specific organism of the latter disease has not been positively discovered, but if there is any force in analogy one must believe that this organism is an animal; and the spirochæte of relapsing fever is surely a protozoan parasite. On page 6 is a curious slip implying that the ameba of dysentery is a bacterium.

There are but few illustrations, chiefly temperature charts and diagrams of the cerebral centers and motor and sensory paths in the cord. The print is clear and grateful to the eyes, and the binding is such as to allow the book to lie flat when opened at any page—front, back, or middle.

Treatise on Orthopedic Surgery. By Edward H. Bradford, M.D., Surgeon to the Boston Children's Hospital; Consulting Surgeon to the Boston City Hospital; Professor of Orthopedic Surgery, Harvard Medical School; and Robert W. Lovett, M.D., Surgeon to the Infant's Hospital and the Peabody Home for Crippled Children; Assistant Surgeon to the Boston Children's Hospital; Assistant in Orthopedic Surgery, Harvard Medical School. Third Edition. New York: William Wood & Co., 1905.

Since the appearance of the last edition of this work in 1899, considerable progress has been made in orthopedic surgery, which has necessitated extensive changes in the present, the third edition. This applies particularly to the chapters treating of congenital dislocation of the hip, of scoliosis, of traumatic and nontraumatic coxa vara, and of nontuberculous diseases of the joints, as it is in the study of these subjects that the greatest advances have been made. A new chapter is also added, giving the details of orthopedic apparatus, which will prove of signal value to the general practitioner in the treatment of these conditions. The liberality with which the book is illustrated is one of its valuable features, there being included in its pages 592 cuts, mostly photographic reproductions of a superior quality. Both authors have achieved distinction in their specialty, and the extensive clinical experience upon which much of their writing is based gives to the work the stamp of authority.

The Diagnosis of the Diseases of Women. A Treatise for Students and Practitioners. By Palmer Findley, B.S., M.D., Assistant Professor of Gynecology and Obstetrics in the Rush Medical College; Assistant Attending Gynecologist to the Presbyterian Hospital, Chicago. Second Edition, Revised and Enlarged. Philadelphia and New York: Lea Brothers & Co., 1905.

The necessity for a work of this nature, of which there are numerous examples in the other branches of medicine, must be apparent, and yet this is believed to be the first and only book of its kind in the English language. In the effort to supply this desideratum, the author states that he has aimed to satisfy the requirements of those who have felt the need of more comprehensive and practical information than can be given in the general text-books on gynecology. Dr. Findley bases his work on the assumption that a recognition of the pathology of the pelvic organs constitutes, in large measure, the diagnosis, and for this reason he has incorporated a thorough discussion of the morbid anatomy and its clinical indications. Microscopical diagnosis is also given an important place. The new edition has been brought up to date and contains additional text and illustrations dealing with the present aspects of such important subjects as cystic degeneration of the ovaries, chorioepithelioma malignum, and diseases of the ureters and kidneys. The new chapters deal with the examination of the blood and bacteriological examination. The book is well gotten up and contains a large number of selected illustrations.

Color-Vision and Color-Blindness. A Practical Manual for Railroad Surgeons. By J. Ellis Jennings, M.D. (University of Pennsylvania). Formerly Clinical Assistant Royal London Ophthalmic Hospital; Professor of Diseases of the Eye, Medical Department Barnes University, St. Louis; Ophthalmic Surgeon to the Centenary Hospital, Ophthalmic and Aural Surgeon to the St. Louis and San Francisco Railway System, etc., etc. Second Edition. Thoroughly Revised with Illustrations. Philadelphia: F. A. Davis Co., 1905.

This is a very practical monograph on color-blindness and the methods employed for its detection. It is written by one who has a most thorough knowledge of the subject and speaks as an authority. The methods of value in the examination of color-vision are described in detail, the description being supplemented with a number of good illustrations. This second edition contains additions describing the methods of testing the form and light sense, the rules for the examination of sight and hearing of railway employees adopted by the House of Delegates of the American Medical Association, and description of the test lanterns of Williams and Thomson, of the semaphore charts of Williams and Black, and of Abney's pellet test for central scotoma. Not only to railroad surgeons and others who have to examine large bodies of men, but to all interested in the subject and desirous of knowing the usual methods for detecting color-blindness, this little work will be most serviceable.

The Problem of Life. How to Prolong Life and Retain Mental and Other Faculties. By Benjamin F. Felch, M.D. Chicago, 1905.

There is much sound advice in this little book, but it is given in a very disjointed and jerky fashion, and not in a way to satisfy the scientific student. It is not intended, however, for the scientist, and the average layman to whom it is addressed might with profit take the author's injunctions to heart. He is rather extreme in his aversion to tobacco, tea, and coffee, each and every one of which he apparently regards as more injurious than alcohol, but then, a man is just as well off without tobacco or a woman without tea, as with it. The only harm is such rabid hatred of tobacco as the author exhibits is that it may repel his readers who know that, smoked in moderation, it seldom does harm, and who may think his advice in other matters is equally based on prejudice.

Hysteria and Neurasthenia. By J. Michell Clarke, M.A., M.D. (Cantab.), F.R.C.P.; Professor of Pathology, University College; Bristol Physician to the Bristol General Hospital. Practitioner's Handbooks. No II. Edited by Harry Roberts. London and New York: John Lane, the Bodley Head, 1905.

The author presents a very well ordered outline of the prominent clinical manifestations of Hysteria and Neurasthenia, exceptionally well arranged when we remember what a chaotic series of pictures these ill-understood functional diseases present. He appreciates the incompleteness of our knowledge from an etiological standpoint, but gives excellent hints regarding the diagnosis and treatment of these conditions. Besides the excellent press work we note nineteen illustrations, most of them full-paged photogravures. The author has considered those interesting cases, so important from a medicolegal standpoint, of Traumatic Hysteria and Neurasthenia in an entirely separate chapter. The various hypotheses which are considered as probable by different writers as appertaining to the causes of these diseases are carefully weighed and fully given, and, although not yet satisfactory, serve to stimulate further research.

# Society Reports.

## ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

*Fourteenth Annual Meeting, Held at Detroit, Michigan, September 26, 27, and 28, 1905.*

(Special Report to the MEDICAL RECORD.)

FIRST VICE-PRESIDENT, LIEUT.-COL. ALBERT H. BRIGGS, N. G. N. Y., OF BUFFALO, N. Y., IN THE CHAIR.

FIRST DAY—TUESDAY, SEPTEMBER 26.

**Reports by Officers and Committees.**—The morning's work was devoted to the reading of these reports. The Executive Council recommended the following:

*Resolved*, That the Association of Military Surgeons of the United States hereby expresses its entire approval of and earnestly desires the enactment of the bill to increase the efficiency of the medical department of the United States Army, which bill was submitted by the Secretary of War to Congress at its last session; and

*Resolved*, That a copy of these resolutions be furnished to the Military Commission of the House of Representatives and Senate and House of Representatives of the United States.

This resolution was duly seconded and unanimously carried.

Major C. H. TODD of Kentucky, president of the Association of Medical Officers of the Army and Navy of the Confederacy, who was elected a member of this Association this year, was introduced by the chairman. Major Todd appeared in the uniform of the Confederate Army, and was warmly received. He said that he was the youngest grandchild of Isaac Shelby, who, in 1792, was the first Governor of the State of Kentucky, and the son of Charles S. Todd, who served in the War of 1812.

**Report of the Seaman Prize Board of Award.**—In the competition for the prize of $500, offered by Major L. L. Seaman for 1905, the Board awarded the prize to Major Jefferson Randolph Kean.

**The Prevention of Disease in the Army, and the Best Method of Accomplishing That Result.**—Major JEFFERSON RANDOLPH KEAN, U. S. A., presented this, his prize essay, which was read in abstract form by Major Borden, Professor of Surgery, Army Medical School. The first step in the study of the prevention of disease in the army was to ascertain what diseases most seriously affect its efficiency or cause the chief loss to the effective force. He divided them into preventable and non-preventable. If the sanitary rules laid down in Circular 1, of the Surgeon-General's office, in 1898, had been carefully followed, he said the camps would have been health resorts and the country would have been saved the melancholy lesson of more than 20,000 cases of typhoid fever in the army of 1898, with more than 2,000 deaths. No method of prevention could be efficacious which did not embrace the necessary executive machinery to procure its practical working.

*Medical Statistics of Armies.*—One table was shown giving the constant non-effective rate per thousand for the eight most important classes of diseases in the armies of England, France, Germany, as compared with the United States; and its most striking feature was the predominance of venereal diseases in England and America, as compared with the Continental countries. Dysentery, malaria, and skin diseases were higher in the English and American armies because of the larger proportion of troops in the tropics. Typhoid fever occupied an obscure and humble position in the statistical tables of peace times, as compared with its predominating and sinister importance in war.

*Diseases of Armies in War.*—The medical statistics of the Russo-Japanese war we knew as yet but little about. In no recent war had military secrets been so carefully guarded as by the Japanese in this war, but enough had been learned greatly to stimulate curiosity, and to emphasize the importance to armies of careful preparation for war. The First Army (Kuroki's), with a mean strength of 57,000 to 60,000 men, and an unknown number along the line of communication, had in the four months between the battles of the Yalu and Liaoyan, 28,278 admissions from the fighting forces, and 34,934 from the lines of communication; of these, 861 were dysentery, 101 typhoid, and 4,069 kakke, or beriberi. The Second Army (Oku's) in the seven months had from the active army 24,642 admissions, of which 342 were dysentery, 193 typhoid, and 5,070 kakke; 5,609 cases were sent back to Japan, and 40 deaths were reported at the front. The remarkably small number of cases of both dysentery and typhoid, with the compensating prevalence of beriberi, were interesting. In the Spanish-American war of 1898 it might be said in general terms for the volunteer camps of the United States typhoid fever was the principal disease; for the Philippine Expedition, malaria and diarrhea; while malaria and yellow fever were the chief morbific factors which in six weeks reduced the army of Gen. Shafter to absolute impotence. In the Boer War, which lasted two years, out of a total force sent to South Africa of 448,000 men, 12,911 died of disease; of these 6,177 died of typhoid and 973 of dysentery. The prevalent causes of admissions were, in order of importance, typhoid, diarrheal diseases, rheumatism, chiefly muscular, and malaria. In the Franco-Prussian War the Germans lost in killed, 17,255, and from disease, 14,904, in the active army; the total admissions per thousand for the first twelve months was 589. Typhoid fever caused 60 per cent. and dysentery 16 per cent. of all deaths from disease. The Civil War seemed to mark the beginning of a new epoch in the morbidity of armies, because the two infectious diseases which had before that time been the most formidable agents of destruction to the armies of the world did not appear, typhus and cholera. The more common camp diseases of recent wars which affect the efficiency of armies are typhoid fever, the diarrheal group, including dysentery, malaria, the respiratory group, rheumatism, articular and muscular, and venereal diseases. Of these the first three and the last must be considered to be preventable. The trench latrine should be restricted to temporary camps and emergency use. If the command remained longer than two days in one camp, lumber should be obtained, and each sink progressively improved so as to comply with the following: 1. It should be covered with either a tent or other roof, to prevent its being filled with rain. 2. In order to exclude flies the trench should be boxed in and holes constructed with hinge covers, the hinges being of either leather or canvas. 3. A bar running along above the seat should prevent the covers being raised quite to a right angle, thus making them self-closing and preventing squatting on the seats. 4. A urinal should be provided at one end or outside, which should be either a tub or a tarred trough leading to a trench. 5. Behind the seats should be a sloping lid which could be raised to permit of the use of dry powdered earth or lime. The ideal method of disposing of all camp wastes would be by incineration. Cultures would be brought from the latrines, etc., on shoes, and distributed on tent floors. Clothing and blankets would soon acquire it from these sources. The bacillus might be passed on by books, playing cards, and other articles in common use. The necessity of guarding against typhoid infection in water, milk, and other articles of food should not be minimized. Fly infection should be guarded against. Proper sterilization of water was most difficult. With regard to the freedom from typhoid and dysentery in the Japanese Army in Manchuria, he believed it to be due to (1) a strict observance of the sanitary regulations prescribed by the medical staff; or (2) have the Japanese a constitutional and racial immunity to these diseases; or (3) does their simple and chiefly vegetable diet produce intestinal conditions unsuited for the development of the *B. typhosus* and *B. dysenteriæ*, or a bacterial flora with which these organisms cannot successfully compete? The Japanese soldier on the march was quite as regardless of camp police, or of safe-guarding his water supply, as was

the American volunteer. Offal was strewed about and sources of water supply were used for bathing in a way that would shock European ideas. On the other hand, in camp life careful attention was paid to police and the usual sanitary precautions were taken. Diarrhea and dysentery were considered along the same lines as was typhoid fever.

*Administrative Agencies.*—However excellent were the sanitary regulations, and however wisely adapted by experience to meet the special limitations and needs of military life, they would not make an army healthy unless there was a proper adjustment and cooperation among the different agencies involved in carrying them out. These were (1) the medical department, which was the originating guiding and informing agency, which had the duty of caring for the sick, and of preventing disease. (2) The line officers beginning with the commanding officer, who must order and enforce the execution of general hygienic measures, and the regimental and company officers, who must understandingly execute general measures, and in addition must educate their men in matters of personal hygiene. (3) The soldier, who must be taught the simple rules of personal hygiene and must put them into practice. (4) The staff department, which was charged with the duty of providing the sanitary apparatus and supplies and the trained personnel for running them.

*Conclusions.*—He said the tendency of modern civilization being to shield men from the infectious diseases in early life, they were now more susceptible to them than formerly, when collected into armies. The two infections most to be feared in our army in time of war were typhoid fever and bacillary dysentery. These always appeared but were not formidable to moving commands unless these occupied foul sites or drank infected water. In fixed camps they were always to be dreaded, and the following precautions must be taken: The water supply, if not above suspicion, must be sterilized. The excreta must be destroyed or sterilized at once by the use of the Reed trough and excavator, or some form of incineratory. Urine tubs must be placed in the company streets at nights, and fouling of the camp site by this excretion prevented. The pollution of the camp in other ways must be prevented. Tents must be moved every week. Kitchens should be on the opposite flank of the company from the sinks. No camp should be occupied more than a month if possible to move it. Voluntary troops when mustered in should be given a careful physical examination. In order to carry out sanitary rules for the prevention of disease in the Army we should have the following machinery: 1. An adequate and well-trained medical personnel. 2. A system of instruction in hygiene for line officers. 3. Instruction of enlisted men by their officers in the elements of personal hygiene. 4. The establishment in the Army of a service of camp sanitation to be administered, preferably by the Medical Department. A division sanitary inspector should be at the head of this service.

**A New Hypodermic Syringe.**—Lieut. William W. Reno, U. S. A., presented this. He said that every hypodermic syringe now upon the market except the one described was incomplete, as outside assistance was needed, in the shape of water, mixing chamber and means of sterilization of needle. The one he presented was complete in itself, as sterile water, a sterile mixing chamber, and sterile needles always ready accompanied the syringe in a case no larger than the old style. Several improvements had been made in the instrument itself. The army had ordered several, and he said he would not be surprised if the army adopted it

**Routine Instruction in the Hospital Corps of the National Guard.**—Major William G. Bissell, Surgeon N. G. N. Y., presented this paper, which was read by title.

**The Efficiency of the Enlisted Man of the Hospital Corps, with Especial Reference to the National Guard.**—Major George M. Coates, N. G. Pa., said that the enlisted man of the Hospital Corps had, in times past, not been of the same quality, considering the work that he was called upon to perform, as the enlisted man of the line. The enlisted man of the Hospital Corps of the present day even, especially in the National Guard, was often found to be lacking in those qualities and attainments, instruction and training to properly fit him for his calling. Much might be done in the way of instruction of these men but, in the National Guard, there was a special field for selection especially in the cities, in the presence of medical students and internes who made most valuable men for military purposes. The special training they were receiving or had received should be supplemented by instruction in military hygiene, military surgery and First Aid and by drill. A corps composed of men of this character might be made still more effective and efficient by proper organization and by their being tested and worked together.

Capt. Myles Standish, N. G. Mass., Major E. F. Sommers, N G. Ind., Major A. R. Jerritt, N. G. N. Y., Lieut.-Col. Nathan S. Jarvis, N. G. N. Y., Lieut.-Col. L. B. Almy, N. G. C., Major B. H. Rogers, N. G. Ill., and Surgeon C. F. Stokes, U. S. N., discussed this paper.

**A Plea for the Unification of the Duties of Medical Officers of the Army and Navy.**—Surgeon Charles F. Stokes, U. S. N., entered this plea, which included medical officers of the naval militia and national guard, claiming that the basis of existence was the same, the preliminary requirements were alike, the service conditions somewhat alike, the service school instruction was along the same lines with modifications to meet the peculiarities of service afloat and service ashore. The aims, personnel and material should be as far as possible the same. *Esprit de corps* in and healthy rivalry between the various branches of the medical service should be encouraged. The Association of Military Surgeons was of peculiar value in that it brought together military surgeons for the purpose of discussing various matters of interest to them in which discussions were all on the same equal footing. The most important problem to be solved by military surgeons was the training and drilling of enlisted men in the working details of military hygiene and First Aid methods. The early education of the line officers in these matters was absolutely necessary. There should be one method and one routine, and he believed it a good and wise plan to establish a joint board, composed of experienced, liberal, and intelligent medical officers of the Army and Navy, Militia, National Guards, etc., who should teach what was necessary regarding hygiene, First Aid methods, etc. This should occupy at least fifteen minutes of every day and taken up as a routine matter, the same as drilling with arms. This drilling was clearly the work of the line officers. In summing up his paper, Dr. Stokes attacked Dr. Seaman very severely for many of the statements contained in papers read at the previous meeting of the Association and since. He called in question the accuracy of some of Dr. Seaman's statements and bluntly denied others. He believed that Dr. Seaman could do the cause of military surgery and military sanitation in this country no greater service than that of revising his statistics and correcting statements made by him which had misled the laity generally, and he would be most happy to render him any assistance he could.

**Dangers in Typhoidal Urine in Military Camps.**—Captain Charles S. Butler, M.V.M., read this paper, and said that in numbers of examinations made of urine in cases of typhoid fever in about 21 per cent. of them were the bacilli found in enormous numbers and in pure culture, and this showed the need of adopting some effective method by which all cases of typhoid should be treated. Among the methods advocated were (1) after the urine had been passed to treat it with carbolic acid, or other disinfecting chemical; (2) washing out the bladder with some antiseptic; (3) the administration by the mouth of some urinary antiseptic, such as salol, urotropin, etc., or some formaldehyde derivative. The first and second of these methods were impracticable on the field and at base hospitals. The third method was practical, easy, and most effective, preference being given to the formaldehyde derivatives.

**An Emergency Case for Field Work.**—Lieut.-Col. Leon-

ard B. Almy, C. N. G., showed the advantages of having a case for hypodermic medication on the medical officer's person, and he gave a description of his pistol cartridge-box case which was always on the belt.

**Mexican Transport Model for Carrying Wounded in Mountainous Countries.**—Lieut.-Col. Alejandro Ross, Mexican Army, gave a description with model of an appliance of particular service in the irregular terrain of Mexico which was submitted by the Professor of the Department of Transportation of the Injured at the Medico-Military School of Application of that country in which there were great variations in landscape.

Following a general reception at the Hotel Cadillac, there was a public meeting. Congressman Edwin Denby spoke for the State of Michigan, Hon. George P. Codd, Mayor of Detroit, spoke for the City of the Straits, and Major F. E. Jacklin, the only survivor of the 16th Michigan Infantry, spoke for Michigan in War. Dr. H. Mareshal, colonel in the French service and official representative of that government, spoke in French. This was followed by an address by the Dean of the Foreign Delegates, Surgeon -General S. Suzuki, of the Imperial Japanese Navy. After thanking them in behalf of the foreign delegates for the honor they had conferred upon them by inviting them to the meeting, he said that the United States was comparatively a young country, and yet he noted that for fourteen years the Army and Navy surgeons had been meeting yearly. No doubt they did this in other countries, but nowhere in the world outside of this country did the surgeons invite foreign delegates to sit with them. He hoped for the formation of an international association which would draw all of them nearer together. He followed his remarks with stereopticon pictures illustrating the Japanese surgical work.

SECOND DAY—WEDNESDAY, SEPTEMBER 27.

**A New Type of First Aid Dressing.**—Surgeon Charles F. Stokes, U. S. N., gave a description of a dressing, method of applying it, and spoke of the peculiar features which seemed to him desirable in first aid dressings. It was made along the line of simplicity and ease of application. It consisted of gauze, one yard long and three inches wide, in four layers; at each end was a pad or compress, wire bound, inside of which were two layers of bibulous paper. This somewhat rigid frame made its application easy. His real aim was to have a dressing that could be applied satisfactorily by the least intelligent man in the service. The whole dressing was a single piece secured without pins, and could be used when there were two wounds at different levels.

**A Series of First Aid Packets.**—Major George H. Halberstadt, Brigade Surgeon, N. G. Pa., gave a description of first aid packets especially devised for use in the Pennsylvania coal regions.

**Improvements in Splint Stretchers.**—Surgeon Charles F. Stokes, U. S. N., showed improvements that he had made. The stretcher consisted of a boat-shaped piece of iron mesh with two fracture boxes. In each gutter there were adjustable foot pieces which hooked on. Chains were placed on the sides, to which the bandages were fastened. The man could be splinted from head to foot, and therefore one in transferring the patient handled the frame, and not the man at all.

**New Suture Material.**—Colonel N. Senn, U. S. V., presented some absorbable animal material which was of interest. He called especial attention to iodized catgut, which he had used for two or three years exclusively, the ligature being as strong as silk. It would not be absorbed before twenty-one days. He had entirely abolished the use of silk ligatures, and had substituted linen. When silk was sterilized by boiling its strength was lessened, but the linen ligature could be boiled and reboiled without loss of its tensile strength. Whale, walrus, and other animal ligatures he was experimenting with, the fibrous condition found in these sea animals being adapted to use as ligature and suture material. Dr. Senn showed other material which was used by the Eskimo women in making clothes and mending boots; the delicate but strong fibrils could be teased out. It was very strong, and could be readily rendered aseptic. He also showed a vegetable fiber that he had found in New Zealand, which he believed would prove an excellent substitute for horse hair for superficial sutures, but not for deep suturing.

**A Proposed Regimental Medical Supply Table for the National Guard.**—Captain Samuel Cecil Stanton, N. G. Ills., considered the needs of the National Guard and the regulars, suggesting the best means of meeting the requirements of the former. What he presentd had been accepted by the Illinois State Guards and Reserves, and he hoped that the National Guards would accept it.

**Notes on Experiences During the Russo-Japanese Naval War.**—Surgeon-General S. Suzuki, of the Imperial Japanese Navy, read this paper. As surgeon-in-chief of the combined fleets serving on board the flagship *Mikasa* under Admiral Togo, he divided his experiences into two parts—the treatment and management ot the wounded, and the sanitary arrangements of the combined fleets.

*Treatment and Management of the Wounded.*—In February, 1904, before the fleets left Sasebo, he issued orders to the surgeons of all the fleets that aseptic treatment should be adopted in the treatment of the wounded in all the battles of the war then imminent, and also ordered the observance of conservative methods of surgery; amputations, etc., on board the warships were to be avoided as far as possible, and every preparation made for transferring the wounded to the hospital ships, for conveyance to the home hospitals, where complete asepsis could be enforced. The total number of casualties from February, 1904, to August, 1905, was 3,682; of these 1,891 were killed and 1,791 wounded, of which 117 died afterward. Of the 1,891 deaths, 1,445 were due to shipwrecks caused by submarine mines, and only 563 to wounds received in actual fighting. Of the 1,791 wounded, 647 received wounds requiring hospital treatment, and of these only 32 died. The rest were partly light cases, and partly cases requiring greater care. Their aseptic methods had been the same as those in general use. All dressing materials were sterilized by steam, and kept in closed tin cases; surgical instruments were boiled in soda solution; hands were washed in sterilized water, with soap applied by a brush. A solution of sublimate was next used, which was followed by another washing in sterilized water. While the action was going on nothing could be accomplished except the most urgent aid. When the action was over and firing ceased, the healing art could be applied. The severer cases were first taken, fragments of shell or pieces of cloth extracted, and, when possible, the skin sutured. Their experience showed that to cover a wounded surface with skin was a great protection to it. He believed that it was better to give temporary relief to the wounded than to meddle with complicated operations, and to transfer the patients as soon as possible to the hospital ships.

*The Location of the Temporary Surgery.*—His experience taught him that, in spite of certain drawbacks, the proper place for the surgery was below the water line. Care should be taken to provide good light, proper ventilation, and an elevator. A location for a surgery during the time of action in battleships and armored cruisers might be found on the lower deck, but this was still above the water line; lower down in the ship the difficulty was not so much to find a place as to provide proper ventilation and good light, and convenient means for carrying the wounded down. During the war their surgeries had, as a rule, been placed on the lower deck in battleships and armored cruisers, while in the smaller cruisers either the wardroom, the cockpit, or one of the large cabins had been used. In unprotected cruisers the sides of the surgery should be protected with canvas screens or mantlets. While the gunboat *Chokai* was engaged in assisting the land operations to the west of Port Arthur a shell burst quite near the cabin which was being used as a surgery, but the

canvas screens prevented the entrance of the shell fragments into the surgery itself.

*Receiving Place for the Wounded after First Aid.*—On battleships and armored cruisers the passages on either side of the lower deck were used and no provision was made for from sixty to seventy men. If more space was needed the only places suitable were far down below the water line, accessible only by steep and narrow ladders. In unprotected cruisers every part of the ship was exposed; as a rule, the wounded were placed on the lower deck. During an action every hatch was closed, causing much distress among the wounded. In such cases electric fans should be provided, and refrigerating machines should be carried.

*Carrying the Wounded.*—During the bustle and excitement of an action it was found to be impossible to put into practice all the men had learned. In about one-third of the cases first-aid dressings were applied to the wounds, and the men carried down on stretchers to the surgery; in the remaining cases the men were just picked up as they fell and carried straight to the surgery in the arms of their comrades. After an experience on the flagship *Mikasa* it was considered unwise to risk any long exposure on the upper deck, and from that time the wounded were carried to the surgery at once, without waiting to have their wounds dressed on the spot. Their experience was that no one kind of stretcher was adapted for all the requirements of naval service. Carriage by hand was frequently resorted to.

*Dressing Materials and Instruments.*—A large consumption of dressing material was unavoidable during action; they foresaw this and provided each ship with an abundance. None of the ships suffered from any such lack even after the battle of the Japan Sea, when they had to treat many Russians in addition to their own men. For instance, 220 Russian prisoners were treated on board the *Kasuga* after the battle with no shortage of supply. The new First Aid Package contained four pieces of sublimate gauze, twenty-four inches long, and folded in a package four inches square. The package was wrapped in Japanese paper and then placed in a loose bag of "shibukami," a stout Japanese paper fabric steeped in the juice of the bitter persimmon. This package was easy to open, and the large size of the gauze facilitated application.

*Protection of Persons.*—Hammocks were very useful for protective purposes, and they had many illustrations of the value of hammock screens, frequently finding imbedded in them fragments of shells and splinters which would have wrought much havoc. They were not easily set on fire. They could be used as life preservers as well, lives of many of their men having been saved by clinging to them. In order to prevent scalds and burns from exploding powder and steam, all parts of the body should be kept covered. Prior to an engagement the sailors were ordered to bathe and put on clean underclothing, as a means of protection against infection of any wounds that might be received. He attributed the rapid recovery from wounds to this precaution alone. The conning tower of a ship was not the safest place to be. Admiral Togo constantly used the compass bridge during action, both for observation and for directing operations, and did not receive even the slightest wound. The ears of the men were plugged with sterilized cotton, and the eyesight of gunners was always examined prior to an engagement. The firing of big guns irritated the eyes and impaired vision; every battery was furnished with a 1 per cent. solution of boric acid for the use of these men, who bathed their eyes with the solution whenever they became irritated by the smoke and gases

*Character of the Gunshot Wounds.*—The speaker said they had no definite classification of gunshot wounds, but the following list showed the character of the wounds fairly well Taking the table of wounds from the beginning of the war to the battle of the Japan Sea—there were. Contusions, 480; abrasions, 212; incised and punctured, 26; wounds with loss of soft tissue, 53; lacerated, 691; blind, 224; perforated, 113; pulverized, 43; mutilated, 129; burns and scalds, 129; contusion of labyrinth, rupture of tympanic membranes, 116; compound fractures, simple fractures and dislocations, 237; explosive, 570; asphyxia, 25; drowned, 716; total, 3,764. Wounds of the head, face and neck, 808; of the chest, 157; of the abdomen, 58; of the upper limbs, 625; of the lower limbs, 728; of the back, loin and buttock, 189; pulverization of whole body, burns and scalds of whole body, 527; asphyxia, 25; drowned, 716; total, 3,833. The great number of explosive wounds were inflicted at the time of the sinking of the *Hatsuse* and the *Takasago*.

*Health Averages.*—Health averages for the last three years in ships of the standing and other squadrons:

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|---|---|
| Total percentage of sick | 3.87 |
| Total percentage of men in bed | 1.19 |
| Total percentage admitted into hospital | 0.66 |

Health average for 1904 in the combined fleets:

| | |
|---|---|
| Total percentage of sick | 3.32 |
| Total percentage of men in bed | 0.72 |
| Total percentage admitted into hospital | 0.26 |

Health average for January to June, 1905, in the combined fleets:

| | |
|---|---|
| Total percentage of sick | 3.01 |
| Total percentage in bed | 0.65 |

During war times there were more casualties, but less venereal disease. After referring to the scale of diet for the crew and the supply of provisions, he considered the

*Water Supply.*—He said that ships which possessed evaporators used distilled water for all purposes, and the supply had been in all cases sufficient. Destroyers, torpedo boats, and special service vessels were, as a rule, supplied from water-supply ships. There were two of these which could distill about 300 tons of water each per diem, and two water transports of 5,000 tons together, besides coalers and transports which served as auxiliary water carriers.

*Hospital Ships.*—They had two specially fitted hospital ships, each of about 3,000 tons, each containing 186 beds, of which 18 were for infectious cases and 12 for the officers. Patients were transferred by steam launches or boats and sick-men's hammocks were the most convenient vehicles for this purpose. The total amount of dysentery in the whole fleet amounted to 151 during the period ending June, 1905. Appended to the paper was a statistical table. (See page ? .)

Major THOMAS C. CLARK, N. G., Minn., offered a resolution that the thanks be tendered the Japanese Government for sending such distinguished surgeons of the army and navy to participate in the proceedings of the Association. This was unanimously carried.

Surgeon CHARLES F. STOKES, U. S. N., said that during the war with Spain he was on board the *Solace*. The plan of treatment advocated there was conservative and he condemned operating upon ships until after action, because of the pandemonium which existed, making aseptic technique impossible. A scheme of transferring sailors from battle to hospital ships was presented by diagram.

Medical Director JOHN C. WISE, U. S. N., and Fleet Surgeon T. LLOYD, R. N., also took part in the discussion.

**Military Headgear in Its Relation to the Health of the Soldier.**—Contract Surgeon HAROLD D. CORBUSIER, U. S. A., read this paper.

**Presentation of Insignia to Foreign Delegates.**—Presentations were made to Lieutenant-Colonel Alejandro Ross, Mexican Army; to Surgeon-General S. Suzuki, of the Imperial Japanese Navy; to Colonel W. J. R. Rainsford, R.A.M.C.; to Fleet Surgeon T. Lloyd Thomas, R.N.; to Lieutenant-Colonel J. F. Fotheringham, A.M.S., P.M.O., M.D; to Dr. W. P. Chung, Dr. Ho Kan Yuen and Dr. Tsui Ying Young, Chinese surgeons; to Lieutenant-Colonel Brown, I.M.S., and others.

**A Brief Sketch of the Evolution of the Medical Service of the British Army.**—Colonel W. J. R. RAINSFORD, R.A.M.C., read this paper, being a description of the changing

conditions which had appeared in the British Army Medical Service since the writer joined it in 1876.

**Experiences With the Russian Army in Manchuria.**—Colonel Valery Havard, Surgeon-General, U. S. A., Medical Military Attaché with the Russian Army in Manchuria, read this paper. From all his sources of information he had computed that the percentage of casualties (killed and wounded) at the four most important battles of the war (exclusive of Port Arthur) was as follows: Liaoyang (August 28 to September 5), Japanese 9 and Russian 9.47; Sha-Ho (October 9 to 20), Japanese 8 and Russian 24.33; Sandepu (January 20 to 30), Japanese 18 and Russian 16; Mukden (February 20 to March 16), Japanese 13.41 and Russian 32.89. The mean percentage for the Russians in the four battles was 24.21, for the Japanese 12.27, and for both sides together 17.5. The ratio of killed to wounded in the Japanese Army was 1 to 4.5, in the Russian 1 to 3.96, in both armies together 1 to 4.22. The estimation of Japanese casualties at Port Arthur (from Japanese sources) was given as 10,000 killed and 36,000 wounded, or 1 to 3.6.

*Artillery Fire.*—At Liaoyang, in certain exposed trenches, 75 per cent. of the wounds were by shrapnel shells. At the fights at Cape Mountain, Fenghwangsham and Antszshan Fort a Japanese surgeon ascertained that, on the Japanese side, 1,101 men were wounded by artillery and 3,025 by rifle, a proportion of 1 to 2.75, or 27 per cent. At the four engagements near Mukden he ascertained that 725 men were wound d by artillery and 2,158 by rifle, a ratio of 1 to 2.97, or 25 per cent. These numbers referred to the wounded only and not to the dead. Those hit by shrapnels caused a greater number of deaths than of those hit by bullets; therefore, the percentage by artillery fire would be found decidedly greater than as given. It was roughly estimated that at Liaoyang 50 per cent. of the Russian casualties were caused by artillery fire; at the Sha-Ho, 33 per cent.; at Sandepu, 12 per cent.

*Bayonet and Sword Wounds.*—The bayonet was by no means an obsolete weapon and must still be reckoned with. Before the battle of Mukden it was roughly estimated that 500 Russians had been killed and wounded by the bayonet, a ratio of less than 0.3 per cent. of total casualties. Among the Japanese the ratio was higher. According to a statement attributed to General Oku, of the Japanese wounded up to November 17, 1904, 85 per cent. were hit by bullets, 8 per cent. by artillery projectiles, and 7 per cent. by side arms. This ratio he considered to be erroneous and untrustworthy. At the battle of Yalu, out of 1,170 wounded, only 0.5 per cent. were put *hors de combat* by side arms.

*Disease and Hygiene.*—According to statistics that were official in the report of July 28, 1904, the ratio of sick, before the rainy season, up to June 13, was 32.82 per 1,000 of strength. On July 26, after the rainy season had set in, the ratio had increased to 37.42. On that date the number sick with contagious diseases was 1,117, including all cases of dysentery and diarrhea. There were only 34 cases of typhoid, 15 of typhus, and 9 of recurrent fever. The number of typhoid cases, however, rapidly increased up to 951 on August 26. On December 8, 1904, there remained in all hospitals and other sanitary establishments, 819 sick officers and 17,384 sick soldiers; on this date the capacity of all available hospitals in Manchuria and adjoining zones was at least 30,000 beds. On February 8, 1905, there remained in hospitals 873 officers and 17,892 soldiers. In the official report of General Trepoff for the period of the beginning of the war to the end of the year 1904 the total number of sick and wounded evacuated to Harbin and places east and west of it, was 130,439 officers and men. He said that during the year 1904 the total number of Russians killed in action or who died from their wounds could not have been less than 20,000 (exclusive of Port Arthur); during the same period the number of deaths from disease was only 2,730, a ratio of 7 to 1. During the year 1905 up to the close of hostilities, about May 1, two important battles took place with a resulting total of wounded that probably was more than 100,000. As to the comparative number of deaths from diseases and wounds it was approximately 6,000 and 47,000 respectively, or in the proportion of about 1 to 8, a result far transcending the most sanguine expectations of military hygienists. In Manchuria, among the Russian troops, he said that one might fairly have expected certain diseases to break out in epidemic form, such as typhoid, typhus, dysentery, cholera, smallpox, scurvy, etc. But not only were such epidemics absent but the usual camp diseases had not been prevalent; so that the health of the Russian army in the field during certain months was better than when at home in peace. Nearly all the drinking water was obtained from wells 20 to 40 feet deep. Most of the food and drink of the Russians was so prepared that infectious germs could not be transmitted. Both Japanese and Russians, although fed upon rations which American and English soldiers would reject with scorn, were men of vigorous constitutions. The Japanese attributed their physical and mental strength to their plain, frugal food, the free use of water, gymnastics, and temperate habits. The national alcoholic beverage, saké, was hardly stronger than beer.

*Projectile and Gunshot Wounds.*—The shells of the Japanese field artillery were of two kinds, the ordinary shrapnel shell, with range of 3,000 to 3,500 meters, and the shimose shell with range of 5,000 meters; the former were more numerous and did more damage. The Russian cartridge weighed 24 grams and its bullet was 7.60 mm. in diameter; it had an initial velocity of 2,000. The Japanese cartridge weighed 22 grams and its bullet was 6.50 mm. in diameter and had an initial velocity of 725. The following interesting statistics of work done at the battle of Turenchen (May 1, 1904) gave an idea of the relative proportion in which the parts of the body were hit: Out of 1,129 wounded, the lower extremities were struck in 416 (37 per cent.), the upper extremities 309 (27 per cent.), the chest 221 (19 per cent.), the abdomen 107 (9 per cent.), the head and neck 76 (6 per cent.). In perforating wounds of the chest (37) hemoptysis was always noticed, but subcutaneous emphysema was quite rare. Of perforating wounds of the abdomen, 25 cases came under treatment and no operation was possible or attempted. Within 12 days, 7 died, a mortality of 28 per cent. Some of these men had been carried 40 miles in rough carts; only a few were brought in on stretchers, and 8 arrived with peritonitis. That only 7 died was remarkable. The innocuousness of the Japanese bullet in abdominal wounds was wonderful.

*Wound Infection.*—That the infection of wounds depended upon the skin and clothing of the soldier chiefly was well shown by the striking difference in the proportion of infected cases between summer and winter. Thus, in the Mukden hospitals, hardly 10 per cent. of the wounds were infected in summer; while, in winter, hardly 10 per cent. escaped infection, despite the primary dressings applied to them in most cases. Of the two causes of infection, dirt and particles of clothing, he said it was quite probable that the first was much more common. He concluded that if the soldier was able to carry out all the prophylactic measures which military hygienists suggested, he should on the eve of battle take a warm bath with brush and soap, put on fresh, clean linen and don his cleanest and lightest uniform. The soldier should be well fed, but on the day of battle his intestines should be empty.

(*To be continued.*)

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**Value of the Crochet Needle in the Treatment of Sinuses Due to Infected Ligatures.**—C. Jeff Miller advises the use of an ordinary crochet needle in removing silk ligatures that have been left in the abdomen after major operations, and have produced deep sinuses. It may also be useful for removing foreign bodies. The author has saved patients from the necessity of a second serious operation, when a sinus has been left over the seat of a ligature used in tying the ovarian pedicle. These ligatures are of silk, and are picked up by dragging the crochet needle gently along the walls of the sinus.—*The Medical Recorder.*

## MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

*Fifty-fifth Annual Meeting, Held at Scranton, September 26, 27, and 28, 1905.*

(Special Report to the MEDICAL RECORD.)

FIRST DAY—TUESDAY, SEPTEMBER 26.

THE Society was called to order at 9:30 by the president, Dr. ADOLPH KOENIG of Pittsburg. Prayer was offered by the Rev. Dr. James McLeod of Scranton. Mayor A. T. Connell welcomed the Society on behalf of the city. The address of welcome was given by Dr. Daniel A. Capwell, president of the Lackawanna County Medical Society. He mentioned as a prominent achievement of the medical profession the lengthening of the average life of every man, woman and child ten years. The presentation of the program was made by Dr. Gilbert D. Murray, chairman Committee on Arrangements. Visiting delegates were introduced from the medical societies of the States of New York, New Jersey, and Connecticut.

A meeting of the Executive Council was held immediately following the general session. The president appointed a business committee, and they at once assumed the duties assigned to them. The secretary's report showed the addition of two new county societies, and a net gain of 266 members during the year. The chairman of the Committee on Scientific Business reported a list of six formal addresses and seventy-one papers upon the program. The registration numbered 504.

The report of the Publication Committee showed the necessity for an increased number of copies of the *Pennsylvania Medical Journal* over the original number contracted for. Upon motion of Dr. Edward B. Heckel of Pittsburg the report was received and a vote of thanks was extended to Dr. C. L. Stevens, editor, for his untiring efforts in behalf of the best interests of the *Journal* and the Society.

Dr. HENRY BEATES, chairman of the Committee on Legal Matters, reported that the committee had been instrumental in amending the original act of assembly in such a manner as to place Pennsylvania second to no State in the standard of preliminary education of the medical student. To the penalty of fine, imprisonment had been added for those practising without license; also provision had been made for the revocation of license of those engaged in immoral practices. Through the efforts of the committee the Osteopathic Bill had been so amended that there were required the same qualifications for the proposed licentiates in osteopathy as in medicine, with the exception of major surgery. The committee had discovered that the Osteopathic Bill, while having incorporated these desirable features, contained a provision which placed in the hands of a majority of their proposed Board of Examiners the right to recognize the diplomas of any osteopathic college, and license such applicant without examination—a measure which manifestly would rob the apparently high standard examination of all value and establish an open door for any alleged osteopath to engage in practice without hindrance.

Dr. JOHN B. ROBERTS, chairman of the Committee on Revision of By-Laws, made the report of this committee. The revision consisted mainly in the adoption of the Model Constitution and By-Laws of the American Medical Association. The Executive Council was changed to the House of Delegates, whose function was practically the same. A provision was made in the By-Laws to establish medical defense against suits for alleged malpractice and for the institution of a charity fund to aid sick and disabled physicians, and the widows and the children of deceased physicians. A committee was appointed to consider the subject of the prosecution of physicians practising criminal abortion.

SECTION "A."

FIRST DAY—TUESDAY, SEPTEMBER 26.

**Address in Medicine.**—Dr. S. SOLIS-COHEN of Philadelphia delivered the Address in Medicine. The speaker said that, of course, therapeutics must depend upon diagnosis and diagnosis upon pathology, and that the physician must be thoroughly grounded in the fundamental branches back of pathology, but that it was, after all, the question of treatment which occupied the physician chiefly in his relations with his patients. He deplored the position of the profession toward therapeutics which permitted the growth of the nostrum evil, and thought this credulity was based upon faults in the medical college and in the preliminary education of the medical student. He called attention to the work done by the Committee on Pharmacy of the American Medical Association in analyzing a number of preparations offered to physicians, and employed by them. To begin at the bedside the study of a derangement of the complex organism called man the speaker thought quite as ridiculous as the attempt of an astronomer to study an eclipse of the sun without the basic principles of arithmetic. To understand the complex organism of man there must be an understanding of the elements making up the whole and their influences upon each other. Before this was attained there must be the thorough laboratory training in biology, in physics, and in chemistry.

**Present and Former Methods of Treating Children.**—Dr. L. EMMET HOLT of New York City in this paper said that the treatment of sick children exhibited two subjects of importance—dietetics and general hygiene—and that the nutrition of the child should be the first step in treatment. In the treatment of intestinal disorders he regarded as essential factors evacuation, diet, and rest. In the chronic disturbances in children beyond infancy a careful dietary, in his opinion, was the only treatment giving permanent results. Unless severe lesions were present, the majority of the other measures were useless. The neuroses he believed to have their origin in impaired nutrition. In pneumonia the greatest effort should be made to put the body into a condition of resistance. The question of fresh air he believed was too much ignored. In bronchopneumonia fresh air that was not cold should be abundantly provided. The use of two rooms alternately with the air first warmed he suggests as valuable in treatment. The thought which he emphasized was that a better understanding of disease and a broader knowledge of children showed that the greatest need was a more scientific and intelligent knowledge of practical dietetics and a better understanding of the condition of health and growth. Of greatest importance in acute and chronic disease, he believed, was the knowledge of how best to preserve the nutrition of the body and thus take advantage of Nature's wonderful power of recuperation in early life.

**The Diagnosis of Pneumonia and Empyema in Children, with an Analysis of 200 Cases.**—Dr. ALFRED HAND of Philadelphia, in this paper, referred first to certain differences in the physics of the child's chest as compared with the adult's, and called attention especially to the harsh character of the normal breath-sounds, the so-called "puerile" quality, and to the soft character of the bronchial breathing in the child, the latter resembling in intensity the normal bronchovesicular breathing in adults. The importance of the frequent examinations of the plain as well as of the doubtful cases was urged. A small or even large area of consolidation might give to bronchial breathing and increased vocal resonance, while palpation and percussion showed nothing, but sometimes all of the physical signs were negative when the diagnosis rested on fever, increased respiration rate above forty per minute, and leucocytosis, the latter serving to differentiate the sickness from typhoid fever. Lumbar puncture he believed might be necessary to exclude meningitis. The possibility of the development of empyema should always be borne in mind, as well as the possibility of the presence of pus in the

chest without causing fever, displacement of the apex-beat of the heart, absence of vocal fremitus and resonance, and bronchial breathing. Two hundred consecutive cases were analyzed with reference to age, sex, location of consolidation, maximum range of temperature, pulse and respiration, and termination by crisis, lysis, empyema, or death. An interesting feature was the greater tendency of pneumonia to affect the right lung. In the well-formed children the rapid breathing was dependent upon a toxic action on the central nervous system rather than a diminution of lung capacity by extensive consolidation.

Dr. J. P. Crozer Griffith of Philadelphia, who opened the discussion of the two papers, said that there was so much of Dr. Holt's paper with which he was in such thorough accord that he could but emphasize what was said and express his own views as corroborative of them. He believed that even a slight modification of the milk given the baby was a very important matter. He advocated the starvation treatment of acute indigestion, and in returning to the milk diet he would rather err on the side of returning too slowly than too promptly. It was his plan to put the choreic patients to bed for the rest and quieting of the nervous system. In the treatment of pneumonia he entirely agreed with Dr. Holt, believing that the object was not to cure the pneumonia, but to take care of the baby. Regarding the paper of Dr. Hand, he believed that the more experience one had with the diagnosis of pneumonia and empyema in children the easier many things became. Auscultation and percussion, in his opinion, played a minor part compared with the general symptomatology presented by the baby.

Dr. J. H. McKee of Philadelphia said that in the diagnosis of empyema the first essential was to be on the lookout for it, and the form of the empyema as well as its presence should be determined. In the differential diagnosis of pneumonia and empyema he considered the resistance offered to the pleximeter in percussion of great importance. Experimental puncture he thought was of value both diagnostically and prognostically.

**Acquired Hydrocephalus with Atrophic Bone Changes, Exophthalmos, and Polyuria.**—Dr. Thomas W. Kay of Scranton exhibited this case in a boy of seven years, the only child of healthy parents, who up to four years of age was himself healthy. He then had scarlatina, which was followed by discharge from the right ear, which still persisted. Three years afterward he had vertigo, and enlargement of the superior cervical and submaxillary glands occurred. Five or six months after the scarlatina the gums began to separate from the teeth, and this was followed by a gradual loss of teeth. At about the same time there was noticed a soft spot on the head where there seemed to be no bone. Eighteen months ago exophthalmos appeared, and the condition has been steadily growing worse, and was now so bad that the eyes had to be protected with a handkerchief, they being too prominent for the use of glasses. Polyuria was present; as much as 27 ounces of urine at a time was passed; the reaction was neutral, and sp. gr. 1.000 to 1.001. The lower jaw had lost its bone salts, and the resultant cartilaginous mass containing one incisor had been so deformed by the depressor muscles that the chin had disappeared. The child presented the most distressing picture imaginable, and was exhibited for diagnosis. No diagnosis, however, was suggested.

**The Adaptation of the Public to the Principle and Practice of the Prevention of Tuberculosis.**—Dr. Howard S. Anders of Philadelphia said that at the present time the prevention of tuberculosis was the largest, most important, and most urgent task concerning the public health. He contended that instruction of the public in the diligent and intelligent application of prophylactic measures against tuberculosis should not be an interminably slow process, and that the initiative need not be a game of waiting by the many upon the few, but must be the action of more with the willing cooperation of most of those who followed, and yet who made up the consistent solidarity of any community. There was, he said, sorely needed a general adaptation, especially by officials, representative bodies, landlords, and various large corporations to the doctrine that no conditions were socially or morally permissible which fostered the propagation of tuberculosis. The public adaptation to the doctrine of the communicability of tuberculosis he regarded of primary importance. Adaptation also called for the suppression of extremists, the sensational alarmist, and the irrational antagonist, and, between them, the fatalist. The sanatorium movement was particularly emphasized as the most far-reaching and efficient means of attacking tuberculosis. Public adaptation in the matter of the dust menace the author considered was hardly more than a threshold recognition, and he felt that much might be accomplished were the street dirt removed at night and the remaining dust kept down during the day by sprinkling. Dr. Anders believed that no better Federal adaptation to the movement could be consummated than the placing of a cabinet officer at Washington at the head of a Department of Public Health.

**The Diagnosis of Incipient Pulmonary Tuberculosis.**—Dr. George William Norris of Philadelphia read this paper, in which it was stated that "earlier diagnosis" was the constant cry of the sanatorium doctors. The diagnosis could not be based upon any one symptom or physical sign, but must be made in the light of the whole complex. Careful consideration of the anamnesis he believed of the greatest importance, and stated that by incipient tuberculosis was meant a slight initial lesion in the form of infiltration, limited to the ajex or a small part of one lobe, without tuberculous complications, and with slight or no constitutional symptoms (particularly gastric or intestinal disturbances or rapid loss of weight). Slight or no elevation of temperature or acceleration of the pulse at any time during the twenty-four hours. The expectoration was usually small in amount or absent. Tubercle bacilli might or might not be present. Dr. Norris attributed much importance to the careful inspection of the bared chest, and believed that enlargement of the bronchial or cervical lymph nodes should always be looked for, and the patient should be made to breathe properly before beginning the examination. Rapid pulse or slight evening rise of temperature, if persistent or unexplainable upon other grounds, he regarded as suggestive, especially if associated with loss of weight, diminished capacity for work, or cough. With the occurrence of any two of the last-named symptoms for a protracted period the physician should show cause why a diagnosis of tuberculosis should not be made. In the event of uncertainty, the patient should be treated as if he had the disease. The mere fact that the symptoms disappeared in the course of a few weeks or months was not regarded as proof that they were not caused by the tubercle bacillus.

**Sanatorium Treatment of Tuberculosis.**—Dr. George B. Kalb of Erie made a plea for the early diagnosis of the disease and for not depending on the microscopical examination of the sputum, and declared the modern treatment of the disease to be a tripod: (1) Open air, (2) forced feeding, and (3) graduated exercise. At the White Haven Sanatorium he stated that patients were classified upon admission as to involvement, on discharge as to results. There were, he said, four classes in each case: (1) Those with one lung without softening, (2) one lung with softening, (3) both lungs, and (4) with cavity formation. He gave an account of the plan of treatment of the disease and its complications, hygienic, dietetic, and medicinal, the daily life of the patient, and the influence of treatment on the patient's mind. Dr. Kalb advocated the establishment of three kinds of institutions: (1) For incipient cases, (2) for advanced cases, (3) for far advanced cases. By this means he believed that the curable would be cured and all kept from spreading contagion.

**Outdoor Life Versus Confinement in the Treatment of Bone Tuberculosis.**—Dr. H. Augustus Wilson of Philadelphia dealt with the results obtained in the treatment of

bone and joint tuberculosis in the open air at Atlantic City, Coney Island, Wellesley Hills, Blue Ridge Summit, Toronto, and elsewhere. Among the results of outdoor life it was noted: That osseous tuberculosis did not demand the varied atmospheric conditions necessary in the treatment of phthisis; that sleeping in tents or shacks with the temperature almost at zero F. had not been injurious; various operative and corrective measures required consideration in connection with outdoor life; there had been general improvement in the general health and strength, and no condition had been found too serious for betterment.

Dr. Ravenel of Philadelphia said that the physician should consider it his duty to instruct his patient, his clergyman, and his legislator in the truths concerning tuberculosis. He referred to the statement of a man at one time prominent in medical circles that it was an unwise thing to cure tuberculous patients, because they were never healthy. The opposite side of the question, which Dr. Ravenel considered much more important, was that unless an early diagnosis was made and the patient became a non-bacillary expectorating individual, the disease in a community could never be eradicated. To educate the people to this idea he considered as important as to cure the individual case. In treatment attention should be chiefly directed to rest, circulation, and digestion. He warned against the danger in forced feeding of the patient receiving impure milk.

Dr. Stahl of Philadelphia asked what method was employed by the readers of the papers in the emergency of hemorrhage.

Dr. Codman of Philadelphia referred to his practice of giving milk and eggs by having the yolks and whites beaten separately, and the whites poured upon the yolks, either sugar, salt, or a flavoring being added.

Dr. Miner of Wilkes-Barre referred to the administration of nitroglycerine and the restriction to a dry diet in hemorrhage.

Dr. Guthrie of Wilkes-Barre believed that local deposits of tuberculosis should, if possible, be removed.

Dr. Norris said that in the wards of the Phipps Institute in Philadelphia the routine treatment for hemorrhage was to put the patient to bed, apply an ice-bag to the chest, give a hypodermic injection of morphine, and assure the patient that there was no immediate danger and that a few weeks' feeding and rest would make up for the loss of blood. Ergot was never given.

Dr. Ravenel said that he varied the treatment of hemorrhage with the condition of the patient's blood pressure. He gave nitroglycerin as indicated. He thought it was not demonstrated that cutting off a liquid diet lowered blood pressure.

*(To be continued.)*

## THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

*Stated Meeting, June 12, 1905.*

The Vice-President, Dr. Ransford E. Van Gieson, in the Chair.

**Report of the Committee on the Death of Dr. John H. Hinton.**—This was read by Dr. Ransford E. Van Gieson, the chairman of the committee.

**The Radical Relief of Urinary Obstruction Due to Prostatic Hypertrophy.**—Dr. Lewis Stephen Pilcher read this paper. He stated that in operating for prostatic dysuria, the problem which the surgeon had to solve was not only thoroughly to remove the obstruction, but to do it without undue prolongation of manipulation, with as little loss of blood as possible, and with a minimum amount of injury to the urethra, bladder, rectum, and ejaculatory ducts, thereby lessening mortality and subsequent infirmities. At the present time three methods of attack presented themselves for choice: 1. Through the bladder by means of a suprapubic section. 2. By the perineum through a limited longitudinal median incision carried into the capsule of the prostate. In both of these methods enucleation of prostatic masses was effected by finger-tip dissection unaided by sight. 3. By the perineum through a free transversely curved incision, through which the prostate was fully exposed, followed by systematic incision into its substance, and subsequent enucleation largely under the guidance of the eye. Dr. Pilcher then discussed the indications governing the choice of operation in dealing with the various types of prostatic hypertrophy, and gave his conviction that, as a rule, for the best fulfillment of all the operative indications, there was necessary the free exposure of the gland by suitable perineal incision; the exposed gland should be brought down as far as possible into the superficial operative field by the use of suitable tractors, and the removal of the obstructing masses should be carefully and systematically effected under the guidance of the eye as much as possible. The speaker then described and illustrated the technique of the perineal operation that he favored. The steps of this operation, briefly, were as follows: 1. Placing the patient in an exaggerated lithotomy position. 2. Making a primary curved incision through the skin and superficial fascia, distant an inch to an inch and a half in front of the anus and extending from ischium to ischium. 3. The exposure of the rectourethral muscle. 4. Exposure of the prostate. 5. The downward traction of the prostate, with a suitable tractor. Personally, he had used with great satisfaction the model devised by Young. 6. Enucleation of the hypertrophied masses. 7. Insertion of bladder-drain, and closure of the wound.

Dr. Pilcher said that in the matter of the possibilities of radical relief of urinary obstruction due to prostatic hypertrophy, the question of the hour was not catheterization, nor castration, nor electrocaustic incision, but absolute, complete removal of the obstructing masses. Within the past fifteen years thousands of prostatectomies had been done, and the accumulated experience of those cases had demonstrated the following facts: 1. That removal of the whole or the greater part of an enlarged prostate was a feasible and reasonably safe operation. 2. That, with rare exceptions, complete healing of the operative wound took place, without permanent fistula or stricture. 3. That in the majority of cases, normal power to retain and to void urine was regained. 4. That these results had followed different methods of operative technique. 5. That the degeneration incident to advanced years and the presence of preexisting disease of the urinary tract, and the exhaustion produced by long suffering, loss of sleep, and the absorption of septic products prior to operation in many cases, added a special gravity to operative interference and entailed a certain hazard of mortality even in the hands of the most experienced, whatever the special method of operative technique employed. This mortality at present might be estimated at from five to ten per cent. 6. That, as the result of special conditions presented by particular cases, certain disabilities, more or less pronounced or continued, were not infrequent accompaniments or sequelæ of these operations. These, in the order of their frequency, were (*a*) sexual impotence; (*b*) epididymitis and orchitis; (*c*) partial urinary incontinence; (*d*) fistulæ. Nevertheless, even with these drawbacks, the fulfillment of the supreme indication, namely, the removal of the urinary obstruction, sufficed to obscure the presence of lesser evils.

**Perineal Prostatectomy by an Original Technique, with Illustrations.**—Dr. Parker Syms presented this communication. The method of operation was as follows: The patient, anesthetized with chloroform or ether, or with spinal cocainization, was placed on a short inclined plane, so as to be in a very extreme lithotomy position. A Syms staff was introduced into the bladder and a single incision made, opening the perineum down to the membranous urethra. The knife was then passed into the groove of the staff, and the membranous urethra opened throughout its length. A probe or curved director was passed to the groove of the sound, and thence into the bladder as a

guide; then the staff was removed and the index finger was pushed into and through the prostatic urethra, fully dilating it, into the neck of the bladder. The bladder was then thoroughly irrigated with sterile water, a rubber retractor introduced into the bladder and fully dilated and clamped. Sufficient traction was now made on it, the wound being dilated with the finger, the tissues were pushed aside, so that the sheath of the prostate was exposed, and a free vertical opening was made with the scissors. The prostate was then rapidly enucleated by the index finger. If the proper line of cleavage was found, this could be rapidly and almost bloodlessly accomplished. As soon as the prostate was removed, a large perineal drainage tube was introduced into the bladder through the prostatic urethra, and the wound and the space from which the prostate was removed were packed with iodoform gauze. This packing was made tight and firm in proportion to the amount of oozing encountered. The wound was then firmly sutured over the gauze, and the operation was complete. The patients were usually in bed within half an hour from the time the operation was commenced, and were up and about within forty-eight hours, the gauze packing being removed from twelve to twenty-four hours after the operation, and the drainage tube usually at the end of forty-eight hours. As to mortality, Dr. Syms said he had operated on thirty-four cases, with two deaths. In both of those instances, the patients were feeble old men, who apparently died as the result of the anesthetic.

Dr. Carl Beck said that while he regarded perineal prostatectomy, as described by Dr. Pilcher, as the ideal method, he did not think that some of the other methods of relieving the prostatic hypertrophy should be altogether condemned. For example, while the Bottini operation might be looked upon as an unsurgical procedure, still there were conditions under which it might be preferable to the ideal operation. Dr. Pilcher's statistics had shown that even in such skillful hands the perineal operation was not without danger to life in certain cases, and it was perhaps under just those conditions that the Bottini method might be preferable, even if it failed to effect a radical cure, and merely restored to the patient a moderate degree of health and comfort. Another factor to be considered was the personal equation. A man who did a certain operation frequently was almost certain to get better results from it than one who was less proficient.

Dr. Willy Meyer said he was decidedly opposed to the use of the catheter, which many physicians advised as soon as they were consulted by a patient whose bladder contained residual urine. It should be explained to those patients that in the end it was safer to submit to an operation than to use the catheter. The use of the catheter should only be advised in those comparatively rare cases where any operative interference was deemed unwise, and then only under the strictest aseptic precautions. Dr. Meyer said he did his first Bottini operation in 1897, and his result in that instance and in his seven succeeding cases was so satisfactory that between October, 1897, and October, 1902, he operated on fifty-nine patients by that method. Since then he had done the perineal operation in nine cases, the suprapubic in twenty-four, and the Bottini in eight, and his experience had led him to the conclusion that all three of these operations had a distinct place in dealing with hypertrophy of the prostate. The suprapubic operation he considered a most excellent one, and the more experience he had with it, the better he liked it. It was just as safe as the perineal operation, and could be done just as rapidly, especially in those cases where the gland was large and hard, and situated high up. He differed from those who held the view that this operation required special strength in the arm and fingers in order to enucleate the gland. The ease with which the gland could be enucleated simply depended upon the manner in which the manipulations were carried out. Perineal prostatectomy, which he had done in nine instances, was an excellent procedure in properly selected cases. There was still another class of cases in which any sort of a cutting operation was contraindicated, and it was among this class that he had seen patients not only improved, but absolutely cured by the Bottini method; patients who otherwise would have been condemned to the use of the catheter.

Dr. Eugene Fuller said that while he favored the suprapubic operation, which he had done about 250 times, he was inclined to agree with Dr. Meyer that one method was not suitable to all cases. He had done the perineal operation in 80 cases, following essentially the technique of Goodfellow. He did not make as large an incision as Dr. Syms, and made his cut upwards instead of downwards. He favored a small incision, as it would be less apt to result in a fistula than a large one. He did not think the suprapubic operation was more dangerous to life than the perineal. His own mortality by the former method for the past two years was four per cent. in his private cases, and about five and a half per cent. in his hospital cases, where many of the patients were in very poor condition. In dealing with a case where the prostatic retention had existed for a long time, where the bladder was in a succulent condition and would require long-continued drainage, Dr. Fuller thought it would be a mistake to resort to a perineal operation. Under those circumstances, the mere removal of the prostate was of secondary importance; to secure effectual drainage was the main factor, and this could best be done through a suprapubic incision. Long-continued drainage could not be carried on through the perineum. Another objection to the perineal route was that in cases where much dissection was necessary there was danger of injury to the rectal wall. He had never yet in his prostatectomy work torn the rectum or given rise to a vesicorectal fistula. Theoretically, it appeared very easy to enucleate the prostate, but in some instances it was very difficult, and in malignant cases it might even be impossible. As to the question of sterility, he could recall a number of instances where patients who had been previously impotent for a number of years were restored to potency by the operation. In advanced cases, of course, when the sexual power had been lost for many years, the outlook was not very promising, but in certain instances where the hypertrophied prostate pressed on the ejaculatory ducts and obstructed the act of ejaculation, the sexual power might be restored by prostatectomy. Dr. Fuller said that in most of his work upon the prostate he depended largely upon the sense of touch rather than the sense of sight.

Dr. James Pedersen said his experience in this field had been limited chiefly to the Bottini operation and to perineal prostatectomy. In selecting cases for the Bottini method, he was largely guided by the rules so well laid down by Dr. Meyer. His results with the perineal method had been very satisfactory, and he was often surprised by the facility and ease with which the enlarged gland could be reached and manipulated through such an incision. The tractor he had usually employed was that devised by Dr. Young, but there were cases in which that instrument could not be introduced, and in those instances he had found the old-style placental forceps an excellent substitute for the purpose of seizing and bringing down the enlarged lobes. Much of the success of prostatectomy, Dr. Pedersen said, depended on the after-treatment, the important factors of which were: 1. Short period of drainage, which included the early removal of the packing from the wound. 2. Short period of confinement in bed. 3. Free diuresis. 4. Occasional catharsis.

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**"League of Pitiful Deliverance."**—A society having this title exists in Siberia. The object of the society is the killing of the aged and infirm relatives of the members of the order to put them out of pain. The death of such persons is decreed by a secret tribunal. The existence of the society was revealed by a woman, a sufferer from rheumatism, who objected to the death sentence and informed the police, thereby causing the arrest and trial of three brothers for conspiracy to murder.—*American Medicine.*

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending September 30, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 73 | 2 |
| Diphtheria and Croup | 171 | 18 |
| Scarlet Fever | 51 | 5 |
| Smallpox | .... | ..... |
| Chickenpox | 23 | ..... |
| Tuberculosis | 380 | 146 |
| Typhoid Fever | 113 | 24 |
| Cerebrospinal Meningitis | 2 | 5 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | ..... |
| Totals | 813 | 200 |

**The Leucocytes in Whooping-Cough.**—C. G. Grulee and D. B. Phemister have made examinations of the blood in fifteen cases of whooping-cough, and give us the following conclusions; (1) Leucocytosis is present in all stages of whooping-cough. (2) The number of leucocytes increases with the increased frequency of the paroxysms and becomes less as the paroxysms become less frequent and severe. (3) The mononuclear leucocytes are relatively increased in all stages of the disease. (4) In the paroxysmal stage the lymphocytosis was due largely to the large lymphocytes. In the catarrhal stage in some cases the small mononuclears were in excess. These results correspond with the results of other observers. The normal blood during infancy and childhood gives at birth 17,600 with 75 per cent. polymorphonuclear leucocytes; within forty eight hours lymphocytes begin to increase and polymorphonuclears to decrease until they reach 36 per cent., while the small lymphocytes are 45 per cent., large 1 per cent., transitional 18 per cent., and eosinopiles 1-3 per cent.—*Archives of Pediatrics.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, Public Health and Marine Hospital Service, during the period from September 16 to 23, 1905:

SMALLPOX—UNITED STATES.

| | | CASES. | DEATHS. |
|---|---|---|---|
| California, San Francisco | Sept. 2-9 | 1 | 1 |
| District of Columbia, Washington | Sept. 8-16 | . | 1 |
| Florida, Jacksonville | Sept. 8-16 | 1 | .. |
| Minnesota, Four counties | July 31-Aug. 7 | 22 | .. |
| | Aug. 7-14 | 6 | .. |
| Six counties | Aug. 14-21 | 26 | . |
| Three counties | Aug. 21-28 | 6 | . |
| Two counties | Aug. 28-Sept. 4 | 2 | |
| | Sept. 4-11 | 6 | .. |
| Pennsylvania, Allegheny | Sept. 2-16 | 1 | .. |
| York | Sept. 8-16 | 7 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Africa, Cape Town | July 29-Aug. 5 | 5 | .. |
| Argentina, Buenos Ayres | June 1-30 | .. | 34 |
| Brazil, Pernambuco | July 1-15 | .. | 162 |
| Rio de Janeiro | Aug. 20-27 | 14 | 3 |
| France, Paris | Aug. 27-Sept. 2 | 17 | 5 |
| India, Calcutta | Aug. 3-10 | .. | 2 |
| Madras | Aug. 5-18 | .. | 14 |
| Italy, General | Aug. 18-24 | 14 | .. |
| Messina | Aug. 12-19 | 4 | 4 |
| Russia, Moscow | Aug. 12-26 | 11 | 5 |
| Turkey, Constantinople | Aug. 28-Sept. 3 | .. | 2 |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Florida, Pensacola | Aug. 29-Sept. 16 | 43 | 9 |
| Kentucky, Lexington | Sept. 17 | 26 | Refugees. |
| Louisiana, Ascension Parish | To Sept. 16 | 48 | 3 |
| Assumption Parish | To Sept. 19 | 24 | .. |
| Avoyelle Parish | To Sept. 18 | 7 | 1 |
| East Carroll Parish | To Sept. 18 | 101 | 15 |
| Iberville Parish | To Sept. 13 | 16 | 6 |
| Jefferson Parish | To Sept. 19 | 263 | 35 |
| Michigan Parish | To Sept. 19 | 205 | 16 |
| Morehouse Parish | To Sept. 18 | 1 | 1 |
| Natchitoches Parish | To Sept. 19 | 76 | 2 |
| Orleans Parish, New Orleans | July 21-Sept. 20 | 2678 | 349 |
| Rapides Parish | To Sept. 19 | 13 | .. |
| St. Bernard Parish | To Sept. 19 | 47 | 3 |
| St. Charles Parish | To Sept. 19 | 113 | 16 |
| St. Mary Parish | To Sept. 19 | 380 | 24 |
| Tangipahoa Parish | Sept. 17 | 2 | .. |
| Tensas Parish | Sept. 18 | 2 | .. |
| Terrebonne Parish | To Sept. 18 | 127 | 4 |
| Mississippi, Enoka | Sept. 15 | 1 | .. |
| Gulfport | Aug. 15-Sept. 15 | 61 | 1 |
| Gulf Quarantine | July 22-Sept. 2 | 61 | 1 |
| Harmony | Sept. 15-17 | 9 | .. |
| Mississippi City | Aug. 22-Sept. 22 | 46 | .. |
| Mississippi, Natchez | To Sept. 18 | 20 | .. |
| Soria | Sept. 15 | 1 | .. |
| Vicksburg | Aug. 30-Sept. 17 | 33 | 4 |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | Aug. 20-27 | 5 | .. |
| Guatemala, Tecura | Aug. 23 | Present. | |
| Mexico, Merida | Sept. 15 | 1 | .. |
| Tehuantepec | Sept. 3-9 | .. | 1 |
| Tezonapa | Sept. 3-9 | 1 | 1 |
| Vera Cruz | Sept. 3-9 | 4 | 1 |
| Panama, Panama | Aug. 27-Sept. 2 | 2 | 1 |

CHOLERA.

| | | | |
|---|---|---|---|
| Germany, Hamburg | Aug. 26-Sept. 6 | 3 | 1 |
| Stettin | Sept. 19 | . | 1 |
| Vistula District | To Sept. 7 | 90 | 36 |
| India, Calcutta | Aug. 5-19 | .. | 36 |
| Madras | Aug. 5-18 | .. | 866 |

PLAGUE.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | Aug. 20-27 | 9 | 2 |
| India, General | July 29-Aug. 5 | 1445 | 1054 |
| Bombay | Aug. 15-22 | .. | 48 |
| Calcutta | Aug. 5-19 | .. | 21 |

The following cases have been reported during the period from September 23 to 30, 1905:

SMALLPOX—UNITED STATES.

| | | CASES. | DEATHS. |
|---|---|---|---|
| California, San Francisco | Sept. 8-16 | 1 | .. |
| Illinois, Galesburg | Sept. 16-23 | 1 | .. |
| Ohio, Cincinnati | Sept. 1-8 | 4 | .. |
| | Sept. 15-22 | 3 | .. |
| Wisconsin, Appleton | Sept. 16-23 | 4 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Pernambuco | July 17-31 | .. | 231 |
| China, Niuchwang | Aug. 5 | 1 | .. |
| Ecuador, Guayaquil | Aug. 22-Sept. 5 | .. | 7 |
| France, Paris | Sept. 2-9 | 18 | .. |
| Great Britain, Liverpool | Sept. 9-16 | 1 | Imported. |
| Plymouth | Sept. 2-9 | 9 | .. |
| India, Bombay | Aug. 9-15 | .. | 1 |
| Calcutta | Aug. 19-26 | .. | 2 |
| Karachi | Aug. 6-13 | 1 | 1 |
| Italy, General | Aug. 31-Sept. 7 | 7 | .. |
| Catania | Aug. 31-Sept. 7 | .. | 2 |
| Russia, Moscow | Aug. 26-Sept. 2 | 4 | 1 |
| Odessa | Aug. 19-Sept. 9 | 15 | 3 |
| St. Petersburg | Aug. 19-26 | 3 | 1 |
| Turkey, Constantinople | Sept. 3-10 | .. | 1 |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Florida, Pensacola | Aug. 29-Sept. 25 | 101 | 12 |
| Louisiana, Ascension Parish | To Sept. 23 | 70 | 3 |
| Assumption Parish | To Sept. 25 | 50 | .. |
| Avoyelles Parish | Sept. 25 | 10 | 2 |
| East Baton Rouge Parish | To Sept. 24 | 5 | .. |
| East Carroll Parish | To Sept. 25 | 264 | 31 |
| Jefferson Parish | To Sept. 26 | 342 | 43 |
| Lafayette Parish | To Sept. 26 | 8 | .. |
| La Fourche Parish | To Sept. 24 | 370 | 47 |
| La Fourche Parish | To Sept. 24 | 370 | 47 |
| Madison Parish | To Sept. 26 | 261 | 16 |
| Natchitoches Parish | To Sept. 20 | 76 | 5 |
| Orleans Parish, New Orleans | July 21-Sept. 27 | 2007 | 378 |
| Plaquemines Parish | To Sept. 23 | 57 | 8 |
| Rapides Parish | To Sept. 25 | 20 | .. |
| St. Bernard Parish | To Sept. 25 | 61 | 3 |
| St. Charles Parish | To Sept. 20 | 114 | 18 |
| St. John, St. John the Baptist Parish | To Sept. 26 | 150 | 14 |
| St. Mary Parish | To Sept. 25 | 672 | 26 |
| Tensas Parish | To Sept. 23 | 4 | .. |
| Terrebonne Parish | To Sept. 23 | 829 | 19 |
| Mississippi, Gulfport | Aug. 15-Sept. 25 | 75 | 1 |
| Hamburg | Sept. 15-25 | 83 | 4 |
| Handsboro | Sept 17-24 | 3 | .. |
| Harriston | To Sept 25 | 2 | .. |
| Mississippi City | Aug. 22-Sept. 25 | 50 | .. |
| Natchez | To Sept. 25 | 35 | .. |
| Roxie (vicinity of) | To Sept. 25 | 5 | .. |
| Vicksburg | Aug. 30-Sept. 25 | 57 | 7 |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Honduras, Puerto Cortez | Aug. 29-Sept. 5 | 2 | .. |
| San Pedro | Sept. 10-15 | 4 | .. |
| Mexico, Coatzacoalcos | Sept. 10-15 | 1 | .. |
| Merida | Sept. 10-15 | 1 | .. |
| Tezonapa | Sept. 10-15 | 1 | 1 |
| Nicaragua, San Francisco | Aug. 27 | .. | 2 |
| Panama, Bocas del Toro | Sept. 9 | 5 | Removed from S.S. Preston. |
| Panama | Sept. 2-9 | 4 | .. |

CHOLERA.

| | | | |
|---|---|---|---|
| Germany, Posen, West Prussia (Vistula District) | To Sept. 7 | 105 | 32 |
| India, Bombay | Aug. 8-15 | .. | 1 |
| Calcutta | Aug. 19-26 | .. | 36 |
| Madras | Aug. 19-25 | .. | 447 |

PLAGUE.

| | | | |
|---|---|---|---|
| Africa, Cape Colony, Port Elizabeth | Aug. 12-19 | 1 | 1 |
| Chile, Taltal | Aug. 30 | 3 | .. |
| India, Bombay | Aug. 8-20 | .. | 130 |
| Calcutta | Aug. 19-26 | .. | 13 |
| Karachi | Aug. 6-27 | 29 | 20 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 16.
Whole No. 1823.

New York, October 14, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### THE OFFICE TREATMENT OF DISEASES OF THE RECTUM, WITH A DESCRIPTION OF SOME NEW METHODS.

By CHARLES B. KELSEY, M.D.,

NEW YORK.

When one considers the vast number of people who pass a great part of their adult lives suffering the pain and annoyance caused by some trouble with the rectum, rather than undergo even the simplest surgical operation attended by the horrors of anesthesia, hospital, and the knife, any effort at cure or relief unattended by these conditions is certainly commendable.

It may be that these horrors are purely imaginary, that anesthesia and operation are even in fact much less painful and more efficient than any other form of treatment; but that makes no difference. The mass of our patients may be timorous, or, to our minds, even silly on these points, but these are the people we are called upon to relieve; and if there be any means of doing this consistent with the safe and honest practice of surgery, they are entitled to them.

It is but fair, however, that the exact conditions should be stated beforehand, and these may in many cases be put to the patient about as follows: "If you wish to be radically cured in the shortest time and with the least suffering you will put aside your imaginary fears, take a little laughing-gas or ether, and be operated upon. If you prefer not to do this, but to spend more time, and possibly suffer more pain in the end, much may still be done, and in many cases a complete cure may be attained by other means." Many patients will choose the former after such an explanation, and many the latter, but the choice rests with them.

As to what these other methods are the profession may be interested to know exactly what, in my own experience, I have found it possible to accomplish in my own specialty, what it is best to attempt, what to avoid; especially as we all know the question to be surrounded by much self-advertising quackery.

I will only add that my efforts began about twenty years ago with the injection of carbolic acid into hemorrhoids, which I at first strongly advocated and subsequently as publicly condemned; and some of my older friends and confrères may remember the amount of criticism I received because having thought a thing was good and said so, I afterwards discovered it to be dangerous, and said so. My experiments have gone on steadily ever since (though I may have been more cautious about saying things were good in the fear of having to retract); they have covered every method of which I have heard which appeared in my surgical sense as safe and efficient, and some rather original ones; and to the results the profession is welcome. The intermediate steps are hardly worth recording.

Before the discovery of cocaine the efforts of the workers in this line were confined almost entirely to the treatment of hemorrhoids by injections of carbolic acid and other drugs. This could be accomplished either through a speculum in non-prolapsing cases, or without any speculum in cases that protruded, and was not attended by any great pain at the time. As to its value the profession has certainly had time to decide, and my own views are well known. Occasionally it is still heard from. Personally I abandoned it many years ago, and after an interval in which, returning to first principles, all my cases were treated by the safer method of the clamp and cautery, began on entirely different lines.

The first great advance was the appreciation of the value of cocaine, and one of its greatest benefits was that by injecting a solution of it, not into the rectal tissues, but into the rectal cavity, and leaving it for a time, a speculum or the finger could be used and a diagnosis made, and possibly even a cure effected, in a whole group of cases which had previously been absolutely unapproachable, except under profound general anesthesia, because of the pain caused by an attempt at examination. Naturally this practice has been permanently adopted, except that when eucaine became known cocaine was abandoned, the former having equal anestheic effect with much less constitutional disturbance.

While upon this point of local anesthesia I may say that the recent exploiting of simple water as a local anesthetic has not appealed to me. It is certainly not new, for it has been a scientific curiosity for years; but the practical advantage of injecting an ounce of water into the tissues to secure an effect which can as well be gained by ten drops of a very weak and absolutely safe solution of eucaine is not manifest, while the disadvantages are obvious. Moreover, eucaine in many cases can be efficiently applied on a piece of cotton allowed to rest on the spot and need not be injected into the tissues at all to produce full anesthesia.

Having thus touched upon local anesthesia as the *sine qua non* of these methods, and a substitute for laughing-gas and ether, let me add that though with it much can be done, by it the sphincters cannot be stretched without pain; and this is very definite and positive limitation to its usefulness, through which a very large proportion of the most delicate and difficult surgery of the part is still left dependent upon general anesthesia. By it, as I have said, a speculum may be used in cases otherwise impossible; but by it complete exploration of the rectum through dilated sphincters—the only way in which complete exploration can be done—cannot be effected. Cannot is a strong expression, and though it conveys my meaning may be modified to this extent. If dilatation be attempted with cocaine or eucaine the numerous injections will be very painful and the constitutional effects of the drug marked. If attempted with water, the distension will be still more painful, and there may be sloughing of the tissues as a result, for this has been known. In neither case will there be satisfactory anesthesia.

**Fissure.**—There are two distinctly recognized ways of treating fissure of the anus—in fact, three. I say three because the third is to treat an ulcer here exactly as elsewhere in the body—not by any sort of surgical operation, but by simple stimulating dressings intended to induce a sluggish ulcer to granulate and heal. It is wonderful how many ulcers here can be made to heal exactly as they would heal elsewhere, by applications, not of the solid stick of nitrate of silver, but of charpie covered with ungt. hydrargyri ammoniati; balsam of Peru; charpie alone; or any other mildly stimulating application.

But, outside of this, a fissure may be cured by either stretching the sphincter, and thus rupturing its muscular fibers, or by incising the sphincter, and thus putting to rest its muscular fibers, which underlie the ulcer. Both procedures cure the ulcer by inhibiting the action of the muscle upon which it rests. Stretching can only be done under general anesthesia carried to its limit. Incising can be done with ten minims of a weak eucaine solution placed hypodermically under the fissure. Provided there be no complication such as a polyp or hemorrhoid hanging into the fissure and preventing its healing, either method will be equally successful, and the hypodermic anesthesia appeals most strongly to the patient, in that it avoids a so-called "surgical operation."

Now, I suppose it is not the least exaggeration to say that on an average of once a month for years back I have been appealed to in cases like the following. Patients in the upper walks of life, generally women, but sometimes men, have come to me, saying, "Doctor, I have a fissure. I am suffering intense pain. Dr. —— (mentioning someone of my most respected confrères) has examined me and says it is necessary for me to take ether, to have the muscle stretched. Can you do anything for me without this operation?" Their physical suffering is very real; their mental suffering is purely nonsense; that is granted. And yet when I say, "That may be possible," and when, after examination, I bathe that fissure in strong eucaine, or inject weaker eucaine under it till all sensation is abolished, and incise it freely, and cure results, these patients are very grateful.

This is but an example of the whole question under discussion, and the only question remaining is whether this treatment is as efficient as general anesthesia and stretching. Frankly, I say, not quite. Fissure in some cases is secondary to other affections, such as polypus or hemorrhoids. With general anesthesia these causative affections will probably be discovered and removed in the act of stretching the sphincter to cure the fissure. With local anesthesia they are very likely to be overlooked. Without any carefully prepared statistics to refer to I should say that the proportion of cures by local anesthesia to that by general anesthesia was as ninety-five to a hundred.

It is amazing what an operation a patient will submit to as long as you don't call it an "operation," but just simply do it with local instead of general anesthesia, and without hospital or trained nurse. A patient will be operated upon in the office, go home and stay abed a fortnight, get well and go about again, and always aver that he was cured without an operation simply because he did not take ether, whereas the surgical procedure was exactly the same under local anesthesia that it would have been with ether, and the confinement and after teatment the same.

But the ether is to most patients the dreaded element of an operation, and it is this I am pointing out how to avoid it.

Considering now another of the most common and annoying affections of this part, in which local may often be substituted for general anesthesia, we will say a few words about

**Pruritus Ani.**—In many cases of pruritus it is necessary to use strong measures to reduce the long-standing hypertrophy of the skin, before the itching can be relieved, and the best of all these is the actual cautery where salicylic acid in strong solution has failed. Now the actual cautery (galvanic or Paquelin) may be applied once for all under general anesthesia (which constitutes an "operation"), or it may be applied at different points at successive intervals under local anesthesia—which constitutes the cure "without operation." This is my own favorite method, and by it, combined with all the knowledge of general medicine, surgey, dermatology, and pharmacology I have been able to acquire in a lifetime of practice, I accomplish what results I am able to secure in this most complicated and intractable disease. There isn't a vestige of a secret about it. The rule is, destroy the old hypertrophy when necessary, and then go on and treat the skin disease—and destroy the old hypertrophy under either local or general anesthesia, as you choose, or with the actual cautery or chemical applications, as you choose. The man who can cure an obstinate case of pruritus with or without operation is one whose knowledge of general medicine and three or four specialties is worthy of a good deal of respect. Personally, I have found that local anesthesia and gradual work were more efficient than any attempt to do all of the work at one sitting by an operation, for the simple reason that after what the patient considers an operation he expects to be cured at once, whereas the destruction of the skin is only one step toward cure and only a part of a general course of treatment which generally includes many other things.

**Fistula.**—Fistula is such a hydra-headed disease I hesitate to speak of it in this connection. I have cured fistulæ (several of them) by colostomy and subsequently closed the artificial anus and left my patient well. I have cut, in my early days, several very extensive fistulæ and lost my patient by putting him through a more extensive capital surgical operation than the system could withstand. I have just discharged as cured a private patient who had been under treatment for three years by one of our most respected general surgeons in New York and pronounced by him incurable; and this was only accomplished after eighteen months of continuous daily supervision and *five* etherizations. This was a tubercular case, where every surrounding influence was in my favor.

After this prelude we approach the question of the cure of fistula "without operation." Such a thing is possible, but very rarely. One of the most remarkable instances I have ever seen was a tract running several inches directly upward into the ischiorectal fossa which had been cut so often the patient would not consider any further surgery, and consulted me simply to know if anything could be done without cutting. Almost without expectation of accomplishing anything strong tincture of iodine was twice injected, so as to distend the tract, and the patient, to my surprise, was cured. Other cases I have cured along this same line—curettage, stimulation, drainage—but in the vast majority the attempt has ended in failure, and it should not be undertaken except on this understanding and at the patient's pecuniary risk.

When we get to the point of laying the tract open or to what generally constitutes the treatment, we have to consider the choice between local and gen-

eral anesthesia—office or hospital. Some, and those the simplest, can be done in the office perfectly well; and this being the case, it is just as easy to do all of it at one sitting as to do it piecemeal and pretend it is not an operation. But only the simplest can be cured in this way, and the failures result from cutting a branching sinus as though it were only a straight one, and not detecting the error until failure to cure leads to better surgery.

As a general rule the man who puts his patients under general anesthesia, sits down quietly and dissects out his fistula, will succeed in curing where the one who attempts this with local anesthesia will fail. But so much depends upon the individual case that it is impossible to generalize; only without general anesthesia it is very often impossible to be sure of the nature and extent of the case.

Experience will bring wisdom, and also teach great caution in promising results; and it may be a consolation to some of my readers to know that within the past year I have operated on a patient in my office, failed utterly to find the tract, and sent him home as cured of what I thought must be only one of a succession of small furuncles, only to have him return in a few weeks with another. This time, being convinced there must be a fistula, I took every precaution, including etherization and hospital, found a little sinus about an inch long, and sent him home again as positively cured. But he isn't. He writes me he is exactly as he was when I "cured him first time." Something unusual we evidently have come across, and though I have no idea what it is, I still hope for a chance to discover, and to cure the man.

**Hemorrhoids.**—After abandoning the treatment of hemorrhoids by injection years ago I began a systematic search for some method which should accomplish the same purpose; viz., a cure without general anesthesia or confinement to the house, and which should be free from the dangers inherent in carbolic acid. For years then I had made it the rule in my clamp and cautery operations, after using the clamp in two or three spots, to treat any remaining small tumors which seemed possible sources of future trouble by puncturing into them with the tip of the Paquelin instrument, thus destroying them without the risk of too great contraction which always attends the too free use of the clamp, and this is still my practice.

The method is similar to that often relied upon in France as a recognized procedure for the cure of all hemorrhoids, and is there known as punctate cauterization. Gradually this method became of more general scope in my own work until I began to apply it to more severe cases, to use it in my office with local anesthesia instead of in hospital, and to use a galvano cautery instead of the Paquelin, as more convenient.

Whether this treatment of my own has led to the now common and utterly senseless use of the constant or interrupted current around and through these parts, and to the so-called method of curing hemorrhoids by "absorption by electricity" I know not; but this so-called method of cure has become quite common since I began the use of this method. There is no "electrical absorption" and no electrolysis in my method. It is simply the punctate cauterization with a needle rendered hot by electricity, of a hemorrhoid which has previously been made insensible to pain by the injection of a few drops of a weak solution of eucaine; and the object is to cause destruction and cicatrization, not absorption.

The source of electricity is the street current and the needles used are those to be found in every instrument shop for accomplishing this purpose in growths and ulcerations in the nose and throat. It was, in fact, to the work done by my friends in these specialties that I was indebted for many of my ideas, added to my memory of the way one of our best surgeons of the past generation used to cure cases of birthmark—by holding an ordinary shoemaker's awl to an alcohol lamp until it became hot, and then plunging it into half a dozen points of the tumor, thus shutting off its blood supply and leaving only a white scar.

The question in my mind was if this could be done with such a vascular tumor, why not with hemorrhoids, and the result proved that it was perfectly possible.

The principle has been stated. The technique where the tumor can be made to protrude is very simple, in other cases often exceedingly difficult; for a speculum must be held with one hand while the applications of eucaine and cautery are made with the other. And yet it is to exactly this class of cases that the method is best adapted, for a hemorrhoid which can be brought down and seized with forceps may be also tied off under eucaine; but one which cannot be brought down cannot be properly tied off or clamped and cauterized without dilatation of the sphincters; and to do this under local anesthesia properly and efficiently is not possible. Neither the ligature or clamp operations are done through a speculum, but only after dilatation. This one is done without dilatation and by means of a speculum, and under eucaine in the office; and in this difference consists its advantage and its indication.

But little more need be said as to the technique. The speculum used is the one generally sold under my name; the hypodermic an ordinary one with side handles; the hypodermic needles fine and rather long; the platinum cautery tips also fine, and straight or curved, as needed. Ten or fifteen minims of a weak eucaine solution are first deposited in the most prominent part of the tumor which will turn white from the distension of the fluid, and after a delay of a few minutes, to allow this to take effect, the platinum wire, heated to the point of redness, is plunged fairly into the substance of the tumor. One, or at most two, applications are enough at one time, and these should not be made oftener than twice a week at first. After four or five of these applications, if pain or soreness is complained of, it is well to stop treatment for a week, to allow of healing. The time consumed by the method in an ordinary case is usually about three months, although it can be done in much less. During that time, although there will be some pain for a day or two after the treatment, the patient is not expected to be confined to the house or unable to attend to his ordinary duties. Accidents, such as abscesses or hemorrhage, I have never met with, although when used near the mucocutaneous junction I have seen an edematous swelling appear at the nearest point of the skin within an hour, only to subside spontaneously in a day or two. This is the only thing in the nature of a complication I have ever observed, and this will not occur when the applications are fairly above the sphincters.

As to permanency of result, I now have patients, treated in this way ten years ago whose hemorrhoids, prolapsing and bleeding, and requiring replacement when they came to me, have never returned, and my experience with it in all classes of cases has been rather extensive.

It should not be necessary to say that the method is not adapted to tags of skin which can be snipped off with scissors.

It may be asked what advantages has all this over the injection method. Chiefly, to my mind, these:

In this there is no irritating fluid deposited in the middle of a vascular tumor, and left to do its work, with no escape for the products of suppuration except what nature may provide, sometimes at a considerable distance; but in this case there is an antiseptic puncture, left open necessarily, to allow for natural drainage.

In the one case there is a distinctly circumscribed antiseptic surgical traumatism, limited in extent by the will and skill of the operator. In the other a focus of inflammation is deposited deep in the tissues to take care of itself.

My own preference for this treatment over that by injection can be stated in fewer words. After ten years of steady trial this one has never caused me a moment's uneasiness, or even a cutaneous abscess. The other has caused extensive suppuration in my own hands, and death in the hands of others who have been more unfortunate through no blame of their own.

And yet I have been slow in publishing this method, for I am convinced that, should it become popular, there will at once be a chapter of accidents resulting from its improper use by unskilled hands. The precautions I have always taken will be neglected, the description of technique will be disregarded, modifications and improvements (?) will be invented; and for this reason I have preferred to leave the unskillful to their harmless method of causing "absorption by electricity." It is not now recommended for universal adoption, or even put forward as an improvement upon the clamp or ligature operations. Rather, it is a description of what I have personally been able to accomplish in the way of curing the timid sufferer, who had rather suffer on than be cured by an operation involving ether and the knife.

Either the ligature or the clamp operation, preferably the former, may, in selected cases in which no stretching the sphincter is necessary, because the tumors protrude spontaneously, be performed under local instead of general anesthesia, and the results as to pain and confinement to the house will be exactly the same. Also if patient and surgeon prefer they can be done in the doctor's office and the patient sent home in a cab with an opium suppository in his rectum, instead of comfortably in his own bed. I do not do my own operating of this kind in my office either with local or general anesthesia, but that may be merely a matter of preference; but I have often found a distinct advantage in using eucaine instead of general anesthesia, especially in old or very nervous and timid patients. But again I must insist, even at the expense of being wearisome, that this is only in cases where the tumors can easily be brought outside the anus and the surgeon's work is all before him. That a case of internal hemorrhoids, bleeding and painful and demanding operation, but never protruding to any extent, can be satisfactorily operated upon either by ligature or clamp, as such cases should be operated upon under any form of local anesthesia I do not admit. I have earnestly tried, to the disgust of my patient, my trained nurses, and myself. The very first step in such a case is the free dilatation of the sphincters. Then comes the dissection of the tumor from its base of attachment, and then the clamp or the ligature to its pedicle. It is manifest to any surgeon that this can only be done cleanly and satisfactorily under general anesthesia.

There is much more of the minor surgery of the rectum which can be facilitated by the use of local anesthesia. For example, the largest polypus I have ever encountered, one fully three inches long with a fleshy pedicle, an inch in diameter, was removed with perfect ease in this way. Also, in the routine treatment of various ulcerations much suffering from the introduction of the speculum may be avoided; and sluggish sores may be curetted and cauterized, and many slight operations done by this means which, but for it, could only be done under ether. So that I have come to keep a solution constantly ready for routine office work, for hypodermic use, for application on cotton, for injection into the rectal cavity previous to the introduction of a speculum; and by it as every oculist or laryngologist knows, much suffering may be saved, and much etherization and hospital work avoided.

But this is about the limit, and we have not yet reached the point where all the surgery of the rectum, including partial or complete extirpation, is best done in one's office under local anesthesia.

As I wrote ten years ago, "A very large proportion of all cases of piles, fissures, superficial ulcers, and pruritus, and a certain proportion of abscesses and fistulæ may be radically cured in one's office without resorting to ether or confinement to bed." As to how this may best be done, I have here endeavored to show, as well as to point out in what class of cases it is best adapted.

More than ten years ago my dear friend and associate, Dr. Gibbs—the first officer shot in the Spanish War—after two or three years' experience in my office, said, one day: "The fact is, nine-tenths of this rectal surgery is minor surgery, and could be done in your office just as well as in hospital." His statement was a little exaggerated. For nine-tenths I should substitute one-half, and yet there is no question that too much fuss has been made over the whole business. The idea of sending a delicate woman to a hospital, giving her ether, and having a trained nurse; or of getting in a trained nurse to her own house, and having an expert anesthetizer come and give her ether to accomplish the cure of a simple fissure, is a little ridiculous. The disproportion between the means used and the end to be accomplished is too great. The secret of success lies in knowing in what case to try one method, and in what the other. This only experience can teach. Occasionally, after years of work along this line, I slip myself; and both patient and I are glad to get the former safely in bed in hospital, have him fully under ether, and have him cured in the easiest possible way for me.

But I am not considering this question from the standpoint of what is easiest for me. Perhaps, if I were, I should put them all in hospital.

My point of view has been simply this—what can be done for the timid patient who objects to hospital, to ether, and to operation?

The result of many years of work along this line has been very briefly stated. As I said years ago, in a little pamphlet on this subject, it embodies no new principle; no secret remedy. It is simply the systematic adaptation of methods known to all my confrères, carried perhaps a little further than they have usually been carried, to the treatment of a certain class of affections of a certain part of the economy.

18 East Twenty-ninth Street.

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**A Finger Ring for Ligatures.**—The vicissitudes to which the ligature or suture material is subjected in its course from the instrument table to the hand of the operator has induced v. Bramann to invent a device by which all the handling to which the material is ordinarily exposed be eliminated. The small metal reel upon which the silk or catgut is sterilized and preserved is made so that it may be enclosed in a perforated metal capsule and affixed to a ring slipped over one of the fingers of the operator's left hand. He thus has an abundant supply of material constantly at hand.—*Zentralblatt für Chirurgie*

# THE VAPOR METHOD OF ANESTHESIA.*

By JAMES TAYLOE GWATHMEY, M.D.,

NEW YORK.

In 1847, over half a century ago, Sir James Y. Simpson introduced chloroform as an anesthetic. Putting an unmeasured quantity on a handkerchief,—thus administering it, as he said, "powerfully and speedily,"— it is not surprising that in less than a year the first victim of chloroform, Hannah Greener, died from the effects of the concentrated vapor, as thus administered, Dr. Simpson being the anesthetist. As the death rate increased, he modified his instructions so as to give it "drop by drop." Dr. Snow was the first to recognize the very great danger of giving as powerful a drug as chloroform by the drop method, as this always means, however carefully given, an unknown percentage of the vapor inhaled, consequently an irregular form of anesthesia at the best.

Clover and Paul Bert, both original investigators, agreed with Snow as to the vapor method, and constructed inhalers accordingly. Junker's inhaler (Fig. 1) was the one universally used in Great

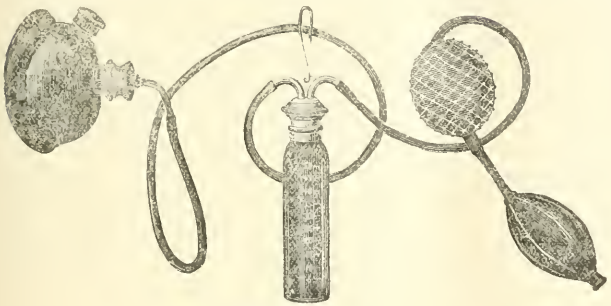

Fig. 1.—Junker's apparatus.

Britain until 1904. The great objection to Junker's inhaler is the closed mask (with valves) commonly used with it. This mask is not large enough to contain sufficient vapor for a full inspiration, thus throwing a needless strain upon both the respiratory and circulatory centers. This method was considered absolutely safe, but deaths have been recorded. These deaths were due, in my opinion, not so much to the chloroform vapor as to the faulty construction of this small, closed mask with valves, which compels the patient at times to attempt to breathe from a vacuum.

Fig. 2.—The Harcourt inhaler.

For those who prefer the closed method, a large, thin rubber bag, placed immediately behind the inhaler, removes this element of danger. The bag should always be two-thirds inflated, thus insuring a plentiful supply of vapor at all times. The amount and cost of the anesthetic are thus reduced to a minimum, and this fact would appeal to those to whom these items would be of the greatest consideration.

The Harcourt inhaler (Fig. 2), which has been endorsed by the last special chloroform committee appointed by the British Medical Association, meets all the requirements for a definite dosage of a known percentage of chloroform vapor. It gives a maximum two per cent. chloroform vapor, which has been found sufficient to induce anesthesia in the majority of cases. After surgical anesthesia has been reached, it is satisfactorily maintained by a one per cent. vapor or a fractional part thereof.

The principal objection to this last-named inhaler is that it is necessary to use a closed mask with valves. Valves, however well made, mean increased effort at breathing. Then, again, this inhaler can be used for chloroform only. If, for any reason, a change should be indicated, it would be necessary to change the inhaler and the mode of administration with a possible interruption of the operation. From all accounts, it unquestionably gives a perfectly even and safe anesthesia.

Dr. Braun of Leipzic modified Junker inhaler so that either chloroform or ether alone, or any combination of the two drugs, may be given. (See Fig. 3.) A metal mask, without valves but with a small opening in the top to insure the supply of air, comes with the apparatus. Although this mask is an improvement over Junker's, yet, on trying it myself, I found the sensation so unpleasant that I immediately discarded it, and have, since that time, always used one of my own, a modification of Hewitt's (Fig. 4). This consists of an anatomically correct, fitting face piece, the rim of which is hollow and perforated with small holes around the inner margin so as to allow the vapor to escape. In all other respects it is identical with a folding Esmarch mask. This is covered with two to four layers of gauze, over which

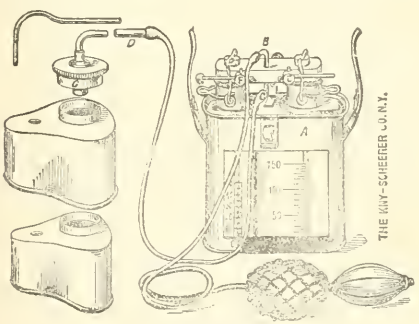

Fig. 3.—The Braun inhaler.

*Read at a meeting of the Medical Society of the County of New York, September 25, 1905.

is placed a piece of oiled silk or rubber tissue. A small opening, the size of a ten-cent piece, is cut in the middle of this gauze so that, during the induction period, a few drops of chloroform may be added, as it sometimes necessary with vigorous alcoholics.

There are no valves, consequently there is no rebreathing, no unnatural nor strained breathing at any time. I have used this mask in connection with the Braun apparatus more than two hundred times,

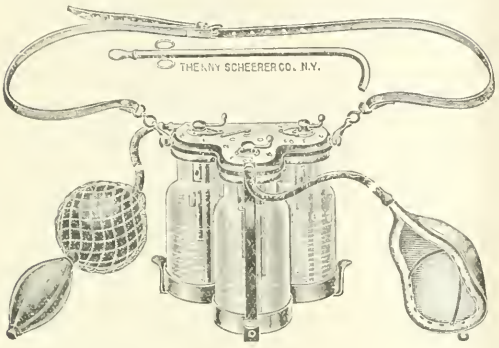


Fig. 4.—The Gwathmey vapor inhaler.

and on each occasion with an increased degree of satisfaction to myself. Dr. Braun's idea is to give a continual anesthesis by means of a highly attenuated ether vapor, to which, from time to time, chloroform is added, according to requirements. He thus secures the advantages of both agents, and discards their disadvantages. He adds only small quantities of chloroform, when the ether vapor is insufficient to produce the desired effects. When not using oxygen, I generally follow this method with my apparatus. The Braun apparatus is simple and easy to operate, and has decided advantages over the Harcourt inhaler. But the principal, and greatest, objection to these, and to all other inhalers up to this time, is that the air or oxygen cannot be increased or decreased without at the same time increasing or decreasing the anesthetic vapor. After much thought and a great amount of experimental work, I have succeeded, with the cooperation of the Kny-Scheerer Company, in combining the good features of the Braun and Harcourt inhalers in such a way that the result is a more perfect instrument than any yet produced (Fig. 4).

First of all, I have three six-ounce bottles in each of which there are four tubes, varying in length from one that reaches the bottom of the bottle to one that penetrates only the stopper. These tubes represent four degrees of vapor strength, the longest, No. 4, with the mask just described, has an estimated 1 per cent. vapor strength; the shortest, No. 1, representing a very attenuated vapor strength, 0.1 per cent. In addition to these degrees, by simply turning a small lever, without removing the mask, the patient gets pure air or oxygen (Fig. 5). With Junker's inhaler, if an estimated four per cent. vapor was obtained on full compression of the hand bulb, a very slight compression producing a one-half per cent. vapor, all of the vapors passing through the one tube that reached to the bottom of the bottle. If, then, with its one tube Junker's inhaler has five different vapor strengths, it will readily be seen that the new inhaler has four times as many or twenty varying degrees for each bottle.

The percentage vapor varies, then, according to the depth or amount, and also to the temperature, of the liquid, the size of the hand bulb, and the pressure with which the air or oxygen is forced through the tubes, either by the hand bellows or from the oxygen tank. It also varies with the tube through which it is passing, the longest tube representing, with the mask, one per cent., the shortest, a fractional, or one-tenth per cent. vapor. As the mask is not air tight, nor arranged so that the vapor can be compressed, there is no possible danger of ever getting more than this amount, although it is possible to lighten the anesthetic to any degree desired.

If the patient is a strong, vigorous man, or an alcoholic, the longest tube is used to get him completely under; then the stop cock is turned to the second longest, or No. 3. If the lid reflex is still sluggish, the lever may be turned to No. 2, and then to the shortest, or No. 1. If, now, this reflex gets too active, try the second length, or No. 2 tube. By thus working up and down from the shortest to the longest tube, and by also varying the pressure, the patient can be kept between an active lid or swallowing reflex, on the one hand, and a very dull lid reflex on the other. If the patient is an infant or is very weak, only the shortest tube is to be used from the beginning.

In order to determine accurately the varying percentages of vapor passing through the tubes, a number of interesting experiments were conducted as follows: By means of water pressure, a measured amount of air, dried by passing through sulphuric acid and calcium chloride, was forced through the bottle containing the chloroform. The difference in weight of the chloroform bottle before and after the passage

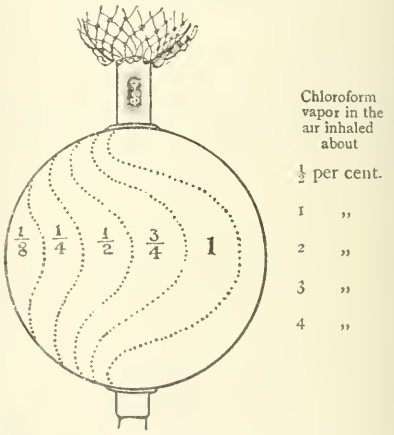


Fig. 5.—Showing amount of chloroform expressed; one-eighth compression giving one-half per cent.; full compression (1) giving a four per cent. vapor.

of the air through it gives the weight of the chloroform taken up by the air. A given weight of chloroform may be expressed in terms of volume by application of Avogadro's hypothesis. According to this, equal volumes of all gases at the same pressure and temperature contain an equal number of molecules. Conversely, a molecule of any gas has the same volume as a molecule of any other gas at the same pressure and temperature. As it has been determined that 32 G. of oxygen have a volume of

22,400 c.c., 119.5 G. of chloroform,—containing the same number of molecules as 32 G. of oxygen,—must also have a volume of 22,400 c.c. The calculation of the chloroform taken up by the air passing through it is 119.5 : 22,400 :: x : y, x being the loss of weight in the chloroform bottle, and y the volume of this weight of chloroform. And further, since the amount of air which has been passed through the chloroform is known (this may be called z), the percentage of chloroform in the mixture becomes $\frac{y}{y+z}$

In the determinations made, the air was driven through the chloroform for one-half hour at practically the same rate as when inducing anesthesia. The room temperature was about 65° F. With the lowest tube the following figures were obtained: Loss of weight in chloroform bottle, 15.57 G. Volume of air used in one-half hour, 10,900 c.c. The equation thus becomes 119.5 : 22,400 :: 15.57 : y. Hence y, or the volume of chloroform vapor taken up by the air = 2,918.5 c.c. This gives a percentage of $\frac{2,918.5}{2,918.5 + 10,900}$, or 20 per cent. The third lowest tube also gave a percentage of 20; the second, 10; and the top tube, 2.7 per cent. Similar experiments with the Junker bottle gave a percentage of 14.5. The tube here penetrates as deeply into the chloroform as in the other apparatus, but the surface area of the fluid is much less, and so allows of less evaporation. This accounts for the lower percentage.

These percentages, of course are for the chloroform in the mixture of chloroform and air as it comes directly from the bottle. The percentage actually inspired would be very much smaller. This latter can be only roughly estimated. A normal person breathes in about 500 c.c. of air in one inspiration. With 18 respirations to the minute, this would be equivalent to 9,000 c.c. per minute, or 270,000 in one-half hour. Since, in the experiments described, when an amount of air is driven through the lowest tube, at the rate ordinarily used in anesthesia, 2,918.5 c.c. of chloroform vapor comes to the mask in 30 minutes, the percentage of chloroform in the air inspired during this time would be 2,918.5 ÷ 270,000, or about 1 per cent. This calculation is undoubtedly too low, however, since the diminution in the rate and depth of breathing during anesthesia, and the accumulation of chloroform in the respiratory passages, would tend very materially to increase the percentage.

To repeat, the following are the tabulated results of the experiments as described: In the mixture coming directly from the tubes, the lowest tube gave 20.8 per cent.; the third gave 20.3 per cent.; the second gave 10 per cent.; the first gave 2.7 per cent.

The estimated percentages, with the mask, were as follows: The longest tube, No. 4, gave 1 per cent.; the next, No. 3, gave 1 per cent.; the second, No. 2, gave ½ per cent.; the first, No. 1, gave 1-10 per cent.

It might be well to emphasize here the difference between the stertor of any closed method and the stertor of the vapor or drop method. The stertor of the closed, or to-and-fro breathing method, is caused by carbon dioxide, which is, comparatively, very safe. In the vapor method, it is caused by the toxic effect of the drug administered, and this is positively dangerous, and should never be permitted to occur.

With this inhaler, then, it is possible, first, to give either a pure chloroform or ether vapor, or any combination of these two drugs, varying in intensity as circumstances require, and never giving a drop more than is absolutely necessary. In an emergency, oxygen can be given without disturbing the inhaler or the mask. Weak, anemic men, and the majority of women, can be anesthetized with the ether vapor alone. Second: Whenever a change is indicated from the one narcotic to the other, it can be done easily and smoothly by simply turning a lever. It is conceded that deaths have occurred by persistence in one or the other anesthetic. For instance, if, in giving chloroform, circulatory depression or other signs of shock assert themselves, ether should be substituted at once. If, in using ether, the secretions from the buccal and respiratory membranes become so excessive that a free air way is maintained with difficulty, it is contraindicated and chloroform should be substituted, as soon as the mucus is removed. The method is not suitable for a pure ether narcosis from the start, except with children, or with the very old or infirm. Nor is it desirable, as chloroform is easier to inhale and quicker in operation, and there is no danger with the attenuated chloroform vapor.

The advantages of this form of anesthesia over all others are:

1. The induction stage is very pleasant (comparatively) for the patient. For a woman, I usually place in the third bottle her favorite cologne; for a man, a "highball," or something similar. The moral effect of the cologne on the one, and the immoral effect of the "highball" on the other, both have their usual quieting tendency, and the element of fear is reduced to a minimum. The anesthetic is started with a one-per-cent vapor of this cologne or whiskey, and, as soon as the mucous membranes have become accustomed to this, a fractional per cent. vapor of chloroform is added for the first minute, and this is changed gradually, but as rapidly as possible, so that at the end of three minutes the patient is getting one per cent. vapor of chloroform and a fractional per cent. of cologne or highball, after which the latter is turned off entirely. The average time to induce surgical anesthesia is six minutes, varying with the patient. After surgical narcosis is established, the third bottle is taken out, emptied, and refilled with hot water at about 100° F. When the chloroform or ether vapor is passed through this hot water, it is raised to the temperature of the blood, making it safer as regards life, and also more respirable, and still further reducing the after-effects. Or the cologne can be sprinkled on the mask, and hot water used from the first in the third bottle. A very satisfactory method is to use the gas ether sequence as a preliminary, and then allow the reflexes to become active, when the oxygen-chloroform vapor should be begun. Another method—as already advocated in a previous paper—is to commence with gas, then change to the vapor mask upon which 10 c.c. of ethyl chloride has been poured, and continue with the chloroform vapor and air. After the operation has commenced, allow oxygen instead of air to flow through the chloroform. Still another method is to dispense with the gas and commence with the vapor mask, using ethyl chloride at the start. A solution of cocaine may also be used, by means of the third bottle, for the first minute or so. If I am to judge from the various suggestions offered by the different surgeons to whom I have mentioned the subject, this third bottle is a veritable Pandora's box.

2. A second advantage of the vapor method of anesthesia is the fact that excitement is usually absent, or so very slight that it is unobjectionable, even in private practice.

3. In the surgical stage the patient's breathing is regular and natural. The lid reflex is never entirely abolished, nor do we have the stertor or snore, or

the mucous râle, even when giving pure ether. We have complete relaxation without the slow pulse of chloroform (as usually administered), or the billowy breathing and rapid, bounding pulse of ether. The breathing and pulse are usually normal throughout the administration, except for fluctuations that may accompany the surgical procedure. In fact, the breathing is so natural that in the majority of cases it is unnecessary to hold the jaw forward. This method will appeal at once to those who prefer, or who have been in the habit of using, the drop method, as the principle is the same, the dosage more accurate, and the narcosis more even. It is also safer, even in the hands of the occasional or inexperienced anesthetist.

4. The small amount of the anesthetic used. As with my mask it is impossible to determine accurately the exact amount consumed by the patient, no figures will be given as rough estimates; but the total amount used, in spite of much waste, is remarkably small, and has been commented upon by many surgeons.

5. In the majority of cases, absence of unpleasant after-effects; this includes scalding the face with the anesthetic, which is an impossibility with this method.

6. The technique can be acquired much more rapidly than any other anesthetizing method.

7. As we know, approximately, what percentage a patient is getting, a continual narcosis is maintained without any danger whatever to the patient. An intermitting narcosis, which is wrong in principle, is thus always avoided.

Oxygen should be used whenever possible, especially with chloroform, as it has now been proven beyond a doubt that this combination is safer than ether and air. Neudorfer, of Vienna, is credited with being the first to use this combination, about 1886; but a careful search on my part has failed to discover anything he may have written. In 1895 it was used by Dr. Schall, of Brooklyn, and Dr. Northrup, of Philadelphia. In one hospital in Pittsburg it has been the routine anesthetic for more than nine years. The exact relation of chloroform and oxygen to other anesthetics was not absolutely established until my own experiments in 1904. It maintains a normal respiration and circulation; increases the limits of safety more than two and one-half times, as compared with chloroform and air; eliminates the mucous râle; and reduces the after-effects to a minimum. Sudden cessation of the vital processes, such as sometimes occurs with chloroform administered in the usual way, never takes place with oxygen and chloroform. In my experiments in the laboratory upon lower animals, the blood pressure always falls gradually, even with a saturated vapor. I may add that in more than one hundred experiments, with either air or oxygen as the combining element, in not a single instance did the heart and respiration stop simultaneously, but the respiration always ceased first. With oxygen, the heart always continued to beat longer than with air. With oxygen also, I was invariably successful in maintaining life after respiration had ceased, provided that artificial respiration was commenced before the heart ceased beating. I have sometimes failed, under similar circumstances, when air was the combining agent.

Dr. Roth, and other chemists, have found, after repeated tests, that there is practically no difference between unused chloroform and that with which oxygen has been combined. These tests included the boiling point, specific gravity, reaction to litmus paper and to silver nitrate, and the action on sulphuric acid, etc. There is, therefore, no objection to using the chloroform a second time.

With my apparatus, as compared with Dr. Braun's, I always use chloroform and oxygen whenever, and as long, as possible, and continue the anesthetic with ether whenever this latter is indicated. The usual precaution of not giving ether in the presence of an open flame applies with double force to the more explosive mixture.

Oxygen and chloroform is especially indicated in all nose and throat operations where a mask would be in the way, and the anesthetic is given through a tube. This tube should never be thrust directly within the trachea—if the operation necessitated some such procedure—but should be held one-half to one inch above, to insure a plentiful admixture of air. With the Junker bottle it was sometimes almost impossible to maintain the proper level of anesthesia in operations such as excision of the tongue. With the larger-size bottle that I use, and the varying percentages available, the narcosis is easily and satisfactorily maintained. When much blood unavoidably gets into the throat I invariably switch to the stimulating anesthetic, ether.

Oxygen and chloroform is also indicated in all operations where vascular turgescence or billowy breathing is undesirable. In addition to the tube,

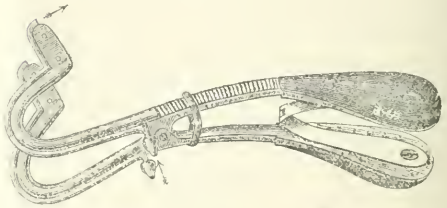

Fig. 6.—Hewitt's modification of Mason's gag, for use in operations within the mouth and nose.

Hewitt has introduced a gag (Fig. 6) consisting of bent metal tubes brazed to the arms of an ordinary Mason gag. He has also introduced a chloroform prop (Fig. 7), through which the vapor

Fig. 7.—Hewitt's chloroform prop.

is passed. Hewitt states: "I find a silk catheter of great use for passing through the nostril to the back of the pharynx." Three years later Dr. Crile, of Cleveland, Ohio, published an account of this method, enlarging on the technique as follows: "Cocainizing the pharynx, the mouth well opened and the tongue drawn out, the entire pharynx then is packed with gauze, the pressure against the base of the tongue being sufficient to control most of the hemorrhage. The patient may thus be placed in any position, regardless of the blood." This has since become known as "Crile's method."

A mouth gag and a metal tube are amply sufficient, in my opinion, for all operations in this region. "Crile's method" presents so many practical disadvantages that it hardly pays for the valuable time wasted in packing the pharynx. The principal objection is that it is impossible to absolutely prevent

leakage, and it is therefore impossible to know how much blood may be in the patient's throat. Nor can you remove the blood without removing the packing. I prefer to see what is going on in the patient's throat, and to remove all blood by rapid sponging.

The change from air to oxygen should not be made usually until the patient is well under the anesthetic and the operation has begun. This is my rule for two reasons; first, the time taken to reach surgical narcosis is much shorter with air than with oxygen; second, from what has already been said, it is understood that this is a very light and even anesthetic. If there is any delay in commencing the operation after surgical narcosis is reached, and the patient gets into a state of false anesthesia, the reflexes are more easily remedied with the hand bulb than with the stream of oxygen. On the other hand, after the operation has commenced, it is easier to maintain the desired level of anesthesia with the oxygen. The anesthetist has also the use of both hands, and can give his undivided attention to the patient.

Let us now compare this method with others:

1. The drop method. There is very little danger in intelligently administering chloroform by the drop method, provided the bottle is placed in water hot enough to raise it to the temperature of the blood (100° F.). Replacing the bottle from time to time will keep the temperature at the desired level. The objection to this method, as ordinarily used, is that it depends on the patient's breathing, whether deep or shallow, as to the vapor percentage inhaled. Inhaling a large amount of cold chloroform vapor in this way sometimes has a cumulative effect that is fatal. This danger is eliminated with the "vapor method," as the patient inhales only the percentage administered, and no more. The adverse criticism of anesthetic mixtures, as usually administered by the drop method, that, after a given time, when you desire a light anesthetic, you are giving a heavy one (the lighter constituents of the mixture having evaporated), does not apply when such mixtures are administered by the vapor method. The anesthetic can be lightened at any time by changing the tube through which the oxygen or air may be passing.

2. The gas-ether sequence. This is undoubtedly the quickest and safest routine method of anesthetizing, and certainly, by comparison with others, very satisfactory; but it is unphysiological—as is any closed method—and for this reason will probably be superseded by the "vapor," or some other, method in the near future. The longer the anesthesia, the less oxygen the blood is capable of absorbing, and the less carbon dioxide it is able to throw off. This condition is intensified by any closed method; but it is corrected by the vapor method with oxygen, and at the same time the plane of anesthesia is satisfactorily maintained.

With this apparatus, then, the vapor percentage can be increased or decreased, with the same flow of oxygen, or air, according to the tube through which the oxygen or air is allowed to flow. This result can also be accomplished by increasing or decreasing the flow of oxygen or air through the *same* tube, or by combining the two methods.

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# THE ETIOLOGY AND ELIMINATION OF DIABETES.

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Of the entire list of recognized diseases to-day, there is undoubtedly none whose pathogenesis is so little understood as the one which forms the subject of this paper; and for this reason its treatment up to the present time has been very unsuccessful and unsatisfactory.

It has long been known that this affection is due to faulty metabolism which, in some way, interrupts or prevents the perfect oxidation of the carbohydrates, more especially the sugars and starches; but to what particular organ or function this faulty action should be attributed is a question whose answer hitherto has never been removed from the field of speculation.

In all the literature bearing upon the subject of diabetes that I have been able to find, there is none in which its etiology is expressed in terms other than those of its symptomatology; hence it is variously classified. By many it is believed to be primarily a disease of the liver, and is treated as such. By others it is considered and treated as if a derangement of the kidneys were the offending cause. Others still, from the fact that lesions of the floor of the fourth ventricle are so frequently accompanied by the appearance of sugar in the urine, are persuaded that it is a nervous affection.

Recently more definite and thorough pathological studies of diabetes have led the majority of investigators to the conclusion that the symptoms which, collectively, constitute this affection, are caused by some derangement of the pancreas, more specifically by some inhibition or vitiation of the secretion from the islands of Langerhans. This view is strengthened by the fact that the digestion of sugar is known to be normally consummated, largely if not wholly, by the secretion of the pancreas.

But just as the pancreatic theory of the origin of diabetes is about to be accepted, we are confronted by the fact that in a series of experiments made by Zambosi upon dogs, the nerves of the pancreas were not only cut, but the ends were tied "in order to compare the behavior of the isolated segments with that of the central portion." In no instance, however, was there any appearance of sugar in the urine. In spite of the result of these experiments, however, there is a preponderating amount of evidence to show that the pancreatic theory of causation has a strong physiological basis of support.

But even if it be true that, in the majority of cases, diabetes originates in an abnormal condition of the secretion of the pancreas, the question what is it that causes this fatal functional defect remains unanswered, and until a correct answer is found no practical progress in the effort to eradicate this serious malady can be made.

As we know the immediate cause of diabetes is

something which interferes with the proper oxidation of certain elements of food, and as we have the most positive evidence that the appearance of sugar in the urine occurs from, or is accompanied with, lesions in organs differing greatly in structure and function, may there not be some common cause which, owing to an inherent or acquired weakness of one or the other of the organs mentioned, is able so to interfere with their normal action that oxidation is inhibited to a degree sufficient to induce the affection we are considering?

I not only believe this view of causation to be correct because it is the only one which fully accounts for and harmonizes with all the known facts associated with the origin of diabetes, but I am confident that I have discovered the common cause—the disturbing element which is responsible for the existence of every case of diabetes irrespective of the nature or location of the lesion to which organically it is most directly related.

*This common and potent cause is syphilis—that Nemesis of evildoers—which ruthlessly invades every organ and tissue of the body, and with its blighting touch vitiates every secretion and deranges every function.*

The importance of this discovery, so simple and yet so far-reaching in its results, is not difficult to comprehend. It demonstrates that certain, well-defined conditions of the system, erroneously believed to constitute an obscure and intractable disease, are, in reality, merely the symptoms of an affection whose origin and nature are thoroughly understood and whose removal is possible by reliable and scientific methods of treatment.

This discovery is not the forced assumption of a theory; it is one of the results of the observations and investigations begun twenty-five years ago and carried on during a period of years for the purpose of discovering the cause of interstitial gingivitis, a suppurative disease of the alveolar process.

In the course of these investigations I found that a great many of those afflicted with gingivitis suffered also from diabetes. Finally I discovered that in all patients affected with interstitial gingivitis of systemic origin, syphilis, either acquired or inherited, could be traced, and that notwithstanding careful and thorough surgical and dental treatment of the affected parts, a permanent cure could not be effected until the patient was subjected to a course of antisyphilitic treatment.

I frequently observed that, in a liberal percentage of such cases, all symptoms of diabetes disappeared under antisyphilitic treatment administered for the eradication of the gingivitis; but so thoroughly was my mind occupied with the endeavor to ascertain the origin of the gingival disease, that for a long time the important bearing of this observation was lost sight of, and it was not until about seven years ago that the nebulous impression that diabetes is one of the sequelæ of syphilis became sufficiently clear to amount to a tangible idea. At that time I told several professional friends of my discovery, but asked them to refrain from giving publicity to my views until I could make them known to the profession in a proper manner.

During the past seven years I have treated twenty cases of diabetes. All of them had either acquired or inherited syphilis. With the exception of two, all were restored to health with every sign of diabetes eliminated. Of these exceptions one was lost sight of and the other was suffering from epithelioma. The average time required to bring about this result was about three months. The sugar usually disappeared from the urine by the end of the second month. In only one of the cases successfully treated has there been any return of the sugar or of any other symptom. In this case, after several days of high living and alcoholism, a mere trace of sugar was discovered. Otherwise this patient, who when first treated was invalided and whose urine contained 9 per cent. of sugar, is now in robust health.

As a result of this clinical experience, I feel that I am justified in declaring that diabetes is a curable affection.

*Diagnosis.*—That every case of diabetes may receive appropriate treatment, the practitioner must be able to make an accurate diagnosis. This could be done from the history of the case alone were the statements of patients always to be depended upon. But because the syphilitic patient is so prone to deny unblushingly the soft impeachment of specific infection, either from the fear that to admit it would be degrading or, as is frequently the case, because he has been told by his physician that the taint has been completely eliminated by a previous course of antisyphilitic treatment, this method of diagnosis possesses only a corroborative value.

Fortunately, there are ways of determining the existence of syphilis independently of any history the patient may give. Syphilis never invades the system unaccompanied by tell-tale signs of its presence.

The most important and reliable of these signs are the eschar of Curtis, which may be seen upon the surface of the gums, cheeks, tonsils, pharynx, and sometimes the cornea and sclera*, and the syphilitic spores which the microscope reveals in freshly-drawn blood. The latter are of special significance because their presence is not only positive evidence that the suspected disease exists, but their disappearance later is indisputable proof that it has been eliminated, and consequently that the treatment may safely be discontinued.

*Treatment.*—The best treatment for diabetes is, from the nature of the case, that which will most readily and thoroughly eliminate the specific poison which has caused it.

The most reliable and satisfactory treatment within my knowledge is that supplied by electro-ozonation. This remedy has been my chief reliance for the past seven years. Its method of application I have fully described in a paper entitled, "The Influence of Electro-Ozonation Upon Disease," which I read before the New York Academy of Medicine in 1901, and which was published in the *New York Medical Journal* of January 18, 1902. This remedy and its action was again described in a paper upon "The Restorative Influence of Electro-Ozonation Upon the Blood," which was read before the section of Medicine of the American Medical Association at New Orleans, and published in the *New York Medical Times.*

For the benefit of those who have not seen these articles, the following brief outline-description of the apparatus by which ozone is generated and forced into, and even through the body, must suffice. The machine consists, practically, of an ozone generator fed by a high tension coil, which multiplies the voltage of the commercial current a million or more times and practically eliminates all amperage. To the generator are attached brushes or corrugated wires, from which ozone is given off in large quantities, and a Geisler or other vacuum tube is connected by a wire cord, through which ozone is forced into and through the body, thereby oxidizing all

* This infallible diagnostic sign of syphilis was discovered by me over fifteen years ago. I fully described it in a paper on "Syphilitic Localosis Alveolaris," which was read before the American Medical Association in 1898.

pathogenic products and reestablishing nutrition and vitality.

Connected with this apparatus is an electric cabinet which generates light and heat, coupled with ozone. Thus the most important elements which enter into the problem of life are supplied in a form to be utilized.

Although, as I have repeatedly demonstrated, treatment by electro-ozonation alone is able to eliminate every vestige of syphilitic taint from the system, still, in order that the patient may receive the benefit of the eliminative effects which some drugs are able to produce, I generally prescribe, in addition to electro-ozonation, such alternatives as mercury and iodide of potassium, and such tonics and sedatives as iron and veratrum viride. The latter is very useful in aiding the passage of the blood through the degenerated tissues, thereby more rapidly removing the syphilitic poison from the system. These remedies are given between the electric treatments in order that patients may have the benefit of everything that is known to be useful in eliminating the disease.

I do not wish to be understood as entertaining the idea that antisyphilitic treatment by drugs alone will not eradicate both syphilis and diabetes, since the latter, I contend, is never a disease, *per se*, but merely an occasional accompanying symptom of the former. Such treatment will, as I know by experience, cure both of these maladies in their initial stages. I am satisfied, however, that in a large percentage of cases the disease is incurable without the aid afforded by some such stimulating circulatory restorer as this ozone-producing current supplies. In many cases of diabetes syphilitic degeneration has proceeded so far that congested areas of variable size exist here and there throughout the body. These are to be found in the brain and spinal cord especially, often taking, as is well known, the form of gummata.

By using the form of the electric current I have described, these congested areas may be located and, by repeated application of the current, dissipated. Evidence that they are being removed is afforded both by the daily diminution of the pain, which the current causes by its passage through them, and by the gradual improvement of the mental dullness and paretic symptoms which the congestion has induced. The fact that diabetes is so prevalent is, to my mind, the best evidence that there exists a lack of means of determining when syphilis has really been eliminated.

A large number of cases of diabetes that have come under my care give a syphilitic history, and say they were treated for syphilis until the attending physician "guessed" that the treatment had been continued long enough. It seems to me there should and must be some definite means of ascertaining, for a certainty, when the system has been freed from *any* disease, and as a result of my experience for a number of years in making microscopic examinations of freshly-drawn blood, after the manner so strongly advocated by Watkins, I feel sure that this method, better than any other, supplies the means of obtaining this desirable knowledge.

The spores of syphilis can be seen in the blood within a very few days after the primary infection; also in the blood of an infant at birth, whose father had contracted the disease before marriage and whose system was still infected with it in spite of the assurance and belief that it had been completely removed by a course of specific treatment. They can even be discerned in the blood of the infected mother months before the child's birth.

How puzzling is the occurrence of diabetes in children! Has ever before a satisfactory explanation of its existence in these subjects been given, or a satisfactory form of treatment pursued? Since the number of spores in infantile cases is relatively small, does it not seem reasonable to suppose that antisyphilitic treatment at this time will be more effective than when applied at a later period?

Syphilitic children bear specific treatment well. It is remarkable how completely a few months of treatment will exterminate all traces of syphilitic infection. To obtain a similar result in adults a much longer time is necessary, because of the greater amount of tissue and blood degeneracy that has occurred. Why, then, not anticipate and prevent the appearance of diabetes by eliminating its cause?

In regard to the restrictions of diet, so irksome to the patient but so universally believed to form an indispensable part of all successful treatment, I am happy to be able to say that under the methods of treatment I pursue I find them entirely unnecessary. Allowing that the sugars and starches are the food elements from which the system derives the greater part of its vital energy, it seems to me that their restriction is more prejudicial to the invalid than to a person in a state of health.

Every sufferer from diabetes, as Dr. Charles W. Banks in a recent article truly says, "must have sugar, or else his own proteids disintegrate and supply it, forming at the same time oxybutyric acid and its derivatives, which poison him." As to starch, the diabetic always has power to digest and assimilate it to some extent, otherwise his tenure of life would be a very short one.

As every one of experience knows, there are diabetic patients who cannot digest certain forms of starches, but who are able to assimilate other kinds with impunity. Von Noorden found that oatmeal agreed with many patients, and the "potato cure" has many advocates. Even "the various commercial gluten preparations," quoting Dr. Banks again, "which are usually introduced into the diet upon the exclusion of the carbohydrates, contain, according to Sherman and Burr (*New York Medical Journal*, October 12, 1901), a starch content fully as large as is found in ordinary wheat flour." Dr. Hughes of England sounded the keynote of the true therapeutics of diabetes when he said, "until we can do more than cut off supplies; until we can attack" (and let me add, conquer) "the morbid process itself, we cannot consider ourselves in a condition to cure diabetes."

In no case do I enjoin my patients from using the carbohydrates freely, and it is to this fact that I attribute their comparatively rapid recovery, for so great is the restorative power of electro-ozonation over the processes of digestion, assimilation, and elimination, that the system derives all the nutritive benefits which these highly important foods are able to supply.

In conclusion I most earnestly urge physicians to test this method of treating diabetes. If electro-ozonation is not available, use the ordinary antisyphilitic treatment; but if the two can be used conjointly, the desired results will be not only more satisfactorily, but also more speedily, attained.

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**A Method of Extracting the Fetal Head When Torn From the Trunk.**—Bensinger describes a plan he employed with success in two cases. In each case a strong-toothed clamp was fixed to the base of the skull, and to the protruding handle a cord was tied. A weight of about three pounds was attached to the other end of the cord, and was allowed to hang down over the foot of the bed. The gradual traction caused the spasmodically contracted cervix to relax, and about twenty-four hours later the head could easily be pulled out by means of the clamp. —*Zentralblatt für Gynäkologie.*

# THE COST OF MODERN HOSPITALS.*

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In analyzing the costs that enter into the construction of a modern hospital, and in attempting to state the extent to which the customary expenditures of the period are justified, I shall not go back very far, because a comparison of present methods of construction with those of a hundred years ago would not be especially useful to this audience.

I assume that the purpose of the present discussion is to make somewhat clearer the reasons for planning and building a hospital like, let us say, the present Mount Sinai Hospital in New York, or the more recently completed Akron City Hospital in Ohio, and not like the older wings of the Massachusetts General Hospital, or like any typical hospital of a generation ago. At that period the use of fireproof materials in hospital construction was not deemed indispensable; principles of asepsis were unknown; organized nursing was in its infancy; the hospital household was an overgrown and disjointed family group and not a highly systematized, scientific, and business organization.

Hospital construction in the past generation has shared in the economic oscillations and in the esthetic development of the time. In most American cities building construction for any given purpose is more costly now than it was five years ago. Competent authorities say that brick buildings with wooden joists, board floors and lath and plaster walls, were built in 1870 for 25 per cent. less than the prices prevailing to-day; that is to say, materials and labor are dearer in themselves, quite apart from any change or improvement in actual construction. This is an economic accident which has nothing to do with hospital construction as such, but it must be given due consideration in the treatment of the question before us.

The influence of art is also entitled to a moment's consideration, for esthetic progress has not been lacking in expression in the construction of modern hospitals. In the original design of the new Bellevue Hospital, the erection of which in New York City is about to be begun, a striking dome capped the central structure. This feature has since been discarded as a superfluous ornament bearing no organic relation to the hospital itself; but it will serve to illustrate a distinct tendency toward the use of nobler materials and more ornate designs, at least for the principal fronts of important buildings—a tendency to which hospital architects have yielded in their turn. To what extent hospitals may justly be made to minister to esthetic demands, is a question for the consideration of social philosophers, and mere allusion to it here will suffice. Whatever the answer may be, it need not greatly concern us, because this element of cost has not increased in the past generation sufficiently to affect seriously the financial problems of hospitals.

*Actual Costs Compared.*—What, then, is the increased cost of hospital construction which is to be analyzed? The hospital of 1870—I mean the average town hospital—was built at a cost of about 15 cents per cubic foot. The exterior was simple; the plumbing and heating were of a kind now regarded as rudimentary; the building was not fireproof and was finished with wood and plaster on lath. Such a hospital could be duplicated in New York to-day, if the building laws allowed, at a cost of 20 cents per cubic foot. Allowing for all purposes 6,000 cubic feet per patient (an unusually liberal allowance for 1870) the cost of a hospital of 450 beds, or 2,700,000 cubic feet, would be $540,000 or $1,200 per bed. Now compare with this the most recently constructed general hospital in New York City, a hospital built to accommodate 450 patients. This building, or group of buildings at the prevailing market rates for construction, would cost 40 cents per cubic foot. (The actual cost was nearer 35 cents per foot, but the contract was made at a moment favorable for the hospital and could hardly be duplicated to-day). If the old space allowance prevailed, namely, 6,000 cubic feet per patient, a modern hospital of 450 beds would cost just double the price of a brick and wood hospital of the kind I have described; that is, $2,400 per bed, instead of $1,200.

But the new hospital just mentioned has a total contents of some 5,000,000 cubic feet, or 11,000 cubic feet per patient; and the cost of such a hospital built to-day in New York City upon the plan of the hospital to which I allude, would be $2,000,000 or approximately $4,400 per bed. This figure is high because the average or per capita space allowance is unusually large. The smaller Akron City Hospital, built for a similar mixed service of public and private patients, can accommodate only 60 patients and is said to have cost $203,000 or $3,300 per bed. The Fordham Hospital now being built under the auspices of the Board of Trustees of the Bellevue and Allied Hospitals of New York, will cost $600,000 and will accommodate 150 free patients, making an average cost of $4,000 per bed. The new Bellevue Hospital, planned for 2,400 free patients, and estimated to cost 40 cents per foot, will allow 9,000 cubic feet per patient and will cost not less than $3,600 per bed. The significance of the Bellevue figures is accentuated by the fact that while living accommodations for a limited number of male nurses are included in the plans, quarters for the much larger number of female nurses are not called for. These nurses are to be cared for in a neighboring but independent establishment, the cost of which should, in comparative tables, be added to the figures given.

*Cost of Foreign Hospitals.*—It may add to the interest of the argument, but it will not help us much, to compare with these figures the costs of certain typical foreign hospitals—some of them not so recently built, but all ranking as modern. In Germany under quite different economic conditions and with a simpler type of construction, costs have been relatively low. The Hamburg-Eppendorf Krankenhaus, built nearly twenty years ago for 1,500 patients, cost 3,480 marks or $870 per bed; the municipal hospital in Berlin known as the Urban Krankenhaus, which accommodates 600 patients, cost $1,075 per bed; and "Friedrichshain", under the same management, cost $1,500 per bed. To turn to France, it may be noticed that the Lariboisiere, a monumental pavilion hospital built in Paris about fifty years ago and accommodating about 600 patients, cost $3,250 per bed. St. Thomas' Hospital in London has accommodations for 558 patients and its cost of construction was about the same. The costliest hospital in London is the Belgrave Hospital for Children, built for 78 patients at a cost of $3,500 per bed. The Royal Victoria at Belfast, on the other hand, presents an example of a recently

*Read at the seventh annual meeting of the Association of Hospital Superintendents, Boston, Mass., September 27, 1905.

constructed hospital embracing seventeen large wards and costing only $1,500 per bed.

**Analysis of Increased Cost.**—In the first rough analysis there appear to be two main elements of increased cost—first, better or different materials, and second, a greater space allowance per patient. The prevailing high cost per unit of space is not due merely to the substitution of relatively costly for relatively cheaper materials, but is due as well to the fact that the variety of materials and the cost of incidental workmanship have been increased in virtue of the introduction of new methods of building, heating, ventilating, and lighting, and, above all, on account of the application of new principles of hospital management. It will appear from what follows to what use the new materials have been put and to what purposes the additional space is devoted.

*Protection against Fire.*—A great leap upward in cost was taken with the substitution of fireproof for inflammable building materials. This change was due in some instances to an awakening sense of responsibility for the lives of hospital inmates, while in others it was compelled by law. Similar ends have been served by the introduction of independent fire pumps in connection with interior stand-pipes. The necessity for the protection afforded by increased expenditure in this direction is so obvious that I shall not attempt to justify it by argument.

*Heating and Ventilating.*—More debatable ground is approached, however, with the introductiou of the subject of heating and ventilating. The cost of a modern boiler, heating, and ventilating plant, in a hospital of liberal dimensions, is about 5 cents per cubic foot. This figure includes automatic heat-regulation, and a double system of air ducts and air fans, one for supplying fresh air, the other for withdrawing vitiated air—features which thirty years ago would have been omitted. The boiler plant and heating system then in vogue cost about 2.6 cents per cubic foot, or about one-half the prevailing cost. Granting a space allowance, for all purposes, of 9,000 cubic feet per patient, it appears that the increased cost of modern methods of heating and ventilating is $215 per bed.

The testimony of modern engineering authorities is all in favor of the expenditure of this sum for the purpose under consideration; and any book on hospital hygiene nowadays would seem incomplete if it did not embody the recommendation of an artificial system for changing the air of hospital wards. Yet experienced hospital managers concede that hospital wards really have been and can be pretty well ventilated without the use of propulsion and suction fans; and curiously enough, I have found fans to be of greatest use, not in rooms occupied by patients, which with proper exposure to natural atmospheric currents and with a judicious use of windows and transoms may be made to take care of themselves, but in operating rooms having no natural means of ventilation, and in kitchens and laundries and laboratories where disagreeable odors, steam, and the gases of chemical decomposition, rather than bacterially-contaminated or breath-contaminated air, threaten the health and comfort of the occupants.

It would be interesting to continue the very practical investigation begun by Dr. Holmes of Cincinnati, who recently discovered many instances of the complete or partial neglect of costly apparatus originally intended for the ventilation of hospital wards. So much has been written upon the subject of hospital ventilation that one is strongly tempted to assume that the last word has been said, and to adopt without question the recommendation of the latest writer. Dr Holmes' disclosures, however, show the danger of such a course, and suggest the wisdom of a reconsideration by hospital managers of the entire subject of artificial ventilation, with a view to the discovery of an irreducible minimum of apparatus for this purpose.

*Electric Light and Power.*—We have seen that boiler-cost has increased in part on account of the introduction of ventilating fans. Another part of the increased cost of hospital boilers is due to the introduction of electric lighting and power plants. The electric light nowadays is regarded as indispensable; and electric power is used to advantage in hospital laundries and machine shops, and for the operation of elevators.

The superiority of electric light over gas illumination, from the standpoint of atmospheric contamination, is indisputable; but aside from this it is important to remember that the electric light lends itself to clinical uses in the shape of portable lamps for the inspection and exploration of the body, to which gas never was adapted. Moreover, after the installation of the plant, the cost of electric lighting, estimated on the basis of the candle power or unit of illumination is not high as compared with that of gas.

Let me say a word of caution in regard to the distribution of electric lights in hospitals. Architects who do not consult the judgment of those who are familiar with hospital needs are disposed to scatter electric fixtures through the hospital with a profusion more generous than wise. Wards do not need to be brilliantly lighted; strong light is occasionally needed at the bedside at night, but portable lights attached to suitably located receptacles may be made to furnish such light precisely where and when it is needed, and nowhere else.

Taking into consideration the needs of the whole hospital, I believe that an average allowance of one 16-candle-power lamp to 800 cubic feet of interior space will suffice. The distribution, of course, will not be uniform but will vary with local needs.

*Water Supply.*—The subject of water supply will detain us but a moment, because the attempt to insure the safety of the water supply of hospitals has added only slightly to the cost of construction. The cost of a filtering plant for a hospital of 500 patients may be estimated to be $7,500 or $15 per bed. Few American cities are at present in a position to insure the safety of the water delivered by them through the public mains; and hospitals are therefore often justified in installing filtration plants which not only protect their inmates, but which incidentally diminish the wear and tear on pipes and fixtures resulting from the physical impurities which are to be found in the ordinary unfiltered supply.

*Laundry.*—If we turn now to the housekeeping departments, we shall find that the requirements of these departments have grown, but in a modest way. Laundries are expected to turn out more work than they were called upon to do twenty or thirty years ago. Trained nurses are more fastidious than were the attendants who preceded them, and asepsis places no limit upon its demand for sterile towels and bedclothes. Hence laundries need more space than formerly. They require also an equipment of heavy and costly machines; but laundry machinery represents an

outlay ultimately profitable because such machinery is distinctly labor-saving.

*Refrigeration.*—It is not in the laundry alone, among the housekeeping departments, that we find an increased use of machinery and apparatus which brings these departments into close touch with the engine and boiler room. A similar dependence is noticed in refrigerating rooms, which, in the modern hospital, are commonly cooled by the circulation of either brine or ammonia From the standpoint of convenience, the new method of refrigeration is superior to the old, and its general introduction in large apartment houses, as well as in institutions, indicates that the cost of operating such a system is not materially greater than the cost of maintaining an ice supply.

*Kitchen.*—Marked improvement has taken place in the construction and equipment of kitchens. Kitchens indifferently lighted, poorly ventilated, and finished principally in wood, were once acceptable to hospital managers. The standards of the present time are less economical. The kitchen of the modern hospital has a floor of tile, terrazza, or cement, and walls of glazed brick; it is spacious, is located frequently in a separate building and its artificial system of ventilation is carefully planned. The modern kitchen is supplemented by refrigerator rooms, storerooms for dry and wet groceries, and often by a bake shop, a receiving room and an office for the person in charge.

These features are due to a desire to make the whole hospital clean and businesslike, and to the wish to recognize the rights of hospital servants as well as of patients. In a large percentage of cases the illnesses of patients occupying beds in hospital wards can be traced to exposure to unsanitary conditions in factories and workshops. The hospital worker is entitled to protection from such influences, whatever the cost.

The cost of kitchen equipment, as distinguished from the construction of the bare rooms occupied for kitchen purposes, has increased during the past thirty years about 33 1-3 per cent. Labor-saving devices have tended to decrease the cost of production of the fixtures used, but many fixtures have been added. Formerly the list included a range and broiler, a carving table, steam-jacketed kettles, coffee and tea urns, a bake-oven, and possibly a single plate-warmer. To-day plate-warmers are found not alone in the kitchen, but scattered through the hospital; dish-washing machines and steamers have been introduced in the kitchen proper, and the dietician demands steam roasters, cereal kettles, potato mashers, meat cutters and ice cream freezers, with their accompanying steam-fittings and electric motors.

The purpose of the additions enumerated is either to save labor or to improve the service of the department; and this purpose is successfully fulfilled.

*The Ward Unit.*—We can boast of very little theoretical knowledge upon the subject of hospital wards beyond that which was contributed in 1788 in the report of the Commission of the French Academy of Sciences which had under consideration the construction of a new municipal hospital for Paris. Unfortunately the recommendations of that commission were not speedily put into general practice; and to-day there are public hospitals in Paris which are more rudimentary in their construction than the hospital planned by the commission of 1788.

The most notable change in the actual construction and arrangement of the ward unit, in modern American hospitals, is the utilization of a constantly growing number of material-consuming and space-demanding ward accessories. So far as general hospitals are concerned, the cubic contents of the sickroom proper, that is, its per capita allowance, has not notably increased. In isolation wards the interval between beds wisely has been extended, and in the modern isolation hospitals of the Metropolitan Asylums Board of London, 2,500 cubic feet per bed within the ward proper, is not regarded as excessive.

In general hospitals the ward unit now includes a day room and dining room for convalescents, a special closet for a portable tub, not less than two quiet rooms for each ward of say twenty-four beds a dressing and examining room, a small laboratory for the rapid examination of clinical specimens, bath room and toilet, a commodious pantry, a closet for the drying of blankets and a linen and supply room. All of these features demand space, and every addition to the list of accessories implies an incidental increase in the cost of passages or corridors for communication.

Again, some of these rooms are fitted up in an expensive manner. Hard-wood floors are used for wards and quiet rooms. The bath room, pantry, toilet, examining room and laboratory are finished in even more expensive manner; tile or terrazza floors, tile walls, marble partitions and shelves, and copper and slate or glass or soapstone fixtures are introduced wherever the use of these materials tends to satisfy the claims of hygiene.

While high-class construction is now the rule, I have seldom seen anything like wilful extravagance in ward construction. Here and there an architect or a building committee may allow too much space for bath rooms, or may install a larger number of bath tubs than the hospital service requires; occasionally water closets are supplied with too free a hand; and rarely a convalescents' day room is a few feet larger than is actually required, but reasonable standards are gradually being established through the study and avoidance of the mistakes of earlier builders.

*The Surgical Department.*—The proportion of surgical cases in hospitals is greater to-day than it was a generation ago, and the demand for surgical beds continues to grow. Operating facilities, therefore, have been and need to be increased. Operating rooms are more numerous and their construction and interior finish are better, safer, and more costly. Extravagance is occasionally encountered, as in the erection of operating amphitheaters in hospitals in small towns where there are no large groups of students; but in the main the development of the operating department represents an approximation towards asepsis and hence towards greater safety for the patient.

In a busy hospital, at least one operating room should be held constantly in reserve, in order that an infected room may be put temporarily out of commission, for thorough cleaning and disinfection. The additional room costs money but saves life. For the ordinary work of the hospital, there must be separate rooms for clean cases and pus cases—a distinction which should always be rigidly maintained.

*Disinfection and Sterilization.*—The modern hospital is not complete without its sterilizing apparatus. From the boiler plant a supply of steam is derived for the central disinfecting plant which protects the hospital from epidemics; for the apparatus for sterilizing surgical dressings; for the water sterilizing cylinders; for the instru-

ment sterilizers in operating rooms, wards, dispensary and autopsy rooms, and for the thermostats, vats, autoclaves, and water-baths of the drug manufacturing room and of the pathological laboratory. The use of all this apparatus implies a highly differentiated working force, and throws light on the necessity for accommodating a relatively large staff of attendants. It suggests the expansion of all of the departments associated directly with the treatment of patients, with the handling of infected materials derived from patients, and with bacteriological and pathological research. Let us consider, briefly, the present needs of the groups of workers who form the personnel of these departments.

*The House Staff.*—The house staff of the modern hospital is a formidable body, whose presence demands liberal space allowance for sleeping rooms, dining rooms, lounging room and library. Thirty years ago a staff of four physicians might have been found in a hospital of 200 beds. To-day more than three times that number are required to do the necessary work; and alongside of the medical and surgical house officers, there has grown up a new division composed of workers in bacteriology, pathology, and chemistry. For the scientific work of these men, who contribute so much to the success of the modern hospital, the more prosperous institutions provide separate buildings, built and equipped at a high cost per unit of space. Even the least pretentious hospital has its pathologist, and provides for his work as generously as its means allow.

*The Nursing Force.*—The nursing force of to-day must be reckoned with liberally. The relative number of nurses in the wards has increased, and a large part of the work of the nursing staff is done in the nurses' home. The home has grown; the quarters of the individual nurse have been improved by the substitution of costly single or double rooms for large and cheap dormitories; class rooms and demonstration rooms have been added to the accommodations of the department. The increased outlay involved in these arrangements will not be criticised by anybody who appreciates the dependence of the hospital upon the endurance, the training and the devotion of its nursing staff.

*Accommodations for Minor Employees.*— The minor employees of the older hospitals were not well treated. Many of them worked in the hospital for trifling wages during the day and were compelled to find lodgings for themselves outside of the hospital at night. For others, lodgings within the hospital were provided; but these lodgings were rarely planned with proper regard for their occupants. They consisted, perhaps, of discarded outbuildings or basement rooms, pressed into wretched service as dormitories for a class of employees who, by their labors, contributed as truly to the support of the hospital as did the voluntary subscribers to its maintenance funds. The hospital which provides decent surroundings for its staff cannot be criticised for the expenditure of the sum necessary for this purpose.

*Special Departments.*—I have already referred to the increased subdivision of labor in hospital work. Among the special departments are the *x*-ray department, with its costly outfit; the hydrotherapeutic department with its cabinets, douche-tables, steam supply and refrigerating arrangements; the ward for consumptives—all tending to swell the construction account and to increase the amount of space allowed to the individual patient.

Suites of rooms are now provided in some hospitals for private patients, but the provision of such accommodations is regarded as an expense only by the superficial observer. The expenditure of money for this purpose, if suited to the size and social status of the community, adds to the net income of the hospital.

*Outdoor Department.*— In analyzing the cost of hospital construction, due allowance must be made for the cost of the out-patients' building. It would be quite logical to exclude this department from estimates of the cost of the hospital plant, but I have done otherwise in the quotations given in deference to the common practice, which is to include in the general figures this very considerable element of cost. Dispensaries are nowadays planned commodiously, are subdivided into a large number of special departments, and tend to occupy a constantly growing proportion of the buildings to which we habitually refer as "the hospital."

*Observation and Isolation Wards.*—An important feature of the modern general hospital is the observation or reception ward, where new patients are received and prepared for a clean and safe entry into the general wards. From three to five per cent. of the whole space of the hospital may be devoted advantageously to this purpose; yet the beds in these wards which enhance so materially the cleanliness of the general wards and which serve as a protection against the introduction of contagious cases do not augment appreciably the normal capacity of the hospital as a whole.

Every hospital, even those not intended for the reception of contagious cases, must have facilities for isolating dangerous cases which unexpectedly develop in its wards. An isolated pavilion, suitably subdivided for the simultaneous reception of several contagious diseases, is a necessary part of the complete hospital. Its wards and rooms may be unoccupied most of the time; but the day inevitably comes when the need of the pavilion is felt and when the wisdom of its construction is recognized.

*Branch Hospitals for Convalescents.*—After this brief inquiry into the causes of increased cost of construction of modern hospitals, what shall be our answer to the question how far this increased cost is justified?

Aside from economic causes which are beyond our reach, the high prevailing cost of construction is apparently due to new methods of disease-classification and treatment, to more intense nursing, to the discovery of scientific methods of diagnosis, to an application to the principles of hygiene to wards, work-rooms and living rooms, to the desire to release from the wards during part of the day convalescents to whom the atmosphere of the sick room is detrimental, and finally, to the evolution of the fireproof, and to a certain degree germ-proof, building. If we apply to all of these improvements the rigid test of results, we shall find that the test is fairly met; but while we may grant that to build a general hospital embodying all of the features enumerated is to tread the path of wisdom, we may nevertheless question the propriety of investing all of our capital in the construction of such a plant.

In my opinion, no general hospital is complete, no acute hospital service is all that it should be, unless it is associated with an establishment for the more economical treatment and more rapid cure of convalescents. The idea of the branch hospital is not new, but the economic principle which underlies it, so far as I am aware, has never been stated with sufficient emphasis by hospital writers. The failure of hospital managers to

grasp this underlying principle of the division of capital and labor is almost incomprehensible. In industrial and commercial enterprises, the principle is applied as a matter of course. Manufacturers who rent at fabulous prices showrooms on Broadway or Regent street, would not dream of occupying such expensive premises for the work of their factories, because they know that factories can be built and operated to better advantage in the suburbs; but in the management of hospitals a similar distinction has not been made.

It may be said that convalescent wards and homes already exist: but the field is not covered by such convalescent homes as have been already established, and it never can be covered by convalescent homes which systematically refuse to receive all patients suffering from open wounds, or in fact, any patient requiring even a slight degree of medical care. The branch hospital here advocated must have a medical and surgical staff (though a small one) and it must be prepared to receive, and if necessary to continue the treatment of patients whose convalescence can be hastened by a change of air and scene, but whose treatment no longer demands the expensive and complex resources and conveniences of a great modern hospital.

Burdett reports that the London hospitals have recently acquired the right to send to the Swanley Hospital Convalescent Home a certain number of patients suffering from open wounds but no longer requiring the care of a highly skilled surgeon nor the facilities of elaborate operating rooms. It is customary, Burdett writes, to remove these patients to the country as soon as the surgeon finds that the cases have reached a stage at which this course can be safely followed. The average residence in London hospitals of the class of cases which it is now customary to transfer, was formerly thirty-five days. Country surroundings have reduced the average length of treatment to nineteen days. From this point of view alone the gain is considerable, but the economic meaning of the branch hospital is more far-reaching and more striking than these figures indicate.

*Comparison of Costs With and Without Branch Hospitals.*—Suppose a committee to have $1,000,000 to invest in a general hospital. If the most approved methods of hospital construction are followed, this sum will build, let us say, 2,500,000 cubic feet at the rate of 40 cents per foot. Let us assume that 10,000 cubic feet is the average space per patient required for all purposes (not an extravagant estimate if due allowance be made for nurses' home, private pavilion, dispensary, laboratories, and housekeeping and administrative departments); on a basis of 10,000 cubic feet per patient, the capital sum of $1,000,000 will build a hospital of 250 beds at an expense of $4,000 per bed. Let us suppose that such a hospital has been built and that all of its beds are occupied. At any given time there will be found within its walls, say fifty patients no longer acutely ill—patients who, with advantage to themselves, might be moved to a country home of simple construction and inexpensive organization. In order to provide in a rational way for this group of patients (a group always to be found in large general hospitals), funds for hospital construction should be divided at the outset into two parts: one part, the greater, should be devoted to the erection of the main hospital in the city, the other part, the lesser to the construction of the branch hospital in a neighboring suburb.

Now, what will be the gain resulting from this splitting of our capital? If, out of $1,000,000 we spend $800 000 in the construction of a hospital of 200 beds at $4,000 per bed, and the remaining sum, $200,000 in the construction of a country branch of 100 beds at an outlay of $2,000 per bed, the net gain will be 50 beds. In other words, invested as it is now commonly invested, in a single city institution, a building fund of $1,000,000 will provide for 250 patients; invested as it should be invested, in a city hospital with a country branch, it will provide for 300 patients.

Furthermore a city and a country branch aggregating 300 beds, can be operated at an annual cost only slightly exceeding the cost of conducting a city hospital of 250 beds; for while the cost of caring for patients in an acute general hospital of the 10,000-feet per capita type is approximately $2.25 per day, the cost of caring for patients in such convalescent homes as already have been established is approximately $1.25 per day. The removal to the country of the inactive cases adapted to such treatment, and the substitution of an equal number of acute cases in the city branch, will tend to increase slightly the per capita cost of this branch chiefly through its influence on the nursing account; and the cases which it is proposed to transfer to the country will cost slightly more in branch hospitals than is now ordinarily expended for the care of occupants of convalescent homes. But for each unit of outlay the plan proposed will return in round numbers, hospital care for at least 15 per cent. and possibly 20 per cent. more patients than can be reached by the present system. The prevailing system furnishes high-class hospital service for patients who do not need it, and a waste of capital and labor results. This waste can be avoided by the establishment of branch country hospitals.

Time is lacking for a discussion of the administrative relations between the city hospital and the proposed country branch. I realize that a physician or surgeon here and there may object to the dismissal from his ward of a patient who is not entirely cured, but the majority are far too intent upon securing a rapid and acute service, to stand in the way of the plan which is here advocated, and those who are benevolently disposed towards their patients will not oppose a division of capital and labor which on the whole will hasten the favorable results of treatment.

Fifth Avenue and One Hundredth Street.

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**Drainage in Acute Diffuse Septic Peritonitis.**—Van Beuren Knott defines diffuse septic peritonitis as an acute septic inflammation of the peritoneum so widespread as to involve the entire surface, accompanied by marked changes in the appearance of the membrane and in the quantity and quality of its fluid contents. This is usually due to perforation of some of the hollow viscera, with extravasation of septic material into the general peritoneal cavity. Perforation of the stomach and duodenum is followed by more rapid infection than perforation of the lower part of the digestive tube. The peritoneum becomes congested, roughened, lusterless, there are beginning adhesions, and the fluid contents are increased. The diaphragmatic peritoneum, especially around the central tendon, absorbs more rapidly than any other portion of the abdominal lining. Hence the sitting position after operation aids in keeping up the drainage of the abdomen established by all surgical operations done for peritonitis. The author has operated on nineteen cases with only two deaths, using this method of drainage. The first step is to find and repair the source of infection. Then make an incision two inches long, in the median line above the symphysis, and insert a rubber drain with an iodoform wick inside it. In females make a counteropening through the posterior cul de-sac into the vagina and insert a rubber drain. Wash out the abdomen with several gallons of hot salt solution, and close the abdomen nearly to the tubes. The fluid is pumped out every two hours through the tube.—*The Medical Herald*

# MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, October 14, 1905.


## MEDICAL UNION IN NEW YORK STATE.

It is hoped and believed by those who have the interests of the medical profession in this State at heart that the coming week will see an end to the division in our ranks that has existed now nearly a quarter of a century. It is expected that the question of union will be finally passed upon at the meeting of the New York State Medical Association in this city on Tuesday next. The unionists in the Association were defeated last year by a small but active majority who took advantage of a legal technicality to prevent action. According to the law of this State a notice of the meeting at which action looking to the dissolution of the society was to be taken should not only have been sent to, but should actually have been known to have been received by, each and every member of the organization. Unaware of this provision the officers last year merely sent mail notices to the members, and so no vote could be taken. This year the precaution was taken to obtain acknowledgment of service from all the members; those who did not acknowledge the receipt of the notice by mail were served with a personal notice by a court officer who made affidavit that the notice was served. Accordingly there can be no doubt this year regarding the legality of the vote of union, if it is passed.

According to the terms of the agreement which this meeting is expected to put in force, the New York State Medical Association gives up its name and corporate existence and becomes merged into the Medical Society of the State of New York. But in return for this the Society gives up its organization, which is acknowledged to be far from perfect, and adopts that of the Association, which is believed by many to be the best plan of organization ever adopted by a medical body. This plan is practically the same as that since adopted by the American Medical Association and most of the State societies. Those within the Association who oppose union say that the Association, which has had an active and useful existence for twenty-two years, will be wiped out of existence and lose its identity in the larger body. But by the terms of agreement it is only the name that is lost, while the plan of organization —the vital principle of the Association—will be adopted by the united body and live on as the informing soul of the new society. The objectors also say that they will by this act of union, which must be preceded by dissolution of the Association, lose their membership in the American Medical Association, since the Medical Society of the State of New York is not recognized by the national organization. But that objection is met in the articles of agreement, and long before the next meeting of the A. M. A. the members of the amalgamated society will be in good and lawful standing. They seem also to fear that the new society will not adopt the principles of ethics of the American Medical Association, and therefore that they will be excluded from membership in the national body; but even were these principles of ethics not adopted by the members of the amalgamated State Society, the new society would not be outlawed, since the national organization does not demand subscription to these principles as a *sine qua non* of recognition. The question will be submitted by referendum to the vote of the members of the society as soon as practicable after the entry of the order for the consolidation of the corporations, and since it is expressly provided that these principles are merely "suggestive and advisory," it is most probable that they will be adopted. The third objection offered is that the agreement does not provide for the continuation of the Medical Directory, the *Journal*, and the plan for defense against unjust malpractice suits. But these are matters that belong to the working machinery of a society and could not well be incorporated in the formal terms of agreement. If these features are desirable there is little doubt that they will be continued by the State Society; they are much more likely to be adopted if all the members of the Association enter readily into the plan of union and use their influence, as members of the united body to that end.

All these questions, however, have been threshed out in meetings of the Association and its committees appointed to deliberate on the plan of union, and the time for discussion and argument is past. The members of the Association by a very large majority are in favor of union (the proxies of four-fifths of the members are, we understand, already in the hands of those who will vote for amalgamation) and the small minority opposed to unity and concord among the medical men of this State can defeat the project only through the indifference of the friends of the measure. In another column we publish an appeal, which has been sent to all the members of the Association, calling upon them to attend the business meeting on Tuesday next and make effective by their votes the union between the two State societies. We earnestly hope this appeal will reach all the members of the Association and that those who can by any possible means, at whatever sacrifice of time and trouble, attend the meeting will do so. It would be calamitous were the efforts of the peacemakers again defeated, and the scandal of a divided profession continued. The measure, as this appeal says, can be defeated only through the indifference of its friends. We do not believe it will be defeated, but it should be carried by such an overwhelming majority that no question can ever be raised regarding the will and the intention of the Association in voting for union. For the sake of the Association itself, of its dignity and good name, the vote to dissolve the organization should be large and determined; and those who love the Association and have worked for it for so many years, having determined in a large spirit of self-abnegation to sacrifice the name of their body on the altar of a united profession, should do so with pride and not allow the resolution for union to slip through with a bare majority of ayes as though they no longer cared what became of their organization.

## BEHRING'S STRANGE PERFORMANCE.

Professor v. Behring, the putative discoverer and once the patentee of the antitoxin of diphtheria, improved the occasion of the meeting of the Congress on Tuberculosis in Paris last week to make a premature announcement of a new remedy for tuberculosis. A curious thing regarding this was that, although the Tuberculosis Congress was in session at the time, the announcement was made to a reporter of the *Matin*, a daily paper of Paris, and repeated in an interview with a representative of the *Figaro*, and only then was the alleged discovery related to the members of the Congress in a paper read at the last session of that assembly. Another strange thing was the announcement that the remedy will not be available until next August and that even then its composition and mode of preparation will be kept secret. This, however, was in accordance with the principle, of which Behring has always been a conspicuous advocate, that a discoverer is entitled to the pecuniary rewards of his discovery.

It is unpleasant to see a man of Behring's scientific attainments controlled by such a mercenary spirit. But that is of course no argument against the possibility of his remedy being efficacious in both the prevention and cure of tuberculosis. In the paper read on the last day of the Tuberculosis Congress, he said that he had discovered the existence of a curative principle entirely different from antitoxin in its mode of action. It is this principle, he said, which plays the chief rôle in the immunity conferred by his "bovovaccine." The method is based upon the impregnation of the living cells of the organism with a substance derived from the tuberculous virus residing in the yellow tubercle. This substance he has named T. C. The preparation is said to be in the form of a powder. The reports of the paper contained in the press dispatches are not very illuminating, and while it is possible that the scientific reports may be more intelligible, it is not probable that Behring has described his method in any but the most general terms. The fact of the value of some of Behring's previous therapeutic achievements offsets in a measure the inherent improbability of the discovery of a cure for tuberculosis. No one, at least no one entitled to speak with authority, denies at the present day the efficacy of antitoxin in the treatment of diphtheria. One hears less of his preventive inoculations against tuberculosis in cattle, but the method was adjudged of sufficient merit to entitle him to the Nobel prize of $40,000 in 1901. Two years later he announced the extension of this prophylactic measure to the human infant, but this does not seem to have won acceptance by the medical profession, at least not so universally as his first great discovery. The discussion of the efficacy of this new method is, however, only in the academic stage, as yet, for the remedy will not be procurable for nearly a year, and until it has been extensively tried it will be impossible to determine its value.

The bold proclamation which Behring makes of his determination to keep his remedy secret so that he may reap the pecuniary rewards of his therapeutic discovery is reprehensible, but is in keeping with his previous acts. It will be remembered that in 1898 he secured a patent in the United States on the diphtheria antitoxin, and the chemists who made it for him served notice on physicians and manufacturers that any one using any but the patented Behring antitoxin would be prosecuted. The attempt to create a monopoly of this life-saving remedy failed, but through no fault of the greedy scientist. At that time there was an outburst of indignation in the press, both lay and medical, not only in this country but in Germany and throughout the world, which would have given pause to anyone with a thinner skin than Behring, but it apparently did not disturb him in the least.

If the remedy now announced should prove to be all that its discoverer claims for it as a certain preventive and cure of tuberculosis it will be interesting to note its reception by those who have conscientious objections to the use of secret remedies, or nostrums, whatever therapeutic value they may be shown empirically to possess. If they consent to employ the curative, but unethical, remedy, they must do violence to their principles; if they refuse, their patients will settle the question for themselves with deplorable disregard of the ethics of the case. But this is purely speculative and by the way, for we confess to much scepticism as to the validity of v. Behring's claims, and we fear T. C. will follow T. R. in the long procession of cures that fail to cure.

## THE ORIGIN OF CANCER.

The pathogenesis of cancer must still be acknowledged as belonging to the unsolved problems in medicine. Some perhaps may claim that this statement should be modified in the light of recent investigations, nevertheless, it may be quite truthfully said up to the present time no satisfactory answer has been returned to the question as to whether cancers and other neoplasms arise through a modification of the formative process or whether they are the outcome of an inflammation due to the intrusion and growth of specific microorganisms or to other external irritants. In other words, is cancer dependent upon an intrinsic or an extrinsic cause? The growing tendency of late years to ascribe most pathological processes to a germ infection, has rather overshadowed the older theories, but it still remains for the microbists to furnish more convincing proof of the truth of their claims than they have thus far done.

In the genesis of neoplasms as well as of all other organic structures, there are two factors to be considered, namely, the cells from which they are derived and the force which regulates this cellular activity. In a healthy body cell division proceeds until the organ is fully developed and then the process continues merely as a reparative one. There is a restriction to growth within certain bounds, but the guiding force may be affected by pathological conditions which inhibit its restraining influences and the cells continue to multiply in a lawless manner. We do not know the nature of this mysterious force, although some have ascribed it directly to the nervous system. An interesting, rather than convincing, article, in the form of a plea for this theory, has lately been published by R. H. Hodgson (*Medical Press*, August 9, 1905). He calls cancer a nerve disease with local manifestations, and claims that any specifically shaped bodies connected with it are the result rather than the cause of the disease. Moreover, he believes that the greater frequency of can-

cer in the later years of life is due to the fact that at this time the body has less reserve nerve force, all the tissues in his opinion being controlled by nervous influences, whether histologists are able to demonstrate the presence in them of nerve elements or not. The increase of cancer at the present time, he thinks, may also be explained by the greater demands now made on the brain and nervous system in general, which, having a greatly diminished reserve store of energy, is less able to resist long-continued irritation. According to Hodgson the true pathology of the condition will be cleared up only when we are able to obtain accurate chemical analyses of healthy nerve structures and can compare them both qualitatively and quantitatively, with those taken from the neighborhood of the disease.

The author's reasoning is ingenious, but is hardly logical enough to clear up the question. The "nervous wear and tear," which he and many others, are ever ready to accuse of numerous ailments with which man becomes afflicted, is not so universally prevalent among all classes of the population as we are led to believe, and those classes which might perhaps be placed in this category are not more frequently the subject of cancerous diseases than any others. The idea that some inherent force in the body initiates and governs the growth of neoplastic formations, is fraught with many elements of plausibility. But to assert that it is a force generated in the nervous system, would amount to the making of a claim which is not based on demonstrated facts. There is present in all living bodies a vital principle or force, still unknown and undefined as regards its character and laws, which governs growth and reproduction generally without the medium of such gross structures as may be represented by the nervous tissues, and it is to disturbances of this, that we may have to attribute some of the hitherto unclassified pathological processes, cancer among them.

## The Art of Cooking.

It may well be said that the development of the art of cooking is closely connected with the onward progress of the human race. As the prehistoric cave dwellers knew nothing of the uses to which fire might be put, their gastronomic abilities were probably on a par with those of the beasts of prey with which they competed for their daily supply of food. The earliest nations of whom we possess historic records recognized the value of foods properly prepared, and we find that the science of cooking gradually attained the height of its development during the reign of the great Roman emperors of the Augustinian period. We are apt to look upon the banquets of the old Romans as orgies, and in some senses they undoubtedly were, and yet we have abundant evidence that the Romans were cognizant of the fact that the proper preparation and seasoning of the food contributed, in large measure, to an improved appetite and a better digestion. We must therefore credit them with a knowledge of these physiological necessities, even while condemning them for their luxurious repasts. They also realized that a pleasant frame of mind had a great and important influence on the digestive processes and provided amusements of various kinds during the meal. The inroads of the northern barbarian caused the highly developed arts and sciences of the Romans, and culinary perfection must be included among them, to be plunged in a long period of darkness which marked the Middle Ages. Whatever knowledge we possess of their civilization, we owe to the many monastic orders of Europe, whose members preserved and cultivated, among other things, the traditions of the culinary art until the renaissance in the reign of Louis XIV. of France and his successors. The influence of France on the menus of the world has continued uninterruptedly down to the present day. The principles of cooking, speaking of the latter in a general sense, were developed by the early Romans in a purely empirical fashion. Now they have been made the subject of scientific investigation and found to rest on a firm and sound basis. The Russian physiologist Pavlov has clearly demonstrated, in his researches on digestion, that the ingestion of substances with a purely nutrient value does not sufficiently satisfy the demands of the body —taste and appetite must also be taken into consideration. These are satisfied only by the addition to the food of spices and salt, and it is largely due to the influence of these condiments that the proper amount of gastric juice is liberated by the mucous membrane of the stomach. The action upon the stomach of reflex stimuli is shown by the favorable effect on the flow of the gastric secretions made by mental impressions induced by the mere sight and odor of a well-prepared dish. In this manner, Epplen (*Reichs Medicinal-Anzeiger*, No. 18, 1905) leads up to the broad claim that the proper preparation of all food, as demanded by the essential requirements of the culinary art, is not a luxury, but a physiological necessity, and to develop and disseminate this knowledge is an act beneficial to the public welfare. There is happily an increasing interest taken by physicians in dietetics and cooking, for these two subjects go hand in hand, and this interest it should be the aim of the medical man to transmit to his patients, or to those who have care of them.

## Surgery and Etiological Research.

The advances of recent years in surgery have been no less notable in the scientific than in the technical direction. For the surgeon, as for the internist, the etiological factor in disease has come to occupy a place of supreme importance, and the results of investigations both on the operating-table and in the laboratory, have become apparent in the widening of the scope of the surgeon's work. Goebel calls attention to the practical influence of discoveries resulting from these investigations in an article in the *Allgemeine medizinische Central Zeitung* of August 19, 1905. In some instances, such as the introduction of antisepsis by Lister, the surgeon has been in advance of the establishment of the scientific truth that had served him as an hypothesis. But in this case, although asepsis and antisepsis have opened new fields for the surgeon in other directions, it has limited his work. The introduction of diphtheria antitoxin has resulted in reducing considerably the number of tracheotomies and of intubations, while the discovery of the selective action of tetanus toxin upon the cells of the nervous system, and of the toxemis, not bacteriemic, nature of the infection, has caused the abandonment of amputation in cases of tetanus. The establishment of the etiological factor in septicemia and pyemia and in osteomyelitis, together with Virchow's investigations upon embolism and thrombosis underlies the present treatment of such conditions by the wide opening of the abscesses to guard against the absorption of toxins and the spread of bacteria. To the surgeons themselves are due the discovery of the tuberculous nature of synovial infections, and the relations between bone and joint diseases. Tuberculosis as the cause

of peritonitis, is a discovery of the gynecologist. The successful treatment of this condition led to the conservative treatment of bone tuberculosis by iodoform injections. From the bacteriologist the surgeon learned the nature of gonorrheal infections of the joints, and from the internist the cause of certain bone abnormalities in syphilis, that are now less often the objects of surgical intervention. "Cachexia strumipriva" is but a name since the discovery of the functions of the thyroid, and a knowledge of the underlying condition in myxedema taught the surgeon the limits beyond which he might not go in his operations upon this organ. More recently the relation between tetany and the parathyroids has been determined, though this discovery can hardly be said to be of practical value as yet. The rôle played by appendicitis as the cause of many cases of peritonitis is another instance of the value of research in etiology. The study of carcinoma has resulted in the introduction of more radical therapeutic measures, and also prophylactic attempts, as in the early removal of gallstones that are now conceded to be an occasional cause of carcinoma of the gall-bladder. The basis of rational surgery lies in the discovery of the cause of the conditions to be treated. By the surgeon himself no less than by the bacteriologist, pathologist, and physiologist, our knowledge has already been increased, but much still remains to be accomplished.

## The Harvey Society.

There was given at the Academy of Medicine on last Saturday evening, the first of a series of lectures which served not only to introduce the Harvey Society to the medical profession of the city, but also as an inaugural of a movement which is worthy of support and commendation. In forming this society, its founders had in mind the gulf which seems to exist in medicine between the laboratory worker and the practising physician, but which is becoming happily narrowed by the efforts of organizations of this character. The enthusiastic reception accorded to the lecturer of the evening by a large audience representing both the biological and the clinical aspects of medicine, gives rise to the hope that the practitioner will continue to take an increasingly greater interest in the more purely scientific phases of medicine. As the lecture was given under the patronage of the Academy of Medicine, the proceedings were opened by the President, Dr. Chas. A. Dana, who in a few well chosen words dealing with the aims and objects of the Harvey Society, introduced Dr. Graham Lusk, the President of the latter, who in turn presented the speaker of the evening, Prof. Hans Meyer, of the University of Vienna. Prof. Meyer expressed his pleasure in being called upon to deliver the inaugural lecture of the course and, in commenting on the scope of the series, said that the movement, not only to him, but to his colleagues in Europe, constituted one of the evidences of the lively interest taken by American physicians in the abstract problems of medical science. The subject of the evening's discourse, "Die Theorie der Narcose," is one with which the lecturer is particularly identified, having done a great deal of experimental work dealing with the manner in which narcotic drugs affect the system. His theory is that there are many indifferent substances which exert a narcotic effect, or do so in combination, if they possess the power of dissolving fat, this seemingly constituting the essential requirement for narcotic action. The second lecture, entitled "The Modern Problems of Metabolism," will be delivered by Prof. Carl v. Noorden of Frankfort, on this Saturday evening, October 14.

# News of the Week.

**The New York State Medical Association.**—The twenty-second annual meeting of this Association will be held at the New York Academy of Medicine on October 16-19, 1905, under the presidency of Dr. J. Riddle Goffe. Among the subjects for discussion announced on the program are a symposium on hygiene and preventive medicine, one on the toxemia of pregnancy, one on the non-surgical, and another on the surgical treatment of cancer. The annual dinner will be at the Hotel Astor on the evening of Wednesday, October 18. A committee of ladies has been organized to provide entertainment for the wives and daughters of visiting members. There will be a tea in the reception room of the Academy on Monday afternoon, an automobile drive on Tuesday afternoon, and a steamboat excursion around Manhattan Island on Wednesday afternoon. The chairman of the committee of arrangements is Dr. Frederic W. Loughran, the secretary of the Association, Dr. Charles Ira Redfield of Middletown.

**Army Health Report.**—According to the annual report of Surgeon-General O'Reilly there has been a steady improvement in the health of the army during the year ending June 30. In this period there were 406 deaths from all causes, or 6.75 a thousand, as compared with 8.64 for the previous year and 17.93 for the years 1898-1902. The percentage of men constantly non-effective also showed a material decrease. Pneumonia was the greatest cause of death, the rate per thousand being 0.65. Tuberculosis was second with 0.37 and typhoid fever next with 0.33. The Engineer Corps had the highest rate per thousand for disease, the cavalry next and the Ordnance Department the lowest. For death rate from disease the Signal Corps stood the highest. Regarding typhoid fever Fort Leavenworth, with fifty-three cases, led all army posts and reservations. The outbreak of beriberi among the Philippines scouts at the St. Louis exposition resulted in fifty-nine cases, four of which were fatal. There was but one case of yellow fever reported, at Fort Brown, Tex. At Fort Stevens, Ga., there is a case of leprosy, the only one in the army. During the year there were 206 cases of gunshot wounds, 44 of which proved fatal. Twenty-one men were killed in action, 45 were drowned, 27 committed suicide, and 10 lost their lives through homicide. Among the native troops in the Philippines, 56 enlisted men were killed and 25 wounded. The unusual proportion of killed to wounded, there being fewer wounded than killed, is explained by the fact that 47 of the killed were victims of hand-to-hand fighting with edged weapons.

**Alleged Extravagance in the Marine Hospital Service.**—It is stated that as the result of his investigations regarding the Marine Hospital Service, Secretary of the Treasury Shaw has decided to recommend the abandonment of eleven of the twenty-three hospitals maintained for that service by the government. It is alleged that the Marine Hospital Service is costing the Government twice as much as it did a year ago. As the result of his investigations Mr. Shaw has concluded that the whole system of contracting for the care of sick sailors should be reorganized and that in several places the marine hospitals now maintained at Government expense should be abandoned. In some instances he thinks it would be much more economical for the Government to make a contract with local hospitals for the care of sailors than to maintain a separate establishment at Fed-

eral expense. It is, of course, desirable that the expense of the Public Health and Marine Hospital Service be kept as low as is compatible with the efficiency of the service, but it would be a lamentable error to cut down the appropriation to such an extent as to cripple the work, especially in its relation to the public health. The good accomplished by Dr. White and other surgeons of the Marine Hospital Service in New Orleans is too fresh in the public mind to make a niggardly policy popular. It would never be wise or right

**American Association of Railway Surgeons.**—The second annual meeting of this association was held in Chicago, October 4, 5, and 6, 1905 under the presidency of Dr. John E. Owens of Chicago. Forty papers were read, most of them being freely discussed. One session was taken up in discussing the care of fractures; conservative treatment of compound fractures; wiring as a means of securing the best results in compound fractures of the long bones; direct fixation in fractures; fractures of the vertebral column involving the cord and its treatment; fractures of the spine: Colles' fractures; fractures of the patella and fractures of the leg. An interesting feature of the meeting was a lantern-slide exhibit of anopheles and stegomyia mosquitos, with remarks on how freight and passengers are handled from the quarantined city, New Orleans, by Dr. L. Sexton, of New Orleans. Dr. John B. Murphy of Chicago gave an interesting and instructive talk on the relations of trauma to bone tuberculosis. The following officers were elected for the ensuing year: *President*, Dr. Richard W. Corwin, Pueblo, Col.; *Vice-Presidents*, Drs. J. H. W. Meyer, La Porte, Ind., S. L. McCurdy, Pittsburg, Pa., Bacon Saunders, Fort Worth, Tex.; *Secretary*, Dr. H. B. Jennings, Council Bluffs, Iowa; *Treasurer*, Dr. T. B. Lacey, Council Bluffs, Iowa; *Editor*, Dr. Louis J. Mitchell, Chicago, Ill.; *Members of the Executive Board*, Dr. W. S. Hoy, Wellston, Ohio. and Dr. J. R. Hollowbush, Rock Island, Ill. The time and place of the next annual meeting were left to be decided by the Executive Board.

**An Appeal for Unity.**—The following appeal has been sent to all the members of the New York State Medical Association, urging them to vote at the coming meeting for union of the two State medical organizations: "At the approaching annual meeting the opportunity will be presented for us to take definite and final action in consummation of the amalgamation agreement between the two State medical organizations. Our officers have arranged a method of procedure in accordance with the requirements of the law and the dictates of the Courts. There is nothing now to prevent union except indifference on the part of members of the Association. We therefore appeal to all members of the Association who have at heart the best interests of the medical profession of our Empire State to attend the business meeting called for 10 o'clock, Tuesday, October 17, and to come prepared to express their wishes, by ballot, in no uncertain way, in support of every act and resolution favoring the union between the two State medical bodies." This appeal is signed by Drs. Charles G. Stockton, De Lancey Rochester, Robert Abbe, W. Gilman Thompson, Reginald H. Sayre, John A. Wyeth, Francis J. Quinlan, Herman J. Boldt, A. J. McCosh, Edward G. Janeway, A. A. Smith, James P. Tuttle, Chas. Stedman Bull, D. Bryson Delavan, W. M. Polk, Joseph D. Bryant, and John F. Erdmann.

**New York's Death Rate.**—According to the latest report of the Board of Health New York City now has a lower death rate than has been recorded before in over a hundred years. The report covers a period from January 1 to June 30, 1905, and shows that the death rate has diminished from 22.24 per cent. to 19.23 per cent. per 1,000, as compared with the corresponding period last year. This calculation is made on an estimated population of 3,938,000. The census returns of the Department of Health indicate a much larger population, which will give a crude death rate of about 18 and a corrected rate of a little over 17, the lowest recorded since 1798. The records of the first six months show these comparative figures: 1905—Births, 50,943; marriages, 20,768; deaths, 42,690. 1904—Births, 47,384; marriages, 19,295; deaths, 37,969. It is further stated in the report that more than nineteen thousand quarts of adulterated milk were destroyed, and nearly $10,000 collected in fines for violations of the law against milk adulteration. Over 4,000,000 pounds of fruit, 7,500,000 pounds of food, and 1,000,000 pounds of meat and fish were condemned and destroyed.

**Yellow Fever in the Southern States.**—The reports from the infected regions continue to be very encouraging. This is particularly the case in regard to New Orleans where the death rate from all causes during the past week was only 18 per 1,000, which is lower than ever before. Apparently the epidemic has not been an unmixed evil, since it has caused sanitary conditions to be improved to a degree undreamt of before, and it is not likely that any relapses will be permitted. At Vicksburg the total number of cases has reached the neighborhood of 150. Some of the smaller places such as Pensacola, Fla., Hamburg, Miss., Scranton, La., and Pascagonla, La., are still in some danger, however, owing to the obstinacy of the people in refusing to take the precautions urged by the sanitary authorities.

**Plague Village Burned.**—In order to prevent spread of the bubonic plague from the Mongolian village of Dalai-Nor, situated near the Russian frontier, the inhabitants have been transported to a quarantine station some distance from the railway and the village has been burned. Troop trains bearing soldiers returning to Russia have been forbidden to stop at the station.

**Another Ambulance Accident.**—In what is the ninth ambulance accident occurring in Brooklyn since the beginning of the summer the horse was killed and the ambulance smashed. The accident was caused by the collision of a Smith Street trolley car with a Flatbush Hospital ambulance.

**American Public Health Association.**—At the closing meeting of the five-days session of the thirty-third annual convention of the American Public Health Association held in Boston September 25 to 29, it was decided to hold the next annual meeting in the city of Mexico. The following officers were elected: *President*, Dr. Franklin C. Robinson of Brunswick, Me.; *Vice-Presidents*, Dr. Joseph J Kinyoun of Pennsylvania, Dr. Domingo Orvananos of Mexico, and Dr. Richard H. Lewis of North Carolina; *Treasurer*, Dr. Frank W. Wright of Connecticut; *Executive Committee*, Dr. Juan Guiteras of Cuba, Dr. H. L. Russell of Wisconsin and Dr. William C. Woodward of Washington, D. C.

**Medals from the Anti-Tuberculosis Association.**—At a meeting of the International Anti-Tuberculosis Congress in Paris last week the committee on awards bestowed a gold medal on Dr. Brouardel and silver medals on Drs. Bang of Copenhagen, Biggs of New York, Broadbent of London, and Schroeder, of Vienna.

**Typhoid Fever in New York State.**—At the fifth annual conference of the health officers of the State held in Albany on October 4, Dr. Eugene H. Porter, State Commissioner of Health, said that since January 1 there had been the enormous number of 60,000 cases of typhoid fever in this State, with 500 deaths from this cause in Greater New York alone. He said an increasing volume of sewage was pouring into the streams of the State, and that practically all of them were contaminated, while many were little better than open sewers. He declared that while filtration plants were excellent, they were not sufficient to prevent typhoid, and he insisted that the continued pollution of streams and lakes must stop. He further stated that it was the intention of the Department to begin a systematic investigation of the various summer resorts and to institute the necessary reforms at these places.

**Diphtheria Among Insured Children.**—The circumstances attending the deaths of some of the many children succumbing to diphtheria in South Chicago recently led the Health Commissioner to make a special study of the conditions in that neighborhood. It was found that life insurance agents have been doing an extraordinary business in risks on children in the district. In a majority of the cases the children were insured for $300.

**Investigating the Bakeries.**—At a recent inspection by the Health Department of the bakeshops in New York City, thirty three were found in bad condition and in twenty-two immediate changes were ordered. At the time of the recent strike among the union bakers so much was said about the unsanitary condition of some shops and the prevalence of tuberculosis among bakers that the Department made an examination. It was found that the number of consumptives among the bakers is surprisingly small, instead of being large, as alleged.

**Poisonous Cosmetics.**—The State Board of Health of Indiana has decreed that cosmetics shall hereafter bear the skull and crossbones as a warning that they are poisonous, otherwise their sale will be illegal in Indiana and the seller will be arrested. H. E. Barnard, the State chemist who has been making an investigation of these preparations, says that practically all of them contain corrosive sublimate and that the State laws require that no poison shall be sold unless it is designated as such.

**Cholera in Europe.**—Two more cases of cholera have been reported in Prussia, making the total 261 cases and 89 deaths. According to the report of the Pest Commission, on September 29 and 30 twenty-one new cases of cholera were discovered in Russian Poland, and during the same period there were nine deaths from the disease.

**Yellow Fever at Panama.**—Since September 15 but two cases of yellow fever have been reported from the Canal Zone. No cases have occurred since September 20, and during the entire month of September there were nine cases seven of which were among foreign non-employees.

**Tri-State Medical Society.**—At the last session of the Tri-State Medical Society of Tennessee, Georgia, and Alabama, held at Chattanooga on September 28, the following officers were elected. *President*, Dr. A. B. Cooke of Nashville, *First Vice-President*, Dr. W. D. Haggard of Nashville, *Second Vice-President*, Dr. A. A. Davidson of Augusta, Ga.; *Third Vice-President*, Dr. W. P. McAdory of Birmingham, Ala.; *Secretary*, Dr. Raymond Wallace of Chattanooga; *Treasurer*, Dr. George R. West of Chattanooga.

**Contract Practice.**—We are informed by Dr. Ernest Brown, Chairman of the Executive Committee of the Peterborough (Ontario) Medical Association that twenty-five out of twenty-six medical men in Peterborough signed the agreement to refrain from contract practice. Although the absence of the one signature rendered the agreement invalid, the condition was not one with no approach to unanimity, as had been stated.

**Cedar Mountain Sanatorium Reopened.**—After having been closed for many months, because of lack of money for its support, the Cedar Mountain Tuberculosis Hospital, annex to the Hartford Hospital, was again open for the reception of patients on October 2. This was made possible through an appropriation made by the last general assembly and through contributions from the residents of Hartford. The physicians who are directly in charge of the annex are Drs. Walter R. Steiner, Robert S. Starr and Henry F. Stoll.

**Diphtheria at Annapolis.**—The epidemic at the Naval Academy appears to be well under control, for the authorities have announced that there have been no new cases for four days. Many of the patients are entirely well, and it is expected that the academy will open on October 14.

**Foundling Home for Cleveland.**—John D. Rockefeller has promised to erect a $50,000 building to be used as a foundling home by the Cleveland Humane Society.

**American Academy of Medicine.**—The Thirtieth annual meeting of the American Academy of Medicine will be held at the Assembly Hall of the Northwestern University Building, corner of Lake and Dearborn Streets, Chicago, on Thursday, and Friday, November 9 and 10, 1905

**The Typhoid Epidemic at Nanticoke, Pa.**—The outbreak of typhoid in this town continues with unabated violence, and there are now over four hundred cases. The ministers of the town have united for the purpose of holding a series of meetings, one in each church, to pray for relief.

**For New Jewish Hospitals.**—At a recent hearing before Commissioners William Rhinelander Stewart and Dr. Stephen Smith, of the Eastern Inspection District of the State Board of Charities, applications for charters for new Jewish hospitals to be built in the lower East Side were made by six different organizations. These were the Columbus Dispensary, the Zion Hospital Association, the Carmel Hospital and Dispensary, the Jewish Hospital for Deformities and Joint Diseases, the Beth Jacob Joseph Hospital, and the East Side Hospital Association. As in most instances the projects of the different applicants were still in the rudimentary stage, and, especially as very little money had been pledged in their interest, the commissioners advised them to attempt to effect a consolidation, and stated that while it appeared that there was a demand for more hospital accommodations in that part of the city, six new charters would certainly not be granted.

**New Use for Carnegie Gift.**—The trustees of the fund of £500,000, yielding a yearly income of £25,000, which Andrew Carnegie presented to his native city of Dunfermline, have been hard put to it to spend their income. Various schemes for providing the people with musical and artistic facilities of high order have failed to meet with popular approval, and the latest plan has been the establishment of a College of Hygiene and Physical

Training. This is intended to foster the development of physical training among the young people, and to supervise the study of hygiene in the public schools. The college was formally opened on October 4.

**Tuberculosis in Prussia.**—A remarkable decrease in the number of deaths from tuberculosis in the larger cities of Prussia within the last two decades is recorded. In 1896 the death rate in cities of over 100,000 inhabitants was 37.36 per 10,000; in 1902 it was only 22 per 10,000.

**Medical Society of Virginia.**—The thirty-sixth annual session of this society will be held in the Young Men's Christian Association Building, Norfolk, on October 24–27, 1905, under the presidency of Dr. William S. Christian, Urbanna.

**Civil Service Examinations.**—The State Civil Service Commission has announced a general examination to be held on October 28. Among the positions included in this examination are those of Assistant in Botany, Education Department, $600; Assistant in Microscopy, Buffalo Cancer Laboratory, $720. The last day for filing applications is October 23. Application forms and detailed information may be obtained by addressing the Chief Examiner of the Commission at Albany.

**Dr. W. A. Dickey** of Toledo has resigned as Dean and Professor of Medicine at the Toledo Medical College.

**Dr. Clyde I. McKinniss** of Marion, Ohio, has been appointed Assistant Physician to the Columbus State Hospital for the Insane.

**Dr. J. D. Dunham** of Columbus, Ohio, has resigned as Professor of Bacteriology at Starling Medical College and has been appointed Lecturer on Diseases of the Stomach.

**Dr. John K. Scudder** of Cincinnati has been reappointed by Governor Herrick as a Member of the State Board of Medical Registration and Examination.

**The Toledo Medical College** has become the Medical Department of the Toledo University.

**The East Side Physicians' Association.**—The next meeting of this society will be held Friday evening, October 20, at 67 St. Marks Place. Papers will be read by Drs. Brodhead, Von Ramdohr, Huber, and Silver.

**Diphtheria.**—The public schools around Farmington and Green Township, Livingston Co., Ill., have been obliged to close, owing to the prevalence of malignant diphtheria.

**Chicago Deaths During the Week.**—The total deaths from all causes numbered 512 during the week just ended, this being equivalent to an annual rate of 13.4 per one thousand of population. Acute intestinal diseases led, causing 114 deaths. Consumption came second, showing a mortality of 51; heart diseases, 47; violence, including suicide, 41; Bright's disease, 30; and pneumonia and nervous diseases, each 24.

**Hospital Site in Oak Park (Ill.).**—The Oak Park Hospital Association is still determined to have a hospital, to cost $100,000 or $150,000, although at the last election a number of people voted against it. At a meeting recently held, Dr. J. W. Tope submitted a proposition to the executive committee of the hospital association to pay for the site selected for the institution. This site is situated in Fair Oaks, in the northern part of Oak Park, and consists of six acres.

**A New Building for the Chicago Policlinic** will be built at the southeast corner of Oak Street and La Salle Avenue. The new structure is to be six stories high, and will be thoroughly modern in the equipment of all departments.

**A Government Hospital at Illiopolis.**—An option on 640 acres of land at Illiopolis, Ill., has been secured by Dr. L. Declermont, of Washington, D. C. On this land the United States Government contemplates building a hospital for the army and navy. It will have a capacity of 3,000 patients. It is expected that the Illiopolis authorities will furnish lighting facilities and water supply.

**A New Maternity Hospital in Chicago.**—Land has been secured on the south side, and a maternity hospital, thoroughly modern and perfectly equipped, is to be constructed at once. The plans are under way. The men's board of the Lying-In Hospital has pledged itself for the necessary money, and in order that it may be left free to attend to this, the woman's board has agreed to raise $8,000 to complete the funds for the running expenses of the present hospital for the current year. This will be done by public subscription.

**Obituary Notes.**—Dr. Wilson T. Bassett died at his home in Cooperstown, N. Y., on October 3, at the age of eighty-four years. He was a graduate of the Albany Medical College, class of 1844.

Dr. John O. McReynolds of Elkton, a well-known physician of Kentucky, died on October 6, at the age of seventy-eight years. He was graduated from the Jefferson Medical College in 1849.

Dr. Arthur Weir Johnstone of Cincinnati, died at his home on Madison Road after a week's illness from appendicitis. He was one of Cincinnati's best known surgeons. He was fifty-two years of age and was born in Danville, Ky. He was graduated from the New York University Medical College in 1876.

Dr. Decatur Curran Anderson of Moss Point, Miss., died on September 28 at Tallulah, La. He went to that place in company with several other physicians to assist in fighting the yellow fever, but contracted the disease himself and died within a few days. Dr. Anderson was a graduate of Tulane Medical College.

Dr. P. J. Kirschner of St. Joseph, Mo., died on September 22 at the age of fifty-two years. He had been in poor health for three years and his condition had been serious for some time. He was graduated from the Bellevue Hospital Medical College with the class of 1879, and at various times occupied several public offices in St. Joseph, including the mayoralty.

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## Correspondence.

### OUR LONDON LETTER.

(From Our Special Correspondent.)

SIR VICTOR HORSLEY ON VERTIGO—DEATH OF DR. T. J. BARNARDO, F.R.C.S., EDIN.—PRECAUTIONS AGAINST CHOLERA—SIR THOMAS BROWNE'S STATUE—MR. JONATHAN HUTCHINSON'S COMING BOOK—ASYLUMS BOARD.

London, September 22, 1905.

The pathology of vertigo interests both general and special practitioners, and the views of Sir V. Horsley, which were lately expressed before the Otological Association, deserve careful consideration. His experience was principally drawn from two classes of patients (*a*) destructive ear disease, (*b*) new growths, though he had of course seen numerous cases of Ménière's disease. He defined severe vertigo as a sudden disturbance of equilibration, and said what we want to know is whether that disturbance occurred in the periphery, *i.e.* in the semicircular canal, and whether such disturbance in the periphery is produced by pressure in the middle ear, on the labyrinth, or by direct disease of the labyrinth. Then we want to know whether the mischief is in the trunk of the vestibular nerve, or in the bulb, or in the cerebellum, or in the pons, or in the crus, or finally in the cortex, and particularly that of the temporal lobe. He alluded to the question whether the faculty of orientation in space is represented in the cerebrum, and suggested that it was principally in the temporal lobe. Sir Victor regarded vertigo as a physiological phenomenon,

strictly analagous to the onset of an epileptic fit or of trigeminal neuralgia. Such a sudden physiological disturbance of the central nervous system as that in severe vertigo could only be analagous to a condition of things in which there was a summation of stimuli. To begin with, the peripheral mechanism cases of semicircular canal disease require most attention in the direction of localization. More minute localization of peripheral disease would furnish the groundwork of more correct localization of central disease. He had not seen true vertigo from disease of the vestibular nerves except in cases of new growths. As to the medulla itself, the difficulty of localization between the eighth nerve and medulla itself was that in all cases of eighth nerve implication, the region of the auditory striæ and Luschka's lateral recess was the usual situation of new growths. He suggested further that true rotation, *i.e.* objective rotation, forced movement does not occur from simply middle ear trouble. The forced movement did not occur until the vestibular trunk or the wall of the labyrinth was implicated.

Passing to the cerebellum, he said it contained two distinct organs, the lateral lobe and the vermis. The latter was concerned with rotation round a horizontal plane of the body; the former round the vertical axis. From either of these might occur the rotation of a vertigo, the localization of which was comparatively precise. The lateral lobes of the cerebellum were not directly united with the cerebrum, but were connected by the middle peduncle with the pons and this with the temporal lobe. Sir V. Horsley demonstrated by lantern photos the strictly localized lesions and clinical phenomena caused in rabbits shot while running away. A photo of a rabbit's brain in which a single pellet passed through the petrosal portion and superficially through the tip of the temporal portion of the hemisphere was shown. The animal, when hit, sprang into the air and had typical rotation fits around a longitudinal axis; it had skew deviation, right eye directed downwards and contracted pupil, left upwards and dilated pupil, limbs of opposite side rigid—all the phenomena of a middle peduncle lesion. Another photo showed forced movement of rotation from a bruising of the pons. The rabbit lay unconscious in the cerebellar attitude, fore legs rigidly extended, head drawn to the right, with that leg semiflexed and the left fully extended. No shot penetrated the brain, but one had fractured the petrous bone and slightly bruised the middle peduncle of the cerebellum and trapezium. The case of a boy who fell on his head from a see-saw was described. He had vertigo and auditory amnesia from a lesion of the middle peduncle of the cerebellum. In any given case of vertigo a differential diagnosis of the seat must first be sought in the direction of the forced movement, then functional cases must be excluded and next a complete examination of the central nervous system made.

As to treatment, Sir Victor said in middle-ear cases the bone and mucous membrane must be treated by ordinary surgical rules. As to Ménière's disease when congestion of the semicircular canals had been diagnosed and the cases sent to him with a view to division of the eighth nerve, although willing to operate, he had not yet done so, but had advised previous treatment, but he did not know whether that had been successful, as the patients did not return to report. As to central disease, the cases almost always were due to new growth, and the only treatment removal.

Dr. Risien Russell at the same meeting considered vertigo from the medical aspect as a subjective sensation of movement, whether accompanied by actual movement or not; or a sensation that surrounding stationary objects were in motion, and the term was sometimes applied to a vague state of light-headedness without a definite sense of displacement of the body or surrounding objects.

Dr. T. J. Barnardo died on Tuesday morning at the age of sixty, after forty years of strenuous philanthropic work, which has made regret at his loss universal. The King and Queen both sent messages of sympathy, and the poorest of the East End people know they have lost the friend of the homeless children. Thos. John Barnardo was a London Hospital student. He entered there with a view of qualifying as a medical missionary, but was diverted from his purpose by what to many might seem an accidental circumstance. In the cholera epidemic he worked hard with some other students; they made a house-to-house visitation, and there he saw much of slum life. Afterwards, with the others, he carried on a Sunday and ragged school in a donkey stable, where, one night, a wretched waif begged hard to be allowed to sleep. Finding this boy had no father, no mother, no home, was simply a street Arab, without any regular sleeping place, he asked if there were other boys in the same state, and was answered "Oh, yes. 'eaps on 'em, more'n I can count." To ascertain the truth of this he got the boy, after feeding him, to take him where he could see these "'eaps" who "didn't live nowheres," and that night he resolved to devote his life to help the helpless, and from that time we may date the commencement of the National Institution for Waif Children. With faith and courage which never failed, he took a little house to provide for a few boys, and the work has grown under his guidance until at the close of last year there were 7,078 children being maintained in the homes under his care. In addition, 120,239 free meals, 31,032 free lodgings, and 92,533 garments were distributed to boys and girls in the year. No doubt, as has been said, he was a wonderful organizer, but there was something more than that in the capacity and success which have made his work seem such a romance. He did not altogether escape opposition and harsh criticism, but they could not hinder the success of his methods, as one fact proves, out of 16,000 children educated and emigrated to the colonies, less than 2 per cent. have been failures. He "rests from his labors and his works do follow him."

The Newcastle authorities are naturally anxious about cholera. They have appointed three medical men to assist Dr. Hooper, their medical officer of health. He has arranged for a continuous medical service, so that every vessel arriving in the Tyne from any North Sea port will be boarded. Two or three suspicious cases have arrived, but so far the disease has not obtained a footing.

The arrangements for unveiling the statue of Sir Thos. Browne are complete, and the ceremony is to be performed on the four hundredth anniversary of his birth (October 19), by Lord Avebury.

Mr. Jonathan Hutchinson is about to publish a volume on leprosy and fish eating, in which it is to be presumed he will embody some account of his tours in South Africa and India, and his latest opinions as to prevention.

The Asylums Board has appointed a committee to investigate the causes of the resignation of three assistant medical officers of their asylums, which I reported to you, so it is to be hoped the dissatisfaction which has long existed among their medical officers may be investigated and removed.

## OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

MANILA, P. I., September 1, 1904.

CHOLERA has again made its appearance in the city of Manila. On August 23, at an autopsy held upon a prisoner who died in Bilibid Prison, the intestines were found to be much injected, with a rice-water material in them, and the solitary follicles and Peyer's patches were found enlarged and swollen. The case was considered very suspicious, and specimens were at once taken to the Government Laboratories for bacteriological examination. On August 25 the director of the laboratory, Dr. Richard P. Strong, reported that the cholera spirilla had been found in the specimen submitted. Suspicious cases have been reported from time to time for some weeks past, but careful autopsies and bacteriological examinations failed to show any Koch's spirilla present. It therefore came as a matter of surprise that cholera should be detected in a prison which is so well guarded against the introduction of improper food substances, and especially so in view of the fact that no cholera has been reported in the Philippine Islands since April, 1904. Soon after the case in Bilibid was reported, information was received that at Fort McKinley a number of soldiers were stricken with a disease, the symptoms of which very much resembled cholera. There were seven cases reported, two of which had died, presumably from acute alcoholic poisoning. Two more men were stricken soon afterward; they died, and the bacteriological examination revealed Koch's spirilla. Fort McKinley was immediately placed in quarantine, all suspicious food stuffs were destroyed, and the soldiers were requested to take every precaution against contracting the disease. Up to the present writing no further cases have occurred in the Fort. In all there have been nine cases and four deaths.

On August 25 there were two Americans stricken with the disease, who died in a few hours. In one of the subjects almost pure culture of the cholera spirilla were found. The cases up to the present time have been of the most virulent type, and take the form ordinarily described as cholera sicca.

Since the first victim, the number of cases in Bilibid has been steadily increasing, until it has been reported to-day that there are some twenty-four or twenty-five cases in all in that institution. Cholera has been present in Manila for ten days, and the total number of cases has been about fifty-one. It will therefore be seen that fully one-half of the cases occurred in Bilibid Prison. The medical authorities of the prison have been at a loss to understand how the infection has been propagated.

Up to the present time there seems to be no positive information as to just how cholera entered the city of Manila. In view of the fact that cholera was reported in Hong Kong some weeks ago, it was at first thought that it was being

introduced from China; but later information points to the fact that cholera was in the interior of Luzon at least one week before any cases made their appearance in Manila, and there is every indication that the disease reached Manila from Laguna de Bay by the Pasig River.

From the foregoing, it would appear that cholera is endemic in the Philippine Islands, and that whenever the conditions are favorable the disease probably assumes an epidemic form. Including the cases in the provinces and those in Manila, there have probably been one hundred in all.

The work of the health authorities has been very much hampered by the fact that within the last few days the natives have commenced to hide the cases, and for that reason it has been impossible to disinfect the premises in which cases occurred. If this practice continues, there will no doubt be many foci of infection, and it is difficult to see how the disease can be checked before great loss of life results.

## PNEUMONIA AND MOUTH BREATHING.

To the Editor of the Medical Record:

Sir: I have read with much interest your editorial of September 16, and, having read the preliminary report of the Pneumonia Commission, I agree with you that it is not at all satisfying, "and there is not to be found here much promise of a speedy reduction of the shameful mortality from pneumonia in our Northern cities." The experience of four years' work along the lines covered in my monograph "Mouth Breathing" prompts this letter, and I assure you that if your readers become nasal breathers, and see that their patients also become such, they will do much toward stamping out, not only pneumonia, but all diseases of the respiratory and adjacent tracts. To resist affections of the respiratory and adjacent tracts, man must have a breathing apparatus free from obstruction and irritable areas. The normal breathing tract will not remain unaffected if long dry. When does the respiratory tract become dry? When the individual breathes with open mouth. This is certainly true, and may occur in any section of the upper breathing tract, and I believe a normal and physiologically moist upper breathing tract is pollen and germ proof. If this is true for the upper respiratory sections, why is it not true for the lower? It is not necessary that the individual be an habitual mouth breather to possess dry respiratory areas. Ofttimes a few moments of ordinary conversation will occasion this if he is not careful to take the air as he requires it through the nose. To properly filter, moisten, heat, or cool inspired air, to properly aërate the blood, and dilate the lungs throughout, one must breathe through the nose. The breathing tract of the normal breather is not a soil for bacilli. Can this be said of the breathing tract of the mouth breather?

Who is best prepared to resist pneumonia and other respiratory affections, the well-clad individual in the street on a cold winter's day, with his mouth open, or his friend who walks beside him, equally well clad, breathing as nature intended he should? Common sense teaches that the former is liable to infection. Again, who is most liable to respiratory affections, the individual who can expand his chest four inches, and does it a few times every day, and never breathes through his mouth, or he who expands his chest but one and one-half to two inches, or four if you will, and is a mouth breather? Who is most liable to an irritable throat, he who, while preaching or singing, takes his air through his nose as he requires it, or one who takes his air through his mouth? Who is most liable to spasmodic croup, the child lying in his crib with his mouth open, or the child by his side with his mouth closed? Who is most liable to pulmonary tuberculosis, the doctor in a tuberculosis hospital ward, who goes from bed to bed, breathing faultily, or his colleague, who breathes through his nose at all times? One need not be a physician to intelligently answer these questions. Who is going to make the speedier recovery, the nasal breather, who, through some indiscretion, contracts an affection of his breathing tract and continues a good breather, or the mouth breather, similarly affected, whose faulty breathing is allowed to go on uncorrected? I unhesitatingly say the former, for I am daily proving its truth.

To know what it is to be a nasal breather, to know what it is to resist, or to feel that one can resist at all times, respiratory affections one must have breathed through the nose for at least a few days normally. It is a comfort in going to sleep to know that the lips are going to remain in apposition the entire night, if for no other reason than the assurance that, on awakening, one's mouth is moist and clean. The plaster mouth-guard, as advised in "Mouth Breathing," is most satisfactory. We will have accomplished much when the time comes, and it is surely coming, when not only adults, but children, shall appreciate that if they do not use the nose at all times they are liable, not only to all forms of respiratory affections but to a large percentage of aural and eye troubles.

W. H. FitzGerald, M.D.

Hartford, Conn.

## CAPITAL PUNISHMENT.

To the Editor of the Medical Record:

Sir: The letter on "Capital Punishment" by Dr. Castelli of New York, in a recent issue, strikes the keynote of humanity. The present method of capital punishment used in our country belongs to the period of barbarism. As shown by the statistics of crime, it has failed to accomplish that which our forefathers intended. As stated by the paper, it punishes not only the guilty, but his friends and relatives. I hope to see the day when the people of my nation will feel that every man is his brother's keeper, and if we must free the nation of its criminal element, let it be done in at least as humane a method as was employed by Greece or Rome. James W. Riley strikes a truth in his "Doc Siphers" when he asks who is to pull the rope for the twelve sound-minded jurymen after they pull the rope for the unbalanced, pitiable wretch who has taken the life of one of his fellowmen.

We all know that a mother or father of criminal tendencies transmits them to the offspring. Of course this propagation of criminals must be stopped for the benefit of future generations, and this can be done only by effective legislation; but the surety not the severity of punishment is what brings results. Parents who punish their children at times without parental feeling and then allow them to run rampant, do not have good, obedient children. Neither will a nation by severe and barbarous punishment, obtain results. Only when punishment is reasonable, just, and absolutely sure shall we begin to overcome the ever-increasing tendencies to crime in this our beloved country.

J. T. McDavid, M.D.

Decatur, Ill.

# Progress of Medical Science.

*The Boston Medical and Surgical Journal, October* 5, 1905.

**Vertigo of Aural Causation.**—Clarence J. Blake, reviewing the subject of the aural causation of vertigo, concludes as follows:(1) In view of the existin knowledge of normal conditions in the semicircular canals, vertigo of aural causation may be regarded primarily as a pressure symptom. (2) Pressure may be exerted upon the labyrinth by forces operating from without, as the result of changes in the middle-ear transmitting apparatus. (3) It may be produced from within by invasion of the intracapsular space, as in the case of hemorrhage into the labyrinth. (4) The effect upon the semicircular canals, of intralabyrinthine pressure thus produced will depend, as to its intensity and duration upon the locality and extent of the hemorrhagic invasion. (5) Recurrent vertigo is the result of an excessive intralabyrinthine vessel dilatation, from suspense of vasomotor inhibition of reflex origin, either alone, or coupled with a persistent intralabyrinthine pressure, of either extrinsic or intrinsic origin.

*New York Medical Journal, October* 7, 1905.

**Modification of the Guaiac Test for Blood.**—The preliminary note made on this subject by I. S. Wile, consists in the extracting of the coloring matter from a suspected source and testing for the hemoglobin at one step. The technical procedure is thus outlined: To equal parts of chloroform and turpentine tincture of guaiac (U. S. P.) is added, a drop at a time, until slight milkiness appears. To one or two cubic centimeters of this reagent the suspected solution is added and the mixture is thoroughly shaken. In the presence of blood the chloroform-turpentine-guaiac solution becomes blue. The color takes a few seconds to manifest itself, but gradually deepens until all the hemoglobin has entered into the reaction. The color then gradually becomes lighter and slowly disappears. The triple mixture above described, will keep for several days without losing its power to give the reaction, provided it is stored in an amber-colored bottle. If desired, a ten per-cent. solution of resin of guaiac in glacial acetic acid, and may be substituted for the tincture.

**Shock and Hemorrhage as Causes of Death Following Abdominal Operations.**—The paper of C. C. Barrows is based on the statistics of a hospital service, in which twenty-five deaths occurred from all causes in five years, four of these having been due to shock and one to secondary shock, following hemorrhage. The author finds

among authorities a practical unanimity as to the causes, diagnosis, and treatment of this condition. The author notes that in hemorrhage, as a rule, the patient regains consciousness promptly from the anesthetic, is extremely restless with a panting respiration from lack of oxygen, there is great thirst and a sense of impending danger. In shock, on the other hand, the patient lapses with greater or less rapidity into a condition of semi-coma or into coma without restlessness, or expressions of much bodily discomfort. The breathing is, as a rule, shallow and less rapid than in hemorrhage. A valuable prophylactic measure is the intravenous injection of a normal saline solution just before operation. The surgical work should be done as quicky as is consistent with accuracy, so as to lessen the duration of the anesthesia. The use of rubber gloves is commended as being far less irritating to the delicate peritoneal tissues than the bare hand. Strychnine hypodermatically should be given promptly, together with further intravenous saline solution. To the latter may be added hot saline enemas, and the use of the same solution by hypodermoclysis. The author commends also the intravenous injection of a 1-25,000 solution of adrenalin chloride in hourly quantities of 500 c.c. Less success follows the hypodermatic use of the last-named remedy.

**The True Nature of Functional Nervous Diseases.**—W. H. Thomson notes disorder of function even to total cessation, constantly occurs without any derangement of any part of the nervous mechanism. We can seriously affect any motor or sensory function just as we can cerebral action by approprate agents which, once in the circulation, select each one, some particular function which it specifically deranges. The fault here is not primarily in the nervous system at all, but in the blood. It is true that some functional poisons do produce organic changes, owing to their possession of chemical affinities, but they have no necessary connection with primary nervous effects, but such poisons rarely leave any trace evident on post mortem. The body itself is a laboratory in which are produced, many and virulent functional poisons. Some organs are for eliminating these, others for neutralizing them. As to the theory of heredity in the general argument in favor of an organic basis for functional nervous disorders, we must remember that the blood is the most hereditary thing about us, and partakes far more than does any other tissue in transmitting the chief ancestral traits. The old expression that "insanity runs in the blood," may be literally true. One characteristic clinical feature of many nervous disorders is the fact that the attacks are intermittent, while disorders from organic troubles are persistent. The attack is merely an explosion of accumulated toxic material in the blood. Hence, our treatment should be directed toward the discovery and elimination of the special toxic element at the bottom of each individual case Mere symptomatic treatment may alleviate the effect, but does not remove the cause. We must change the diet and bring about intestinal antisepsis. Diseases of this class include especially migraine and epilepsy. In melancholia there may be more than one form of toxemia present. We must examine not only for fecal accumulation, but the high-tension pulse suggests an excess of adrenalin in the blood. Purgation and the administration of aconite will assist in these cases. Finally, the author inquires can a functional disease ever become an organic nervous disease by acquiring a structural basis. He says, in reply that we can conceive it possible that repeated attacks of functional nervous disease, particularly in childhood and youth, may finally impart to some centers an organic basis for either hysteria or epilepsy. But it would be vain to expect that any inspection of convolutions would identify such unfortunately functionating areas.

**Midtarsal Valgus, or Knock Ankle.**—This condition is described by E. H. Bradford, who notes that the deformity occurs at the mediotarsal articulation. The normal motion taking place at this point is effected by a rotation at the hip joint, which twists the whole limb to the outside while the heel and front of the foot are placed firmly on the ground, the astragalus mortised as it is between the two legbones moves with the leg. If the limb is twisted to the inside when the foot is firmly placed on the ground; the weight will fall to the inside of the median line, and vice versa. The midtarsal valgus may result, particularly when the front of the foot is used in walking, while the limb is being moved straight forward and the foot itself is turned outward. A twist in the metatarsus must inevitably result. At first no detriment occurs to the articulation. but if the person is heavy, obliged to stand much, etc., relaxation of the ligament must follow. The characteristic appearance is due to the projection of the internal malleolus. The foot is somewhat distorted in shape. In severe cases the os calcis loses its firm connection with the astragalus, and an excursion under the latter takes place when weight falls on the foot and an astragalocalcaneoid valgus is developed Hallux valgus is often seen in midtarsal valgus. Treatment varies according to the existing condition. We may have (1) normal feet, but with faulty habits of position and gait; (2) flexible, undistorted feet, but with weakened muscles and stretched ligaments; (3) rigid, distorted feet, with structural changes of ligaments, muscles, or bones.

*Medical News, October 7, 1905.*

**Late Hereditary Syphilis.**—R. R. Campbell dwells upon the well-known "triad" of hereditary syphilis (Hutchinson's teeth, interstitial keratitis, and labyrinthine deafness), and also refers to other signs as palatal perforation, atrophic choroidal plagues, and gummata of the skin. Several of the cases reported in literature are summarized, and the author refers to one personal case, that of a girl of sixteen, who began to menstruate at fifteen. At that time she suffered intensely from pains in the legs and nocturnal headaches. On the right foreleg were elevated red spots, varying in size from that of a split pea to almost, if not quite, the size of a twenty-five-cent piece. Within a month the left foreleg presented a similar condition to that on the right leg. When the patient first came under the author's observation she presented typical ulcerating gummata on both legs, without any other evidence of hereditary taint, and an absolutely negative history as to any skin eruption or sickness of any character in the earlier years of her life. The mother of the patient was a subject of ichthyosis, and stated that she had had two miscarriages, occurring without apparent cause; the first at between five and six months, and the second at between six and seven months. On the right hip of the mother, examination revealed a scar, which resembled that following a syphilitic ulceration, although she denied all syphilitic history. The patient's father refused to be examined or interviewed. Under antisyphilitic treatment the girl made a prompt recovery.

**The Ultimate Results after the Bloodless Reposition of the Congenital Hip-joint Dislocation.**—F. Mueller describes the pathological changes occurring in this condition, and the mechanical principles involved in its relief, by the method referred to, and gives two statistical tables of cases operated on by Lorenz during his visit to Chicago in 1902, the subsequent treatment being under his own (Mueller's) direction. Out of 33 cases, anatomical reposition was accomplished in 21. In this series the gait is recorded as having become normal in 15, good in 1, satisfactory in 4, and defective in 1. Motion became full in 16 somewhat stiff, but improving in 2; showed contracture in abduction in 1, while in 2 the right joint was normal, while the left remained somewhat rigid. Out of 12 cases in which a subspinal position was obtained, the joint was good and motion full in all. Favorable anatomical conditions, that is, a general state of the joint, which makes it resemble a normal joint, not taking into account, of course, the present dislocation, unfortunately are formed in scarcely more than 10 per cent. That means that in more than 90 per cent. we have to resort to special artifice in order to improve the lacking stability, and in order to hold the head securely within the socket. Each case must, therefore, be individualized, and the different types must be treated by different measures, with reference to fixation and after-treatment. The author admits that in forty per cent. of the cases, the Lorenz method does not give an anatomical replacement of the head. These are the cases in which the twisting of the femoral neck toward the frontal axis of the condyles is very marked. If the thigh of such a case is held in a normal position the neck is directed directly forward instead of toward the medial line. If we place the thigh, the upper end of which is in such a manner deformed in the so-called primary position of Lorenz, it is evident that the head is not able to emerge through the entrance of the pocket-shaped recessus into the socket, as this entrance is situated in the upper and posterior quadrant of the socket, whereas the neck extends straight from below in an upward direction. The axis of the pocket-shaped recessus of the capsule and the axis of the neck of the femur run in this way in nearly opposite directions. The head therefore, rests at the entrance of the pocket-shaped recessus of the capsule without being encased by it. These conditions can never give anatomical positions with the primary position after Lorenz but only so-called subspinal positions. The head leaves the place in which it has been put and wanders upward finding some resistance in the anterior-superior spine of the ilium underneath which it fixes itself more or less securely. It must be emphasized that a good functional result depends largely on the after-treatment and massage.

**Vesical Fistula.**—H. H Purinton refers to the various operative procedures for the relief of this condition the most common cause of which he finds to be due to injury received in difficult labor. Most of them do not entirely close. The symptoms are described in detail. Boric and carbolic douches should be used until spontaneous healing occurs or an operation is done. The best time to operate is six or eight weeks after delivery. Raw surfaces should be treated with silver nitrate until they heal Encrusted salts should be removed and cicatricial bands excised If there is stenosis of the vaginal orifice, it may be divided with a knife, an incision being made down beside the rectum, which will give the operator room in which to work. This incision may be sutured after the fistula has been repaired. The author then describes his surgical technic, which follows conventional lines. He lays stress upon the importance of a funnel-shaped denudation of the fistula edges as a much larger surface for healing is thereby exposed and a much better result is consequently likely to follow Silkworm gut sutures are preferred. The direction of the line of sutures should be such as to approximate the edges with the least possible strain. The sutures are dusted with iodoform and sealed with collodion. Gauze is packed in the vagina to support the bladder in all movements causing straining, so as to lessen the tension on the stitches.

*American Medicine, October 7, 1905.*

**An Apparently Distinct and Hitherto Undescribed Type of Parasite in Pernicious Malaria.**—H. M. Smith reports the finding in the blood of 119 cases of malaria at the First Reserve Hospital, Manila, P. I., a parasite so peculiar and distinct from any previously described as to render it probable that this form is a distinct type of the parasite of pernicious malaria. The parasites are small hyaline discs of an oval spindle form, non-pigmented and lying in the protoplasm of the red blood corpuscles. They have a very sharply defined outline, are highly refractive, and in the center of each form is a small round dot of hemoglobin. Their short diameters vary from 1-5 to 1-10 the diamter of the red blood corpuscle, their long diameters being about twice as great. On account of their spindle shape, he designates them "spindle forms." They have no ameboid motion, but move by revolving on their long axis and by swinging around on their short axis, using one end as a fixed point. This motion is the most peculiar characteristic of the parasite. They stain with great difficulty, and then only the periphery to a slight extent. No development of any nature has been observed in these parasites, and no forms besides these "spindle forms" were ever discovered in the blood before death, or in the blood and organs after death in the four fatal cases.

**Phlebosclerosis.**—C. F. Martin and J. C. Meakins describe this as a very common condition, which has been recognized as such only by pathologists, some of whom regard it as a process analogous to similar disease in the arteries. These writers, however, find that it exists commonly quite apart from diseased arteries, and that it is extremely common in peripheral veins, especially those of the lower extremities. Their findings and conclusions may be epitomized thus: (1) Peripheral sclerosis is very common, existing in nearly 60 per cent. of patients examined by them in hospitals. (2) It is much more common in young people than is generally supposed, especially in the saphena veins. (3) It is frequently present without any arteriosclerosis (4) Sections show no signs of marked inflammation or degeneration. Proliferation and hypertrophy of intima and media are the chief pathological pictures. (5) The usual causes of arteriosclerosis are absent. (6) The condition is allied to a process of functional hyperplasia rather than to chronic inflammation, and is not associated, as a rule, with injury, though with prolonged strain from movement, posture, and changed blood tension.

**Cervical Rib, with Resulting Gangrene of the Fingers.**—W. Wayne Babcock thinks that the tortuosities or angulations in the subclavian artery, produced by the presence of a cervical rib, are important factors in the circulatory weakness of the hand and arm that occurs in this condition, and points out that the usual forms of occlusion of the subclavian artery are rapidly followed by the development of a collateral circulation, and, if incomplete, are frequently associated with a bruit; conditions not found in association with cervical rib. When apparent widening or aneurysmal dilation of the subclavian occurs, it is distal to the point of compression between the cervical rib and the scalenus anticus muscle and not proximal, as would be anticipated. His patient had developed a marked scoliosis and constantly assumed a position that would tend to relieve the abnormal tortuosity of the artery The patient had noticed a stiffness of the neck at 13, with pain and coldness of the right hand during cold weather. At 20, terminal gangrene, involving the tips of the third, fourth, and fifth fingers, developed, and at 22 the pain and tenderness in the hand became excruciating, especially at night, and this, together with the wasting and almost total disability caused the patient to seek operative relief for supposed frost bite. The skiagraphic evidence was not clear, but the abnormal rib was palpable on very careful examination. Excision of the rib promptly relieved the pain and ischemia, and a faint radical pulse was present ten days after the operation. The chief symptoms of cervical rib are progressive circulatory changes in the hand and arm, unassociated with edemia, but usually associated with some form of paresthesia.

**The After-Treatment of Pulmonary Tuberculosis.**—J. A. Wilder emphasizes the great tendency toward relapse and chronicity of tuberculous ulceration in the lungs as well as in other parts, *e. g.* the skin and bones, and thinks there is a tendency at the present time to take too optimistic a view of its curability. The disease is practically always more or less advanced from the pathological standpoint before it is recognized clinically. Although some patients have such good resistance that they recover in spite of unfavorable surroundings and methods of living, the majority require a continuous life for years rather than months under the most favorable hygienic and meteorologic conditions before there is assurance that their lesions are permanently healed. Placing the patient under proper conditions for a short time often causes the disease to become quiescent, but this is only the first step in the cure of a disease that, on account of the nature and severity of the pathological lesions, is essentially of long duration. In an analysis of 100 cases of pulmonary tuberculosis that have been at least quiescent for from one year to ten years, the average period of quiescence being three years nine months, he finds that at the present time 87 are either quiescent or cured and able to work. Twenty-five of the 100 cases have at some time relapsed. Thirteen of these have relapsed and recovered, eight have relapsed and died, and four are at present chronic invalids. One patient died from cancer of the stomach without relapse of his pulmonary trouble. Of these cases 67 were originally classified as incipient and 33 as moderately advanced or advanced. The period of quiescence before working or returning home varies from no time to 36 months, the average being eight months.

*Journal of the American Medical Association, October 7, 1905.*

**Systemic Blastomycosis.**—D. S. Esendrath and O. S. Ormsby report a case of this disease in a Pole, aged 33, in which the symptoms apparently first appeared in the lungs, simulating tuberculosis, but no tubercle bacilli could be found, and the tuberculin test was negative. While the lungs remained markedly involved, other organs, the kidneys, skin, and subcutaneous tissues also became attacked and the organism of blastomycosis was abundantly demonstrated in the cutaneous lesions, subcutaneous unruptured abscesses (in pure culture), and in the sputum. With these organisms thus derived the local lesions of blastomycosis were experimentally produced. The patient improved decidedly under treatment with iodid of potash, but passing from under observation for a few weeks, suffered a relapse. Further developments will be noted.

**Penetrating Wounds of the Abdomen.**—Randolph Winslow discusses abdominal wounds and gives a lengthy summary of cases treated at the University Hospital, Baltimore. He remarks on the occasional indefiniteness of the symptoms and insists on the importance of early laparotomy, in a well-equipped hospital, if possible. The apparent exception afforded by military experience as to the propriety of prompt operation and in the prognosis of these injuries is noted and accounted for by the special character of the modern military projectile causing a lesser mortality among patients not operated on, and the greater danger of increasing the risks of infection in operation. These conditions do not exist in civil practice, and there the earlier the operation the better. Shock, being usually due to hemorrhage, is not a contraindication; laparotomy should be done at once and the bleeding vessels secured. He insists on the importance of a thorough search in all parts of the intestinal tube, as perforations are liable to be overlooked. Wounds of the stomach and of the solid organs and their special characteristics are noted. Among the cases reported one is of interest on account of the fact that the aorta was pierced by a 32-caliber bullet, making a slit in its anterior surface and an everted counter-opening behind, the bullet then lodging in the third lumbar vertebra. These were the conditions found on autopsy, the patient having lived 122 hours after the injury.

**Water Supply and Sewage Disposal.**—G. W. Fuller discusses the proposed use of copper sulphate for water

purification. Its value as an algicide seems to be well attested, but its effect on drinking water is not yet fully determined and a prudent course at the present time would be to keep water thus treated from use for such purposes. The quantity required for germicidal purposes is much greater than that for destroying algæ, and this makes its use for drinking still less expedient till we have more trustworthy data as to its effects. The use of copper sulphate as a germicide for the effluents of coarse drain sewage filters is mentioned, but the process is an expensive one. The data regarding its use in connection with filtration are not yet sufficient. Altogether a judicious conservatism is advisable as regards copper sulphate. The extent of filtration works in the United States is next noted, and it appears that in the last four years there has been an increase of 70 per cent. in the population supplied with filtered water and a prospect of a still greater increase in the near future. The use of sulphate of iron and lime in treating the St. Louis water supply is mentioned, but it is not considered an altogether satisfactory substitute for filtration. The softening works at Columbus, Ohio, are also commented on as the first instance of a large city using this method in this country. Recent legislative measures in Pennsylvania and New York looking toward the control of water supplies are mentioned with approval. The latter part of the article is devoted to sewage disposal and the conclusion is reached that intermittent sand filters, when available, are the most satisfactory. Coarse-grained filters and sprinkling filters are more or less effective and septic treatment is ordinarily helpful as a preparatory measure. The article concludes with a brief notice of sewage pollution of shellfish and its remedies.

**Maternal Syphilis.**—This subject is discussed by G. S. Whiteside. He thinks the condition is often recognized only by the development of the taint in the infant after birth, and that such cases may be troublesome to the physician. He insists on the importance of being on the outlook for syphilis in the presence of obscure symptoms When it is diagnosed in the pregnant woman mercury should be given promptly and fearlessly to protect the child. After birth the physician should give the syphilitic infant mercury, and with care the child should recover in a few months. After thorough treatment the late forms of hereditary syphilis are rare.

**Lactic Acid in Gonorrhea.**—S. Chandler advocates the use of lactic acid for the treatment of gonorrhea of the cervix as preferable to other methods. He has employed it in thirty-four cases, which are tabulated. His method is as follows: Cleanse the vagina and cervix thoroughly with warm water and cotton soaked in a water solution (four to six ounces) of pyroligneous acid. Expose the cervix by drawing it downward and into view by an ordinary long tenaculum; then take an ordinary hypodermic syringe loaded with pure lactic acid, and inject just beneath the membrane a few drops of the acid Continue this until the whole of the cervix is exposed as the superior and inferior lip is injected. It may be done in one sitting, or in a nervous case, if desired, in two or three sittings. He concludes from his experience with this and other methods that lactic acid cures cervical gonorrhea, has no ill effects and prevents the spread of the disease into the body of the uterus if used sufficiently early. Ordinary douches and painting the cervix give only temporary relief, it is better to destroy the cervical glands, and this should be done as soon as a positive diagnosis is secured. Both the discharge and the cervical membrane should be examined before excluding gonococci, which are the cause of most chronic discharges. This method of injecting the cervical glands with lactic acid, he believes, is the best prophylactic against future disease of the tubes, etc. A too deep injection of the lactic acid may cause an annoying, though not a dangerous, slough, lessening the good result; caution against this, is, therefore, advisable.

**Cephalic Tetanus.**—J. H. Lloyd reports a case of this rather rare variety of tetanus, in which, contrary to the usual rule, the facial paralysis was bilateral As in all other recorded cases of this kind, except one, the original inoculation wound was on the bridge of the nose. He reviews the chief facts of note in cephalic tetanus, and recapitulates briefly the other cases, seven in all, of facial diplegia in head tetanus that he had found in the literature. The peculiar fact that the same infection causes paralysis of one nerve while inducing tetanic spasm in others, is remarked, but cannot be very well explained. Autopsy results, he states, are so far negative. The prognosis of head tetanus is a little better than in the usual type, but it is a grave disease with a very high mortality. Lloyd's patient came within the "chronic" group, the symptoms only appearing on the fourteenth day after the injury, and she made a good recovery. The peculiarities of the case, it being the seventh or eighth thus far reported with diplegia, render it of special interest

*Berliner klinische Wochenschrift, September* 18, 1905.

**The Value of the Hemochromogen Spectrum.**—Dominicis speaks highly of Donogány's homochromogen test for the identification of blood. This consists in the formation of hemochromogen on the addition of pyridin and ammonium sulphide, the spectrum of this substance being easily recognizable. The reaction is successful no matter whether the blood be fluid or dry, soluble or insoluble. By the use of the microspectroscope extremely small quantities of material suffice for the test. If the particle of suspected matter is very minute it is dissolved in a drop of pyridin on a slide, a drop of ammonium sulphide is added and the cover glass placed in position. The preparation is then ready for study, and if positive reveals the purple red color of hemochromogen, the somewhat indistinct crystals of this substance, and the spectrum of hemochromogen. If the blood is in the form of a stain on cloth, a single thread a few millimeters long will yield sufficient material for the test. The hemochromogen test is of universal applicability, and on account of its delicacy is well adapted for routine use in all cases.

**Immunization Against Strychnine.**—Meier is of the opinion that the chemical constitution of strychnine and of tetanus toxin is the same and that both possess one atom complex which gives rise to tetanic convulsions. Furthermore, all toxins or poisons of similar physiological action contain the same or similar atom groups in the molecule. If the body is able to produce an antitoxin against tetanus it should also be able to do the same in the case of strychnine poisoning, in accordance with the assumption that tetanolysin is not an antibody of the toxin as such, but rather the antitoxin of the specific group which gives rise to tetanus. He details experiments on rabbits and guinea pigs which he believes substantiate these views. For example, on injecting into rabbits fatal doses of strychnine, together with a serum or brain substance of animals that had received daily small doses of the drug for some time, no reaction was produced. In another instance some of the brain of an immunized animal was implanted into the peritoneal cavity of a rabbit which three days later was given immune blood serum and a very large dose of strychnine, without causing death.

*Münchener medizinische Wochenschrift, September* 12, 1905.

**Spontaneous Inhibition of Growth in Bacteria Due to Autointoxication.**—Conradi and Kurpjuweit have been able to study the autotoxic bodies developed by bacteria during their growth, and have found that these substances possess powerful inhibitory properties. By adding various amounts of bouillon cultures of different organisms, after varying periods of development, to agar on which fresh cultures of the same and of different organisms were sown, it was discovered that these inhibitory substances are formed from the first hour of bacterial growth, and that their effect increases from hour to hour, reaching its acme after twenty-four hours. Only after six to fourteen days does this inhibitory power subside. Not only is the growth of bacteria of the same species restrained, but also organisms of other species are inhibited. This observation explains the fact that in the ordinary course of laboratory transplantations growth does not begin immediately, but only after the lapse of several hours. It was found that the amount of inhibitory substance formed was directly proportional to the vigor of growth of the culture, and that the substance is intimately connected with the bodies of the bacteria as it cannot be separated from these by filtration or precipitation with alcohol, and is destroyed at the same temperatures as ferments. The authors were able, however, to devise a method of demonstrating the diffusibility of the substances. The inhibitory power of these bodies is much more effective than that of carbolic acid, though they do not appear to be bactericidal. The authors believe that the existence of these substances explains many puzzling phenomena, such as those of symbiosis, antagonism, the overgrowth of certain organisms in mixed cultures, etc., and they propose for them the term "autotoxins."

**Staining Urinary Sediments.**—Wederhake recommends the following methods as being very satisfactory and useful. Neutral red may be used for neutral and acid urines. The urine is centrifuged and the supernatant fluid is poured off down to one c.c. One or two drops of 1 per cent. neutral red solution are added to the fluid, and the sediment is well shaken up. The tube is then filled with water or salt solution, and again centrifuged. The clear red fluid is poured off and the sediment examined. In order to distinguish waxy casts, the following procedure is recommended. Ten drops of concentrated alcoholic solution of methyl violet are added to twenty c.c. of 1 per cent. aqueous neutral red solution. Two or three drops of this mixture are employed inthe above-mentioned manner. Epithelial cells, hyaline and granular casts and leucocytes are

stained red or reddish brown, while waxy casts are deep blue. A method of wider applicability and giving better results without the line urines is as follows: The sediment is shaken up with a drop of tincture of iodine, and then with a drop of a concentrated solution of crocein scarlet, 7B, in 70 per cent. alcohol. The sediment is washed, recentrifuged and examined, or if it is to be preserved is pipetted into glycerin or Farrant's solution. Nuclei will be stained red, the protoplasm of the renal epithelia red, that of the bladder epithelia according to their reaction, (not that of the urine), yellow, yellowish brown or brown. The casts are red, but waxy casts blue. Leucocytes are red. The stain has the advantage of never giving a precipitate, and it yields very instructive pictures.

**Traumatic Gastric Ulcer.**—Fertig describes a case of this unusual lesion. The patient was a man of twenty-eight, who had never suffered from gastric symptoms. He received a kick from a horse in the upper part of the abdomen shortly after a heavy meal. The clinical picture resembled that of internal hemorrhage, or perforation of the intestinal tract, but at the laparotomy performed two and one-half hours after the accident there was no evidence of injury to any internal organ. After the second day, progressively increasing anemia and hematemesis developed, and on the fifth day death resulted. At the autopsy no perforation or peritonitis were found, but on opening the stomach four ulcers were seen along the lesser curvature, one with a large eroded vessel at its bottom. The author considers that injury alone to the gastric mucosa is not sufficient to incite autodigestion, but that the element of infection must be added, as injuries of the mucosa often heal without ulceration. In the present instance he believes that the lesser curvature of the distended stomach was forced against the vertebral column by the traumatism, and several fissures were produced. The stomach was at the height of its activity, so that the healing of the wounds was retarded, and following infection the ulcers developed.

*Münchener medizinische Wochenschrift, September* 19 1005.

**Cytorrhyctes Luis, Siegel.**—Freund says that although almost every week sees the appearance of some communication regarding the presence of spirochetæ in syphilis, the cytorrhyctes luis, which was discovered by Siegel at about the same time, receives very little attention, notwithstanding the fact that there is more evidence in its favor than in that of Schaudinn's organism. The author gives the results of his examination of the blood in seven cases of undoubted, and three of probable syphilis, and states that he reports this small number of cases, not because he attaches great weight to the evidence obtained, but in order to stimulate others to corroborate his work. In all of these cases he was able to find the cytorrhyctes in enormous numbers, his estimate being that 300,000,000 would be present in five liters of blood, a fact which is to be expected, considering the highly infectious nature of the disease. The organisms correspond in all respects to Siegel's descriptions, and the author believes that he can exclude all chances of confusion with blood platelets, hemokonia, portions of disintegrating cells, etc., especially as he was never able to find them in the blood of healthy persons. In three cases under treatment with mercury, the number of flagellates steadily diminished, so that although present in great abundance at first, in one instance they disappeared completely, and in the others could be found only with difficulty. The spirochæta pallida was found in only very few cases, and the author regards it as an organism which, although it is found in syphilitics, has nothing to do with the disease.

**Potassium Permanganate as a Hemostatic.**—Vörner speaks of the various disadvantages attending the application of all the ordinary hemostatics. Even compression is often impracticable in the minor surgery that the practitioner is most frequently called upon to do, because of the undesirably conspicuous dressing it entails. He has found in potassium permanganate an extremely efficient hemostatic which, owing to its antiseptic nature, does not introduce the risk of infection, does not, to any extent, destroy the tissues, and has the further advantage of being very cheap. He uses it either in strong solution, in powder form, or in a paste. He obtains a fine powder by triturating it with one-half its weight of diatomaceous earth, after having first moistened and then dried the mixture. The paste is made with vaseline in the proportion of one part to three. This is most conveniently used in collapsible tubes. If there is bleeding to any extent after the excision of warts, condylomata, small tumors, etc., the bleeding surface is to be wiped dry with a piece of gauze, and the permanganate in one form or the other applied instantly. Usually a single application suffices, but occasionally more are necessary. Any discoloration of the skin about the wound, accidentally produced, is readily concealed by covering it with a piece of zinc plaster. About mucous membranes the paste is preferable, but epistaxis is well controlled with the solution. The patients complain of slight burning after the application of the permanganate.

**A New Plastic Operation, for defects of the Eyelids.**—Elter and Haass speak in very enthusiastic terms of a new method for repairing defects of the lower eyelid, by means of the free transplantation of a portion of the pinna of the ear. Two cases are described. In one, almost the entire lower lid and a portion of the cheek were excised for epithelioma. In order to fill in the gap, a correspondingly shaped piece was cut from the anterior edge of the ear, and its appropriately trimmed raw surface sutured against the defect below the eye. Although the transplanted tissue was found somewhat blue at the first dressings it soon recovered and the cosmetic and functional results described as having been perfect. The injury to the ear healed by primary union and was scarcely noticeable. In another case a bilateral ectropion, due to lupus, was treated on one side by the conventional flap operation, with fairly good results, and on the other side by transplanting a suitable piece of the ear. On this eye the result again was practically perfect. The authors say that this represents the ideal method of repairing defects about the eyelids, because the ear flaps do not contract, are stiffened by their cartilage, and have skin on both sides. They appear to do well in their new situation even though necrosis may seem imminent at first, and the deformity of the ear is always insignificant

*Deutsche medizinische Wochenschrift, September* 21. 1905.

**The Zigzag Incision in Appendicitis.**—Riedel advises the adoption of the invariable rule to operate on appendicitis cases as soon as they are seen without any delay whatever. This tendency is becoming more and more universal in Germany, now that both physicians and the laity are beginning to recognize the wisdom of early operation. The author has endeavored to educate the physicians in Jena and its environs by inviting them to the operations on their patients by giving them the appendices removed for study, and if they are unable to attend the operation by sending them a careful description of the conditions found, illustrated with sketches. As a result of this, during the eighteen months from November, 1903, to May, 1905, 357 appendicitis cases were received. All of these were operated on, 300 of the number during the attack. The 57 interval cases had no mortality; of those taken during the acute stage the mortality was 7 per cent. This the author believes could be reduced to 2.3 per cent. if the cases could be gotten at still earlier. The term early operation, he says, is purely relative, as the nature of the infection varies in each case, so that what might be an early operation in one case would be too late in another. He proposes the employment of the designation "correct operation" to indicate cases in which the surgical intervention occurs while the inflammation is still in its earlier stages. The preferable form of incision is what he calls the zigzag incision. The skin is cut 1½ cm. above Poupart's ligament in a direction parallel to this structure. The external oblique aponeurosis is slit in the direction of its fibers and is held open by retraction sutures so that the internal oblique and anterior sheath of the rectus may be divided, avoiding the small nerve which runs along the outer edge of the rectus. These structures and the transversalis are also retracted by sutures so that a large area of peritoneum lies exposed for the final incision. The wound so made is extremely distensible so that even the whole hand may be inserted, and the pelvic organs, stomach, liver, gall, bladder, etc., may all be investigated through it. There is no danger of hernia, as no muscle fibers are cut across, and what the author considers of especial importance, no nerves are injured, the ilioinguinal and iliohypogastric nerves running close to Poupart's ligament, while the twelfth dorsal nerve is much higher than the line of incision.

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**Urethrorectal Fistula.**—William M. Beach emphasizes the following facts: 1. Urethrorectal fistula, though comparatively rare, is apt to be overlooked. 2. It is generally of gonorrheal origin, generating prostatic abscess. 3. It may be of traumatic origin by the use of sounds or the operation of lithotomy. 4. The symptoms may point to cystitis, urethritis, and proctitis, in addition to intercommunicability of the urethra and rectum. 5. This is a type of fistula in which suture must be used—a No. 3, 40-day catgut. 6. Care of the wound is of paramount importance. It should never be left to an assistant, for no one can possibly be so familiar with the wound as he who made it. 7. A certain number of cases of urethral origin will heal spontaneously, if recent and the stricture is removed.—*American Medicine.*

# Book Reviews.

Manual of the Diseases of the Eye. For Students and Practitioners. By Charles H. May, M.D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Medical Department, Columbia University, New York, 1899-1903; Ophthalmic Surgeon to the City Hospitals, Randall's Island, New York; Consulting Ophthalmologist to the French Hospital and to the Red Cross Hospital, New York; Adjunct Ophthalmic Surgeon to Mt. Sinai Hospital, New York, etc. Fourth Edition, Revised. With 360 original illustrations, including 21 plates, with 60 colored figures. New York: William Wood & Company, 1905.

This excellent little manual has been again revised and improved, and is now in its fourth edition. It is a volume of 391 pages, is a concise, practical, and systematic work, embracing, as the author states, all of the essentials of diseases of the eye. The treatment of such a large subject necessitates brevity and the omission of much that is desired by one who is making a study of any particular disease of the eyes, but the purpose of the work, namely, to supply a practical work for the general practitioner and one to enable the student to obtain a foundation in ophthalmology, is admirably fulfilled. There are no discussions of theories, no references to authors, nothing but the statement of facts and the results of experience condensed. Original illustrations are found wherever they are necessary to elucidate the text. They are abundant but not profuse, nor are they over large. In fact, the volume impresses one with the success of its author in having produced a well-ordered book with as much of real value between its covers as it could well contain.

The colored plates representing external diseases of the eye, which appear for the first time in this edition, are excellent and add much to the value of the volume. Since the work is so well adapted for a very large body of medical men and for all undergraduates in medicine, it cannot fail to become widely distributed.

Zur Kroenleinschen Operation. Von Dr. Josef Helbron, Privatdozent an der Universität und I. Assistent der Universitäts-Augenklinik in Berlin. Mit zwei Tafeln. Berlin: S. Karger, 1905.

In this brochure of 90 pages the author has reviewed the literature concerning the removal of intraorbital retrobulbar tumors with conservation of the eyeball and the operations devised for this purpose without removal of portions of the bony walls of the orbit. He concludes that unnecessary damage is done to the eyeball when methods of this nature are employed. The various operations by which portions of the bony walls of the orbit are removed are then thoroughly reviewed, the author concluding that the Kroenlein operation is the procedure that should be preferred. This operation is carefully described, and brief reports of all recorded cases operated upon by this method are given. The work is very carefully prepared, and the subject is logically considered. It is a very valuable contribution to the subject, and will be read with profit by all who are engaged in the surgery of the eye.

Ophthalmic Neuromyology. A Study of the Normal and Abnormal Actions of the Ocular Muscles from the Brain Side of the Question. By G. C. Savage, M.D., Professor of Ophthalmology in the Medical Department of Vanderbilt University; Author of "New Truths in Ophthalmology" (1893), of "Ophthalmic Myology" (1902); ex-President of the Nashville Academy of Medicine; ex-President of the Tennessee State Medical Association. Thirty-nine full-page plates and twelve illustrative figures. Published by the author, 1905.

The work is one based on a hypothesis which may be said to be original with the author. The writer assumes that there are nine conjugate centers in the cortex of the brain, eight of which have to do with the "versions" of the eyes and one with convergence. These centers control the impulses which cause the necessary contractions of the extrinsic muscles of the eyes. There are twelve "basal" centers which are associated with the cortical centers. These centers have no work to do unless there is some departure from the normal in the action of the extrinsic muscles (heterophoria), in which case their influence is exerted to correct the error. The centers are termed "fusion" centers. The theory is well argued out, but is, of course, without anatomical basis.

Les cardiopathies artérielles et la cure d'Évian, par le Dr. P. Bergougnan, ancien interne en médecine des hôpitaux de Paris. Paris: G. Steinheil, 1905.

In this little book of 150 pages the author discusses arteriosclerosis and its treatment. The diseased condition being regarded as an intoxication, the treatment recommended is eliminative and antitoxic. The author advocates the water cure as practised at Évian; he claims for it that it lowers the arterial tension, and also causes an increase in the output of urea, uric acid, and other urinary solids. Numerous cases are cited in support of this claim.

A Manual of Acute Poisoning—Giving Classification, Varieties, and Individual Substances Usually Met With in Emergency Poisoning, With Special Symptoms, Simple Tests, Chemical Antidotes, Physiologic Antagonists, and Treatment. Together With Methods for Use in First Aid to the Injured. By John W. Wainwright, M.D., Member of the American and New York State Medical Associations, the American Chemical Society, etc. New York: E. R. Pelton, 1905.

The title page expresses in full the scope of this little manual of ninety-six pages. The subject matter is well discussed, and the treatment recommended is correct. The book is small enough to be carried in the pocket, making it particularly well adapted for emergency reference.

A Text-Book of Physiological Chemistry. For Students of Medicine. By John H. Long, M.S., Sc.D., Professor of Chemistry in the Northwestern University Medical School, Chicago. Illustrated. Philadelphia: P. Blakiston's Son & Co., 1905.

This is a brief treatise on physiological chemistry for students, and includes a series of illustrative experiments, printed in small type and interpolated in the text, so that a laboratory course may be carried on with the aid of this volume, along with the theoretical study of the subject. The book does not aim at exhaustiveness, but each of the fundamental themes of physiological chemistry is adequately treated from a beginner's viewpoint. A knowledge of general chemistry and of physiology is presupposed from the reader.

Special features in the work of Dr. Long are the chemical relations of the theories of immunity, which form a field but recently invaded by physiological chemists. Another comparatively new phase of the subject which Dr. Long treats at considerable length is the relation of physical laws (the law of osmosis; the laws of electro-conductivity, and of freezing points) to the physiological chemistry of blood, urine, etc. Here the author's own researches have been incorporated, in a concise manner. Finally, one of the most interesting chapters of the book is that relating to the equilibrium of energy and food ingestion, in which the recent work of Chittenden, Atwater, and others has been reviewed.

Dr. Long's book is noteworthy on account of the thoroughly modern way in which he treats his subject and the clear manner in which he has succeeded in dealing with most complex themes.

Grundris der Semiotik des Harns. Für Praktische Arzte. Von Dr. St. Serkowski, Vorsteher des städtischen chemisch-bakteriologischen Laboratoriums in Lodz. Berlin: S. Karger, 1905.

This unpretentious little pamphlet contains a mass of interesting and practical data bearing upon the significance of the various normal and abnormal constituents of the urine in the diagnosis of disease. The clinical significance of the freezing point, of quantity, specific gravity, and other physical characteristics, and also of the various microscopical features of the urine is given in a very concise manner, but in a clear, didactic style. We recommend the little book to practitioners wishing to be up to date on urine analysis.

The Rheumatic Diseases. By J. Odery Symes, M.D. (Lond.), D.P.H., M.R.C.S., L.R.C.P., Assistant Physician and Bacteriologist, Bristol General Hospital. Practitioner's Handbooks. No. 1. Edited by Harry Roberts. London and New York: John Lane, the Bodley Head, 1905.

This, the first volume of a series called the "Practitioner's Handbooks," is a most attractive and handy book, extremely light in weight, attractively printed, and well illustrated. The author discusses the bacteriology of the various rheumatic conditions so far as is known, and expresses his personal opinion as favoring the view that modified forms of the coccus of acute rheumatism are responsible for certain cases of acute and chronic rheumatoid arthritis. The six sections of the work deal respectively with acute rheumatism, the rheumatism of childhood, muscular and chronic articular rheumatism, acute and chronic rheumatoid arthritis, gonorrheal rheumatism, and scarlatinal rheumatism. The chapter on rheumatoid arthritis is especially interesting, and it is a hopeful sign when the author states that if it be recognized early, and if a definite exciting focus of infection can be determined and removed, there is every prospect of a successful issue. Although not exhaustive, the book contains a very full account of the rheumatic manifestations and their treatment.

# Society Reports.

## AMERICAN PUBLIC HEALTH ASSOCIATION.

*Thirty-third Annual Meeting, Held in Boston, Mass., September 25, 26, 27, 28, and 29, 1905.*

The association convened in the hall of the Y. M. C. A., under the presidency of Dr. F. F. Wesbrook, of Minneapolis, Minn. An address of welcome was delivered by Attorney-General Herbert F. Parker on behalf of the Governor, and one by Dr. Samuel H. Durgin, on behalf of the Mayor.

**Experiments on the Purification of Boston Sewage During the Years 1903-1905.**—Mr. C.-E. A. Winslow and Mr. Earle B. Phelps, Boston, Mass., said the experiments were carried out in cypress tanks, with areas of sixteen to twenty-four square feet, and depths varying from three feet to six feet, placed under cover. It was necessary in any treatment to screen out large floating bodies and to settle out mineral detritus. This process should be limited to a sedimentation of a few minutes. Under such conditions the settled material amounted to some 1,600 pounds per million gallons of sewage, and was of such a character that it might be spread on land without fear of nuisance. A further removal of the suspended organic matter might be effected if desired by treatment in the septic tank. An open tank operated as well as a closed one, and there was no marked advantage in filling the tank with stone. Varying the storage period from twelve to forty-eight hours produced no difference in the effluent, which was measurable by analytical results. All tanks removed nearly two-thirds of the suspended albuminoid nitrogen and produced an effluent fairly free from suspended matter, but darkened by hydrogen sulphide. The tanks, on an average, received fifty pounds of nitrogen as albuminoid ammonia (dissolved and suspended) per million gallons of sewage, of which thirty pounds were discharged in the effluent; fifteen to seventeen pounds were decomposed, and three to five pounds were stored as sludge. In the decomposition of sludge the length of septic period was very important. The amount of organic solids stored, undecomposed, per million gallons of sewage passed was twice as great with a 48-hour period as with a 24-hour period, and four times as great as with a 12-hour period.

Under the conditions of the experiments, crude Boston sewage had been successfully filtered through a two-foot bed of sand, having an effective size of 0.12 mm., at a rate of 0.4 million gallons per acre per day, divided into four doses in the twenty-four hours. With care in construction and operation the sand filter may be efficient at much higher rates than had been generally recognized. Sand effluents were bright, clear and well purified. The depth of the beds could not safely be reduced below two feet. Preliminary septic treatment for twelve and twenty-four hours did not improve the effluents obtained by sand filtration, although it made the care of the surface of the beds somewhat easier. Crude Boston sewage could be treated on single contact beds of fine stone (one-half inch diameter) at a rate of about 1.2 million gallons per acre per day. The effluent, though only partially purified, was generally stable and could be discharged into water without any tendency to create a nuisance. The beds clogged rapidly, and the surface needed much attention. A more practical process was the treatment by the double contact system, in primary beds of two-inch material and secondary beds of half-inch material. Such a combination yielded a fairly well purified and stable effluent at a rate, on the combined double system, of about 0.7 million gallons per acre per day with beds six feet deep. Such a system did not clog seriously. Primary beds slowly decreased in capacity, but a portion of the loss may be made good by resting for a period. Preliminary septic treatment enabled the beds to maintain a higher capacity, but produced an effluent so difficult to purify that their efficiency was interfered with. The most practical method of those which they had studied appeared to be the treatment of crude sewage in double contact beds. The trickling filter remained to be studied. They purpose to continue their work by an investigation of this process during the coming year. For this end a pair of outdoor trickling beds, each 100 square feet in area, had been installed at the station and equipped with a distribution device of an original design.

**Industrial Wastes and Their Sanitary Significance.**—Mr. Marshall O. Leighton, Washington, D. C., read a paper on this subject. Although the study of trades wastes had for many years occupied a prominent place in industrial development, the efforts had been directed toward the economical recovery of valuable ingredients rather than the treatment of objectionable polluting materials. So successfully had this work been conducted that there were some industries in which the by-products had become more important from a financial point of view than the original product. The investigations which had been thus successful had usually terminated when the prime object of the work had been accomplished, and not infrequently the by-product wastes were as objectionable as the original wastes. At all events, if the result had been of benefit to streams and decreased dangerous pollution, it had often been a matter of chance rather than intention. Among sanitary investigators the disposal of trades wastes had occupied in this country a position secondary to that of sewage disposal. There had been a few investigations, such as the classic work of Kinnicutt and Eddy upon acid iron wastes, the investigations of the Massachusetts State Board of Health, and the U. S. Geological Survey; but the fact remained that when a body of sanitarians entered into a consideration of polluting wastes it was accepted as a matter of course that city sewage was the subject for discussion. Yet the problems afforded by trades wastes were often extremely complex, and the study thereof should not be ignored. He classified such wastes as follows: "1. Those which are putrescible or which induce putrescibility. 2. Those which inhibit the reduction or oxidation of putrescible substances or prevent the working of those natural processes by which organic matter is changed to inorganic. 3. Those which appear to be indifferent to chemical changes, but which silt up streams and produce obstructions." While it was true that probably no industrial waste contained the germs of any disease, the subject was nevertheless of prime concern to a public health association. Unstable organic wastes produced a condition of putrescibility in streams. While this might not, of itself, be a menace to health, it was certainly included among those reprehensible features common to modern civilization, which had been turned over to the sanitarian for treatment. It might also be claimed that as a large proportion of this organic matter was nitrogenous, it provided food for bacteria, and thereby extended their baneful influence beyond that at which they would normally remain virulent. Such wastes, too, when discharged in large quantities, increased the burden of water filtration systems, and in some cases rendered them inefficient. In other words, these highly organic wastes were detrimental to rivers from practically all sanitary and economic standpoints.

**The Pollution of Shellfish.**—Dr. George A. Soper said that the fact that typhoid fever might be caused by eating oysters and other shellfish which had been grown or immersed in sewage-polluted water, although well established, was not known as generally as the importance of the subject warranted. The shellfish industries on the American coast were enormous in extent and value. In some places grave sanitary evils occurred. With little exception, there was no sanitary supervision over any part of the business for collecting, handling, and selling the shellfish. Extensive reforms should be initiated if the public was to be protected against the transmission of typhoid and other enteric diseases which were now disseminated in this way, and the interests of the fishermen and others engaged in the shellfish industry were not to

be unnecessarily jeopardized. The nature of these reforms was not a matter of question so much as the method of bringing them about. The remedy proposed was a careful study of the conditions and a wide publication of the principles upon which the corrective measures must be based and applied.

**Sanitary Analysis vs. Sanitary Inspection.**—Mr. R. B. Dole, U. S. Geological Survey, Washington, D. C., said the object of the paper was to draw more general attention to the value of sanitary survey in regions where the potability of water was in question. The writer endeavored to show that detailed local information generally determined the potability of water better than the data afforded by present analytical methods; that therefore boards of health should discontinue the examination of samples of water except those collected in their own study of specific water problems; that funds for water investigation might profitably be expended in the collection of data regarding the natural conditions and industrial and municipal developments which aided in the consideration of water-supply problems. Analytical results and other illustrative material were quoted from a recent investigation of surface waters in Minnesota, conducted jointly by the U. S. Geological Survey and the Minnesota State Board of Health.

**Copper Sulphate in Public Water Supplies.**—Mr. H. W. Clark, Boston, dealt with some aspects of the use of copper sulphate in public water supplies. Experiments to test the bactericidal action of copper were made at the Lawrence Experiment Station. Comparing the action of other metals with copper, he found that the bacteria increased more and decreased slower when in contact with copper than when in contact with tin, lead, zinc, iron, or aluminum. The effectiveness of the metals in destroying bacillus coli appeared to be zinc, iron, copper, tin, aluminum, and lead, in the order named, with tin and aluminum ranking copper in one experiment.

**President's Address.**—Dr. F. F. Wesbrook, Minneapolis, Minn., in this address, said that in America two causes were operative in rendering it difficult to protect the health of the public, one of which was the lack of real knowledge on the part of the public in regard to the scientific truths which underlay the conservation of its chiefest asset, namely, its health, and the other was a tendency in the preservation of individual freedom to lose sight of our obligations to respect the rights and privileges of others who may be less assertive. The speaker discussed a number of things in his address, which was replete with excellent suggestions looking toward the expansion and betterment of the association. The older method of securing experience by experimentation on the public should be superseded by requiring preliminary special training at universities and by boards of health, so that while retaining for the good of the public the service of those already trained and competent, they might be reinforced and, when necessary, succeeded by those who had received such special training. Knowledge of the clinical manifestations of disease was important, but often much more than clinical experience and ability was essential. While in scarlet fever, smallpox, and certain of the infectious diseases it was nearly always possible to diagnosticate the condition present, and by so doing protect others from infection, there were a number of diseases in which clinical observation alone proved utterly insufficient. As illustrating this, he mentioned diphtheria. The policy of the association should be to anticipate demands for special work and special information along the lines which were closely applicable to public health, and care must be taken that with so many societies the members do not lose interest because they had failed to provide a place and a stimulus for workers in all lines which directly affected the work of the association.

**Experiments on the Storage of Typhoid-Infected Water in Copper Canteens.**—Mr. Earle B. Phelps, Boston, Mass. in a paper on this subject, said that in practically all the experiments a number of typhoid organisms lived through the twenty-four hours. Studies on the progressive killing of the organisms showed it to be rapid at first, decreasing rapidly toward the end of the period. The indications were that the surviving organisms were hardy, and would not be entirely killed by a much longer exposure. The efficiency of the canteen fell off rapidly when in continuous use, even with a comparatively soft water. The value of the canteen in actual practice would, therefore, be conditioned upon its being frequently cleaned, preferably with oxalic acid, a practice which would doubtless be neglected in actual field or camp service. The value of the canteen as a disinfecting agent was seriously affected by clay in the water, and was practically destroyed by the use of waters high in alkaline carbonates.

(*To be continued.*)

## THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Stated Meeting September* 25, 1905.

The President, Dr. Henry S. Stearns, in the Chair.

**The Relation of Incontinence of Urine to Neurasthenic Symptoms, and Its Treatment by the Isolated Induction Shock.**—Dr. A. D Rockwell read this paper. He stated that incontinence of urine, while mostly a symptom of early age, was not infrequently observed in persons of larger growth. In various forms and degrees it was occasionally associated with that form of neurasthenia where general constitutional symptoms predominated, and sometimes where the manifestations were distinctly and almost entirely local. To relieve a persistent local manifestation was often paramount not only to the relief of many a constitutional derangement, but to other local symptoms as well. The treatment of incontinence of urine, whether by internal medication, by topical applications, or by the various physical methods, external and internal, had yielded, as a rule, results quite unsatisfactory. Electricity in the past had been no exception to that rule. It had been used for the most part as a tonic to the nervous system as a whole, or locally in the form of the galvanic or the rapidly interrupted faradic current. The difficulty had been that in the treatment of incontinence by electricity, we had not sufficiently considered its etiology and pathology. Those cases that were due to an acquired or an organic lesion of the nervous system were generally beyond the reach of any treatment. Fortunately such cases were rare, the majority being known under the name of essentially nocturnal incontinence, due to some dynamic alteration that in our ignorance we called functional. Demonstration had shown the existence of muscular atony, with failure of the external sphincter to functionate properly. This atony was believed to be due to incomplete development of the perineal striated muscles and the external sphincter of the urethra, which thus failed not only in their obedience to the will, but in their response to reflex influences. Such a measure of success as formerly attended Dr. Rockwell's efforts in overcoming this weakness—and it was far from constant or satisfactory—was through the use of the galvanic rather than the faradic current. Within the past few years, however, he had substituted for the rapid vibrations of the high tension coil formerly used, currents of slow intermission, and with distinctly better results. Not every case of incontinence was curable by the isolated induction shock, or indeed by any other method. The principle underlying any form of treatment looking to the amelioration of this annoying symptom of incontinence was to increase the tone of the muscles controlling the act of micturition. We unquestionably failed to accomplish that end by the use of the rapid intermittences of the ordinary faradic apparatus. By that form of application we induced a condition of physiological tetanus, which in the writer's experience had sometimes been followed by an increase rather than a decrease in the severity of the

symptoms. A slow interruption, say one or two per second, had a far different effect. Between each contraction, the muscular fibers had a distinct period of rest, with the result that their power of vigorous voluntary contraction and relaxation was strengthened, and not weakened. In very young children, the treatment was preferably and quite necessarily external, although there was no question but that the best results were obtained by the introduction, when possible, of an olive-shaped electrode connected with the negative pole, until it reached the sphincter muscle. The indifferent electrode, consisting of some flexible metal, covered with sponge or other suitable material, was applied to the abdomen, or, if the muscular contractions following the interruption of the current were objectionable, this electrode might be applied over the sacral region. The technique was simple, but not so simple as to be free from mistakes in its practical application. It was not the slowly interrupted faradic current that was called for, but the isolated induction shock. During the past five years, Dr. Rockwell said, fifteen cases of incontinence had come under his observation, all of which had been treated by the method described. Of those cases, seven had completely recovered, and without relapse; four were greatly benefited, but had suffered various relapses and could not be classed as perfect recoveries, while four had disappeared from observation before giving the treatment a fair trial.

Dr. Margaret A. Cleaves said she wished to emphasize the importance of differentiating between the physiological action of an isolated induction shock and the fast interruptions of an induction coil. The latter method, which was the one commonly used, regardless of the pathology of the condition under discussion, produced a tetanoid muscular action, which exhausted and fatigued the muscle, whereas the slow interruption or the isolated shock promoted physiological contraction. In the class of cases to which Dr. Rockwell had called attention it was of great importance to promote the general nutritional condition; in doing that the incontinence would often disappear, although many cases required this special treatment. Dr. Cleaves said she never used the continuous or galvanic current in incontinence unless is was due to cystitis, when she utilized the action of the currents upon oxidizable metals at the anode. In those cases of enuresis where the condition had lasted from infancy to adult life she had found the static spark of very great value.

**The Vapor Method of Anesthesia.**—Dr. J. T. Gwathmey read a paper with this title (see page 609).

Dr. Franz J. A. Torek said he could corroborate, from personal experience and observation, the statement made by Dr. Gwathmey that the combination of oxygen with other anesthetics, mainly chloroform, would considerably increase their safety. By such a combination, the interference with the respiration and circulation was certainly reduced to a minimum, and in many instances there seemed to be no interference with those functions whatsoever. Even in the hands of an inexperienced anesthetist, such a combination was comparatively safe, and the apparatus demonstrated by Dr. Gwathmey rendered it particularly so. It furthermore did away entirely with the occasional burning of the face by chloroform, which happened often in the hands of very good anesthetists; with the vapor method such an accident was impossible.

Dr. John A. Bodine expressed the opinion that general anesthesia was resorted to entirely too frequently in this city and throughout the United States, and that at least from 25 to 35 per cent. of the operations that were now done under a general anesthetic could be done equally as well and even better under a local anesthetic. This still left from 65 to 75 per cent. of operations in which general narcosis was desirable, and the speaker said he could subscribe to the value of the vapor method of anesthesia. In spite of every precaution, however, death from chloroform was not an infrequent occurrence, and it almost invariably took place during the preliminary stage of the narcosis. In death from any form of general narcosis, one important factor was usually disregarded, namely, fear. The higher the intelligence of the patient, the greater was his fear of this sleep produced by an anæsthetic, and this overwhelming fright, added to the toxemia of the anesthetic, was perhaps the predominating factor in causing death. In the great majority of these cases death occurred in the early stage of the narcosis, when the mental control of the patient was almost in abeyance, but before we would expect to observe any toxic effects from the anesthetic. In a case of death from chloroform narcosis that came under the speaker's observation early in the summer, the patient, a robust, plethoric man, who had received a careful preliminary examination as to his physical condition, died after he had taken less than a dozen whiffs of the anesthetic. It was a well-known fact that fright alone could cause death, and there was good reason to believe that it was the most important factor in the deaths that had been recorded during the preliminary stages of chloroform or ether anesthesia. That chloroform narcosis had never proven fatal to a woman in labor he thought was due to the fact that patients in that condition had no fear of the drug.

Dr. E. W. Lee said that from personal observation and experience he could commend the vapor method of anesthesia demonstrated by Dr. Gwathmey as equal, if not superior, to the forms of administration generally employed. In abdominal work it did away with the muscular contraction of the abdominal wall that so often interfered with the work of the surgeon in that cavity, and in operations about the nose it was much superior to the ordinary methods. He had never seen vomiting follow this form of anesthesia. The speaker said he agreed with Dr. Bodine that the laity, as a general thing, dreaded the anesthetic more than the operation itself, and if they could be assured of the fact that they would be under the care of an expert anesthetist, and that his method of giving the drug was a safe one, it would go far toward eliminating their fears.

**Diagnosis and Indications for Treatment in Surgical Diseases of the Stomach and Duodenum.**—Dr. A. A. Berg read this paper, in which he limited himself to benign conditions. In regard to the diagnosis of benign diseases of the stomach, the main difficulty had been encountered in those uncomplicated cases of gastric ulcer that had given, as the only indication of their presence, a most annoying and distressing pain in the epigastric and right hypochondriac regions. The pain commenced insidiously and grew gradually worse, was not influenced by taking food, and did not come on in attacks. Very slight subconjunctival icterus was present or had been noticed by some of the patients. Repeated and carefully made analyses of the gastric contents in those cases did not throw any light upon the diagnosis. In most instances the gastric juice was normal; occasionally it was subacid, and only rarely was it superacid. A diligent and systematic employment of the *x*-ray, cystoscope, and ureteral catheter, with analyses of the separated urines excluded affections of the kidney as the cause of the patient's complaint, but only by exploratory laparotomy was it possible in some cases to decide between affections of the gall-bladder, vermiform appendix, stomach, and duodenum. Before proceeding to operation in these cases of gastric ulcer, the patients were invariably referred to the internist for dietary and local treatment. Only when that proved of no avail was laparotomy resorted to. Pyloric stenosis from the cicatrization of an ulcer had usually been readily diagnosed from the presence of a dilated stomach, and from the evidences of disturbed gastric motility. In five cases of benign gastric affections the indications for operation had been urgent; in the other sixteen the operation had been done at a time of selection, and only after careful deliberation. Of the urgent operations, two were for acute sudden perforation of the ulcer, with extravasation of gastric and duodenal contents into the free peritoneal cavity, and subsequent diffuse purulent peritonitis; two were for repeated profuse hematemeses, and one for acute dilatation of the stomach. The cases of perforating ulcer with

diffuse peritonitis recovered. Of the two cases of gastric ulcer complicated by sudden profuse hemorrhage, one recovered and one died; in both a rapid posterior gastro-enterostomy with Murphy's button was done. In neither case was there any evidence of fresh bleeding from the ulcer after the gastroenterostomy had been established. In making a decision for operation in the face of bleeding from gastric ulcer, the speaker said he had been guided by the rules which were formulated by Mikulicz and Leube, as the result of their observation and study of a very large number of cases. These rules, which had been accepted by most surgeons and internists, were as follows: Operation was indicated, (1) In the presence of acute, profuse, uncontrollable bleeding, which placed the life of the patient in grave jeopardy. (2) In the presence of frequently repeated bleedings, even if they were not very profuse, that undermined the patient's strength and led to a chronic anemia. Operation was not considered advisable when the patient's general condition was bad, the hemoglobin very low (19 or 20 per cent.), and the pulse rate very rapid. In such a case the operative shock, no matter how slight it might be, whether or not it was combined with the added depressing and hemolytic influence of a general anesthetic, was sufficient to cause the death of the patient. It was far better in such cases to trust to internal remedies and complete rest, induced by morphine, to check the bleeding. When, however, the patient's condition was still good, and the hemoglobin count was above 35 to 40 per cent., an immediate operation was strongly advised.

Dr. Morris Manges said the views presented in Dr. Berg's paper were in general accord with those now held on the subject by most medical men, but he was inclined to believe that a discussion five years hence would show a radical change in those views. In many of these cases we had to deal not alone with a gastric ulcer, but with a patient who was either originally neurasthenic or had been rendered so by his condition, and under those circumstances the removal of the ulcer did not necessarily restore the patient's condition. Another unfortunate factor was the formation of adhesions, with the subsequent development of a perigastritis. The possible occurrence of a vicious circle after a gastroenterostomy should also be borne in mind. All these possible remote effects of operative interference for gastric ulcer should not be lost sight of by the physician, who saw more of these cases than the surgeon. The speaker emphasized the importance of early diagnosis, and if an operation was indicated, the surgeon should not be called in too late nor too soon. In perforation, either of the stomach or duodenum, an immediate operation was indicated; the same rule applied here as applied to perforation anywhere in the intestinal tract. In England, where the condition of gastric ulcer was especially common, Saundby asserted he had never seen any indication to operate for hemorrhage, and claimed that if such a patient was not going to get well by medical means, he certainly would not get well by surgical means, while Moynihan stated that the only indication for operative interference was in cases where there were distinct evidences of ulcer from the symptomatology, and where there was a sudden attack of hematemesis, with great loss of blood and syncope. In such cases the bleeding usually came from a large vessel.

Dr E. Palier said that in the cases of pyloric stenosis he had observed after operation, the improvement had been only temporary. Such operations, he thought, failed to relieve the actual cause of the trouble. In regard to gastric ulcer, Dr Palier emphasized the importance of early recognition and treatment of stomach derangements, so as to prevent the occurrence of serious lesions. Ulcers and hemorrhages were not met with in the normal stomach, and the early recognition of the conditions that led up to them would obviate the necessity of an operation in many cases.

Dr. M. I. Knapp continued the discussion, which was then closed by Dr. Berg.

**Nominations.**—The following names were put in nomination for the ensuing year: *President*, Dr. S. J. Meltzer; *First Vice-President*, Dr. Floyd M. Crandall; *Second Vice-President*, Dr. Walter Lester Carr and Dr. W. H. Park; *Secretary*, Dr. John Van Doren Young; *Assistant Secretary*, Dr. J. Milton Mabbott; *Treasurer*, Dr. Charles H. Richardson.

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## ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

*Fourteenth Annual Meeting, Held at Detroit, Mich., September 26, 27, and 28, 1905.*

(Special Report to the Medical Record.)

(*Concluded from page 599.*)

THIRD DAY—THURSDAY SEPTEMBER 28.

**Some Physical Effects of Gun Fire.**—Fleet Surgeon Lloyd Thomas, R.A., Senior Medical Officer H.M.S. *Excellent*, Naval Gunnery School, Portsmouth, England, read this paper. He gave prominence to some points which concerned the naval surgeon and which were incident to modern methods of big-gun firing at sea. In modern battleships the gun was inside a barbette, turret, or casemate, and so housed all around. In other ships the guns were mounted on the upper deck and not so surrounded. He said it was a very moot point in which position the men suffered more from the firing. The "blast" was a form of concussion which had far-reaching consequences upon those who came within its radius of disturbance, and it was only necessary to be on a level with the muzzle and within a given distance to experience its unpleasantness; if in advance of this plane the shock was intensified and caused very painful symptoms. Examples were to be seen in the case of men standing close to any opening in the ship's side in the vicinity of an explosion, when the membrane tympani could be readily ruptured and doors wrenched from their hinges, and iron stanchions bent. In barbettes and turrets the occupant suffered at first a feeling of great shock; in addition to the violent shaking there was a depressed feeling at the pit of the stomach, followed by a tendency to be sick. Briefly, the effect was one first of compression, and secondly one of suction. After speaking of cordite and the products of its explosion, he referred to the "back-flame" which might give rise to appalling accidents, as occurred on the *Missouri*, where some thirty lives were lost by it. The surgical interests attached to the use of the telescope were few and the injuries caused by it *per se* were slight. The causes of any hurt were to be found in the fixity of the instrument to the gun mounting, and not to any actual recoil of the gun itself. A black eye, or perhaps a wound at the eyebrow, were what they were called upon to attend as a rule.

When a sound ear was injured by gun-fire they generally looked for (*a*) a ruptured membrana tympani, or (*b*) a permanent deafness due to repeated injury of the delicate nerve terminals in the internal ear, this being frequently spoken of as "gun-deafness." If the ear be merely plugged with wool and boracic powder the patient being sheltered from further concussion, the wound heals by first intention; but if the injury be neglected serious consequences might develop. Ruptured drum may be considered to be quite common—out of 300 casualties amongst the Japanese at the naval battle of the Yalu in 1894, nineteen such cases were recorded, and during the French maneuvers of 1897 "several" were recorded. Irreparable deafness ("gun-deafness") was a condition the pathology of which was as yet unknown. Both sides were equally affected. It was not uncommon amongst those who directed the trials of sporting guns at the various butts. Most men kept their mouths wide open during firing operations, and, although this equalized the air on the drum, it must tend to intensify

air concussions on the foramen ovale, and therefore increase the agitation of the fluid in the labyrinth.

Up to the present no device had been found which would sufficiently protect the ear from the violent concussions caused by the modern gun. Cotton wool was often of value, and also a doughy substance had been used for plugging the external meatus. The mouth should be kept open. Experiments had shown that if the irregularities of the auricle were filled with wax or oil the intensity of the sound was weakened, and he had advised the use of vaseline, but with doubtful results. Nipple-shaped india-rubber plugs had been used. Neither officers nor crew take kindly to these artificial means, although the practice was more universal now than a few years ago.

Col. Valery Havard, U.S.A., discussed this paper.

**The Army Canteen.**—Gen. J. D. Griffith, U. S. V., introduced the following resolution, which was adopted unanimously:

*Whereas*, The abolition of the army canteen in the opinion of those best acquainted with the army, has resulted in the use of an increased amount of bad liquors, instead of light wines and beer as sold at the canteen by the soldiers, resulting in a marked increase in diseases tending to the demoralization of the soldier;

And *Whereas*, That it is found that the anti-canteen law adds to the number of saloons and brothels contiguous to garrisons, and as the result, the monthly stipends are spent outside altogether;

And *Whereas*, No benefit whatsoever in any line has been the result of the abolition of the canteen,

Be it *Resolved*, That this body in session do earnestly request the Secretary of War to use his every effort for the reestablishment of the canteen, assuring him of our hearty support in every manner.

Capt. Jeritt of Brooklyn said that the only way in his opinion that those resolutions could be carried out was by taking the matter to the woman at the head of the W. C. T. U. and persuading *her* of the truth of their assertions. If this was not done the women would go to Washington and defeat any attempts to enforce the resolution and to re-establish the canteen system.

**Observations in Japan.**—Dr. Anita N. McGee told of her observations in Japan, where she went with ten nurses with the cooperation of the Philadelphia Red Cross Society, who paid part of their expenses, the rest being assumed by the Japanese Government. They were strictly under orders and formed part of the military establishment. After referring to articles of her own that had appeared in the *Century* for April and May, 1905, she stated that the nursing in Japan was based on German standards, and that Germany influenced the Japanese very much, especially in the colleges. Their female nurses were trained by the Red Cross Society. At Tokio many nurses were ready for service at all times, being stationed there in reserve, which accounted for the report going forth that at that place, with only 161 beds there were 185 nurses, 99 of whom were really partly trained. Their stay in Japan was limited to six months. While in Manchuria she was sent to the post of honor, in western Japan, at the base-hospital. There the serious cases were borne on the shoulders of Chinese coolies; the slight cases walked. The transport system in Japan was most admirable, and was effected very quickly. Russian prisoners were treated the same as Japanese soldiers were Dr. McGee gave a large list of statistics regarding the wounded, deaths, diseases, etc. Kitasato had told her that beriberi he believed to be a contagious disease, and that he was looking for the germ. Neither she nor her nurses saw a case of typhoid fever or dysentery, not being allowed to go near such cases.

Col. Valery Havard, U. S. A., called attention to the absence of ambulances at the front in Manchuria. Also that the ratio of sick to wounded among the Japanese was 4 to 3; while among the Russians this was reversed, viz., 3 to 4.

Gen. J. D. Griffith, U. S. V., said he was struck by the small number of cases of typhoid fever; there were but fifty deaths, a magnificent showing when compared to wha occurred at Chickamaugua, where there were nearly 600 deaths from typhoid fever.

Surgeon-General S. Suzuki, I. J. N., thanked Dr. McGee for what she had said, and remarked that all her statements were correct.

Major George H. Halberstadt, Brigade Surgeon, N. G. Pa., discussed the paper.

**The Real Triumph of Japan, or the Conquest of the Silent Foe.**—Major Louis Livingston Seaman, U. S. V. E., before taking up the consideration of his paper, made a reply to Surgeon Stoke's charges (made in the first day's session) upon his mortuary statistics and comparison between the losses by disease in the Japanese Army and the army of the United States during the Spanish-American War and Civil War. He said that if any member of the United States or the English army believed that he had reflected discredit on the department or personnel of the army surgeons of this country, he tendered his most abject apology, and that he would tender his badge of membership in this association if such was deemed to be the purpose of his actions. He said what he did because he recognized the fact that a terrible and unnecessary sacrifice of life from preventable diseases was due, not to the individual members of the medical profession, but to the system under which they worked. At present in the army the medical officer could only make a recommendation to the line officer to be carried out at his pleasure, and until this feature was remedied and the medical officer made responsible to the President, the defect would remain, and there would be no remedy for the present condition. This was a point that he had been trying to make for seven years. He said that the Japanese minister at Tokio had given him figures to show that there were four deaths from bullets to one by disease during the present war, and that the killed numbered 43,892, or 7.32 per cent. of the entire army, and the wounded 145,527, or 24 per cent. The total number dying from sickness was 11,992.

The success of Japan in the recent conflict with Russia was due preeminently to three fundamental causes; first, thorough preparation and organization for war; second, the simple, non-irritating, and easily digested ration of the troops; and, third, the brilliant part played by the members of the medical profession in the application of practical sanitation, the stamping out of preventable diseases in the army, thereby saving its units for the legitimate purposes of war, the smashing of the enemy in the field. It should never be forgotten that in every campaign an army faces two enemies, the armed forces of the opposing foe, and the far greater and silent foe, disease. Of these enemies, the history of warfare showed that the first, or open enemy, killed 20 per cent. of the total mortalities, whilst the silent enemy killed 80 per cent. The greatest conquest of Japan had been in the humanities of war, in the stopping of this needless sacrifice of life by preventable disease, which was done by the medical men of the army. Longmore's tables, based on records of battles for the past 200 years, showed that there had rarely been a conflict in which at least four men had not perished from disease for one from bullets. Later statistics showed no improvement. In the French campaign in Madagascar in 1894, 14,000 men were sent to the front, of whom twenty-nine were killed in action and 7,000 perished from preventable disease. In the Boer war in South Africa, the English losses from disease were simply frightful, greater even than the Civil War record. But the crowning piece of imbecility, he said, was reserved for our late war with Spain, where more than ten were needlessly sacrificed to ignorance and incompetency for every one who died on the firing line or from bullets. This, too, in a short campaign, the actual hostilities of which lasted about six weeks. The actual number of killed and wounded and sick in the Japanese army from February, 1904, to the end of April, 1905, were about as follows: Killed on the field, 43,892 (7.32 per cent.); wounded, 145,527 (24.27 per

cent.), died of wounds, 9,054 (1.51 per cent.); sick, including other wounds, 162,556 (27.11 per cent.); died of sickness and disease, 7,435 (1.24 per cent.); contagious cases, 4,557 (0.76 per cent.) Total of dead, wounded, and sick 383,548 (64.14 per cent.). He called attention to these startling totals: Killed and died from wounds, 52,946; died from all diseases, 11,992, or nearly five deaths from bullets to one from disease, as against the record of centuries of four from disease to one from bullets; or 900 per cent. better than the average in history. There were 30 men out of every 100 who went to war who were never wounded or sick a day during a year and a half's campaign. There were 2,000 more men died of wounds than from preventable diseases. Of a total mortality from all causes of 64,938, there were 40,934 more from casualties than from sickness. This record was unparalleled and unapproached, and it was due to the medical men. He said that this marvelous result was achieved by engaging with the hidden enemy, disease, which killed eighty out of every hundred that fell in war. The element of disease must be eliminated and they always had this point in view when observers went all over the world to study army systems. With the knowledge thus garnered she evolved a system of her own the motto of which might have been "Prevention, not treatment." Upon the declaration of war she was prepared to house, scientifically treat, and care for 25,000 sick and wounded in Japan alone. One and a half years after the commencement of the war, or on July 6, 1905, the twelve great military hospitals at home possessed a normal capacity of 58,263 beds. Every hospital throughout Japan, and every base and field hospital in Manchuria had its bacteriological laboratory. Captain Tanake, aide-de-camp of Marshal Oyama, told the speaker that there had been but twelve courts-martial in the Manchurian Army, the majority being for cruelty to Chinamen. The number of suicides during the entire war was eighty-six, the majority of them being those who were refused permission to accompany the colors to Manchuria on account of some physical defect, and the remainder, because they preferred death to capture by the enemy. There was but one desertion. After relating some experiences showing ignorance on sanitary matters by prominent officers of the regular army, whose knowledge of sanitation was deplorable, type of men most dangerous to the safety of the army and the nation. Dr. Seaman stated that until the line and staff officers of the American Army were taught the necessity of sanitation and the medical officers are given rank and authority to enforce it, our Medical Department must remain a humiliating feature. Its continuance under present conditions was no less than an evidence of national imbecility. He asked if in our great profession, a profession that in one of the bloodiest wars of history had demonstrated its ability to reduce the mortality of death from disease 800 per cent., was it to remain subservient to the defects of this variety of judgment, or was it to be organized upon rational lines and empowered to enforce its mandates?

Major Borden, U. S. A., wished that every member of the Senate and House of Representatives could be present and made to listen to Dr. Seaman's paper, and so have forced upon them facts that had been there given; this no doubt would result in inestimable good. He did not think that the fault lay with the medical department but with the army as a whole, a fact that Dr. Seaman had repeatedly tried to bring out. He hoped that these efforts along the line of reform would meet with success.

Surgeon Stokes, U. S. N., in defense of his position assumed last Tuesday, said that the point he had endeavored to emphasize was that it was not necessary to mislead the general public to attain their ends, and it was not at all necessary to make the public believe that the medical department of the army and navy was rotten. All he wanted was a correction of misstatements.

General J. D. Griffith, Captain Newkirk, M. N. G., Major Staritt, Ill. N. G., Major Kramer, U. S. V., Colonel W. J. R. Rainsford, R. A. M. C., Major Thomas C. Clark, Miss. N. G., and others, discussed the paper.

**Observations in Japan.**—Surgeon W. C. Braisted, U. S. N., read rections of a very lengthy paper which was based upon notes taken by him when making observations, especially on the Japanese battleships. The military organization was largely from the German standard. The army and navy discipline had no parallel. He gave very careful descriptions of the work done on board ship and in the naval hospitals.

Surgeon General S. Suzuki, I. J. N., said that the powder used by them was non-poisonous, but that cordite, used in the English navy, was poisonous.

**Results of Examination of Recruits for the National Guard.**—Major Charles Adams, I. N. G., gave a summary of the experiences of the Illinois National Guard during the years since the Spanish-American War, in which the examiners had adhered as nearly as possible to regular army rules and forms.

**Gunshot Wounds of the Abdomen.**—Assistant Surgeon General George Tully Vaughan, P. H. & M. H. S., gave a review of fourteen cases of abdominal perforation by gunshot, with comments and conclusions.

Surgeon Chung of China thanked the association for the courtesies that had been extended to him and his colleagues from China.

**Officers Elected.**—*President*, Lieutenant-Colonel Albert H. Briggs, N. G. N. Y., of Buffalo, N. Y.; *First Vice-President* Brigadier General Robert M. O'Reilly, U. S. A., Washington, D. C.; *Second Vice-President*, Rear Admiral Presley M. Rixley, U. S. N., Washington, D. C.; *Third Vice-President*, Assistant Surgeon General George Tully Vaughan, P. H. & M. H. S., Washington, D. C.; *Secretary*, Major James Evelyn Pilcher, U. S. V., of Carlisle, Pa.; *Treasurer*, Major Herbert A. Arnold, N. G. Pa., of Ardmore, Pa. Place of next meeting. Buffalo, N. Y., May 28 to June 1, 1906.

## AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

*Eighteenth Annual Meeting, Held in New York City, September 19, 20, and 21, 1905.*

President, Dr. Howard W. Longyear of Detroit.

*(Concluded from page 559.)*

**Primary Bowel Resection Versus Artificial Anus in the Treatment for Strangulated Hernia.**—Dr. John Young Brown, St. Louis, Mo., limited himself to a discussion of the surgery of those neglected cases in which at the time of operation the intestine found in the hernial sac was so damaged that the operator was forced to resort to one of two procedures, namely, the establishment of an artificial anus, or a primary bowel resection. During the last eighteen months he had operated upon seven cases of strangulated hernia; four of these were males, three females. In four the hernia was of the inguinal variety, and in three of the femoral type. In all primary resection was done, followed by a radical operation at the hernial site. Of the seven cases, six recovered and one died. The oldest patient was 70 years, the youngest 20. The duration of strangulation, longest, 57 hours; shortest, nine hours. Amount of gut removed, longest, four feet; shortest or smallest eight inches. Portion of gut involved, small bowel. In each case the condition of the bowel was such as to leave no question concerning the advisability of its removal. In all the resection was done through a supplemental abdominal incision, and the anastomosis was made with the Murphy button. The results obtained he attributed to the careful attention to certain points in the operative technique, a neglect of which had been responsible for the high mortality invariably accompanying the surgical treatment of this condition. The operative technique employed by the author is as follows: "When a patient enters the hospital with a strangulated hernia, no effort is made to reduce it by taxis

or temporizing methods. Preparation is at once made for operation. This consists of the usual shaving and scrubbing, to which is added a careful stomach washing with water as hot as can be borne. This latter procedure is important, as it rids the organ of the filth resulting from the retrograde peristalsis always present in such cases. As soon as the preparations are completed the patient is anesthetized, general anesthesia being preferred. For ordinary hernia work local anesthesia can be used with comparative satisfaction, but where distended bowel has to be dealt with and extensive resection is contemplated, general anesthesia is safer and far more satisfactory. The classical incision is made at the hernial site, and the sac is reached and opened in the usual manner. Before attempting to relieve the constriction, the sac is carefully cleansed with hot saline solution. This prevents the leakage of septic serum from the sac into the peritoneal cavity. The constriction is now relieved. If the gut distends and its viability is beyond question, it is returned and one of the ordinary radical operations for hernia is begun. If, on the contrary, it is deemed advisable to resect, a supplementary abdominal incision is quickly made. By a careful distribution of gauze the bowel can be delivered through this incision with ease and without soiling the peritoneal cavity. The gut being delivered, the operator has full command of the field. In resecting bowel for this condition, there are three important points to be observed: (1) The resection should extend well back into healthy tissue. (2) The distended bowel above the constriction should be drained of its highly septic contents. (3) The work should be done with the greatest possible despatch. By means of the drainage apparatus (exhibited by the author) the work is greatly facilitated. This drain consists of a medium-sized Keith drainage tube, to which is stitched a long rubber hose. The method of its application is as follows: The extent of the resection having been determined, the bowel is clamped on either limit of the section to be removed. The clamp on the proximal end being placed three or four inches above the point of resection, the gut is now stripped of its contents and a second clamp is placed at the point of proposed incision; the bowel is now incised above this clamp and the drainage tube is placed in its lumen, being retained there by a silk ligature passed through the mesentery and around the intestine. The end of the incised bowel is surrounded with gauze to prevent soiling of the field, the clamp above the drain removed, and the bowel allowed to empty itself through the tube into a receptacle under the table, while the operator proceeds with the resection. The mesentry is now quickly ligated, and the damaged segment of gut removed, and half of the Murphy button is now placed in the distal gut. By the time this is accomplished the drain will have served its purpose the clamp is again placed above the drain, and the drain removed. The other half of the button is now inserted, and the anastomosis completed. As the drain works with the operator, much time is saved, and one of the most important steps of the operation is accomplished, namely, the thorough removal of gas and septic bowel contents, without loss of time, and with no soiling of the surrounding tissues. The bowel is now washed off with hot saline and returned. A heavy gauze pad is placed in the median wound to protect the intestines, while the radical operation at the hernial site is completed. This accomplished, the general peritoneal cavity is copiously irrigated with hot normal saline solution, a glass drainage tube is placed in the vesicorectal pouch, the median wound closed with through-and-through sutures. The patient is now returned to bed, and as soon as possible thereafter is placed in the exaggerated Fowler position. The after treatment is simple. Nothing is given by mouth for forty-eight hours. Saline enemas are administered every three hours, to which an ounce of liquid beef peptonoids is added. If the condition of the pulse should indicate, strychnine and hypodermoclysis are resorted to. Morphine is never used if it is possible to do without it. The drainage tube is generally removed at the end of twelve or twenty-four hours."

**A Study of the Etiology of Floating Kidney, with Suggestions Changing the Operative Technique of Nephropexy.**—Dr. Howard W. Longyear, Detroit, Mich., selected this as the topic of his Presidential Address, December 17, 1903, while operating on a young girl of sixteen years of age for appendiceal disease, the author accidentally discovered that the right kidney, which was normally placed, could be easily pulled down and held in a firm position of complete prolapse by making traction on the cecum. This led to further observation on the etiology of displaced, loose, or floating kidney, both on the cadaver and on the living subject, and afterwards, as a result of these observations, to efforts to devise an operation that should have for its object the retention of the kidney in its normal position as well as the anchoring of the ascending colon in such a manner as to remedy the prolapse of the cecum, which usually obtains in these cases, so that it should not exert further traction on the kidney and through it on the duodenum and renal vessels. The object of the address was to record the results, though unfinished, of these observations. The fact that the kidney in question could be pulled down and held firmly in this position by traction on the cecum and ascending colon was an indication that there existed a more firm and positive attachment of this viscus to the kidney than was generally believed. After considering the literature of the subject, the author naturally assumed that the kidney of his patient was pulled down by the adhesion of the peritoneal attachment, or mesentery of the colon, to the fatty capsule of the kidney, and yet the firmness of the attachment was an apparent contraindication. With the object of testing this point, three cases of floating kidney were operated upon. The peritoneal cavity was entered through the usual incision in the loin, the redundant mesentery gathered up, and attached to the incision in the fascia close to the twelfth rib at the upper angle of the wound. In the first case of extreme ptosis, having had Dittel's crises for several years, the ease with which the operation was performed, the amount of slack mesenteric tissue brought out and attached, and the immediate result which it had of entirely replacing the kidney so it could not be pushed down into the abdomen, were very encouraging. In the second and third cases, however, in both of which the displacement was less pronounced, there was practically no mesentery such as was present in the first case, so that the peritoneal fixation seemed to promise less. However, while drawing out the peritoneal attachment of the bowel and making efforts to push the bowel down, away from the kidney, it was noticed in both cases that there was a cord-like structure passing downward from the lower pole of the kidney, which prevented the separation of the kidney and bowel. This was included with the peritoneal tissue and attached with it. Further investigation of the literature failed to enlighten the author as to the presence of any tendinous prolongation from the lower pole of the kidney, so further investigation was made on the cadaver. The whole upper half of the abdominal parieties being incised and turned downward, the cecum, ascending colon, with hepatic flexure and kidney on the right side, and part of the descending colon with splenic flexure and kidney on the left side, were removed, the dissection being made from below upwards and the organs removed together in such a manner as not to interfere with their normal attachments to each other. On turning the specimens over the posterior surface of bowel and kidney on each side showed a similar formation of tendinous attachment to each other. This was found to be formed by the gathering together of fine longitudinal fibers from the fibrous network which forms the framework of the fatty capsule. The tendinous ridge, formed by its attachment to the posterior surface of the ascending colon, could be followed easily between the peritoneal reflections down to the margin of the lower peritoneal attachment of the bowel and close to the junction of the ileum—in fact, near the point of the so-called origin in the female subject of the suspensory ligament of the ovary. A specimen illustrating the presence of this phrenocolic ligament was exhibited. How much of a causal factor is this

embryological remnant in the production of displaced kidney? This ligamentous union of the kidney and bowel the author claimed was the most important factor in the etiology of nephroptosis. An operation which he had found easy of accomplishment was the fixation of this nephrocolic ligament into the upper angle of the wound without severing it from the colon and also fastening the redundant mesentery, if it be present, in the lower angle of the wound. The convergence of the framework of the fatty capsule into this ligament made a structure of sufficient strength to be depended upon to hold the displaced organs, if securely attached to the aponeurotic tissue, preferably where it was thick, near the twelfth rib.

**Intestinal Obstruction.**—Dr. Lewis C. Morris, Birmingham, Ala., said that delay in operating for the relief of ileus was due to one of two things: (1) Assuming that the diagnosis had been made, the adoption of expectant treatment, with the hope that it would relieve the condition, or that it would recover spontaneously; or (2) the delay resulting from a failure to make a positive diagnosis. The author reported six cases of intestinal obstruction, and maintained that if all such cases could be given the benefit of operation the mortality from this condition would be completely revolutionized. The fact that some cases existed for days and were relieved by operation, led, in cases in which there was an element of doubt, sometimes to delay in surgical interference until the chances for recovery were materially lessened. Occasionally a positive differential diagnosis was very difficult, but the conditions from which a differentiation could not be positively made were almost invariably equally as imperative in their demand for surgical intervention as would be the existence of ileus. The author pointed out what those conditions were. Sudden severe abdominal pain, associated with nausea and vomiting, plus constipation, which did not respond within a few hours to cathartics and stimulating enemas constituted a condition in which the indications for operation were positive. The ability to isolate a distended loop of intestine, the presence of shock and stercoraceous vomiting, go to confirm the diagnosis, but the nature of their presence caused undue delay in operating. The more sudden and violent the storm of symptoms initiating the condition, the more imperative the indications for early operation. To reiterate: after the diagnosis of ileus was made, the adoption of treatment other than surgical, with the hope that it might effect a cure, was utterly unjustifiable in the judgment of the author, and that procrastination, based on the hope of spontaneous recovery, was absolutely criminal.

**Diagnosis.**—Dr. John B. Deaver, Philadelphia, Pa., said there was a tendency at present to make diagnoses (or not to make them) by means of a consultation of specialists—hematologists, bacteriologists, skiagraphers, and microscopists—instead of by a minute, painstaking, and complete physical examination together with a careful study of the clinical history of the patient. Too much stress could not be laid upon the latter. Pathognomonic symptoms were one by one disappearing before the advance of medical and surgical science; but some pathologists and bacteriologists were still ready to give their diagnoses, based solely upon their special findings, with the utmost disregard of the physical examination and of the natural history of the disease in question. As to diagnosis by exclusion, the author said it was manifestly impossible to exclude all but one organ or portion of the body, and therefore a diagnosis by exclusion was an illogical and unscientific method of making a diagnosis. It should always be the last resort. The tendency to base a diagnosis solely, or almost entirely, on laboratory findings was widespread, and becoming more constantly prevalent. The reason that this fondness for laboratory diagnosis was so widespread was, he thought, because the students of medicine were taught laboratory methods to an undue extent. The constant cry in all medical colleges at the present day was for funds to build and equip laboratories. The students were forced to spend hours at a time in the laboratories, studying the products of disease, or the causes of disease, while the time formerly alloted to the study of the disease itself was reduced to a minimum or was altogether expunged from the roster. Instead of drilling into the minds of students the eternal principles of surgery, the faculty sent them to the laboratory to the end that they might become adepts in the art of blood counting, or may be rendered capable of distinguishing between consanguineous tribes of microorganisms. In his judgment this was a fatal mistake. While Dr. Deaver earnestly advocated that every young physician returning to his country town should take a good microscope with him, and should examine his patient's blood and urine on every suitable occasion, yet he was thoroughly convinced of the fact that laboratory diagnosis, as it was called, required now, and ever would require, a well equipped laboratory to render it of any service whatever, and until every physician could possess his own laboratory, or could have a position on the staff of a hospital so equipped, it was worse than useless, it was a criminal waste of time, and a menace to their future patients, to endow students with no skill but in such mechanical methods.

**Appendicitis As a Factor in the Diagnosis and Treatment of Abdominal and Pelvic Tumors; Also Complicating Pregnancy.**—Dr. Rufus B. Hall, Cincinnati, O., believed that the diagnosis of appendicitis, when associated with pelvic and abdominal tumors, or in the pregnant woman, had not received the attention on the part of the general profession that the subject deserved. He called attention more forcibly to the early recognition of the cardinal signs of appendicitis in these cases. It was a common supposition on the part of the general profession that when a patient known to have an abdominal or pelvic tumor was taken suddenly ill with pain in the abdomen, that there was something wrong with the tumor and the cardinal signs of appendicitis were ignored or overlooked. The author then discussed the differential diagnosis of appendicitis complicating fibroid tumors of the uterus and ovarian tumors; the differential diagnosis of appendicitis complicating tubal disease; the differential diagnosis of appendicitis associated with pregnancy; the treatment of appendicitis complicating fibroid tumors and ovarian tumors and tubal disease, as well as the treatment of appendicitis associated with pregnancy.

**Cesarean Section.**—Dr. Henry Schwarz, St. Louis, Mo., reported an unusual case of a child-wife who was in labor sixty hours, with repeated attempts at forceps delivery by the family physician. Apparently she was not infected. Instead of a Porro, as was usual in such cases, he did the classical cesarean operation, which was followed by the recovery of the mother. The baby was asphyxiated; membranes and amniotic fluid were yellowish-green. His assistant worked over the baby an hour at artificial respiration before spontaneous breathing was established. Pressure marks on the scalp showed locking of the head between the promontory and symphysis; necrotic tissue dropped out a few days afterwards, and the baby recovered.

**Pregnancy Associated with Diabetes.**—Dr. Magnus A. Tate, Cincinnati, O., mentioned the reports of numerous investigators, calling attention to sugar in the urine of pregnant women. He collected all cases that could be found in literature where pregnancy was complicated by diabetes. He reported an additional case, and presented a study of these tabulated cases as to their frequency, results, mortality, and other similar data.

**Cysts of the Mesentery.**—Dr. Orange G. Pfaff, Indianapolis, Ind., said that these growths were comparatively rare; their diagnosis was difficult, if not impossible. Their pathology was not fully and clearly understood, but most of them, if not all, were of probable embryonal origin. He reported two interesting and instructive cases of mesenteric cysts.

**Abdominal Pregnancy Persisting Beyond the Normal Period of Gestation, with Report of Cases.**—Dr. Charles A. L. Reed, Cincinnati, O., read a paper which was based, first, upon three cases that occurred in his practice as

follows: (1) Extrauterine pregnancy with extraperitoneal development of gestation, operated upon fifteen months after conception by marsupialization, and terminating in recovery. (2) Extrauterine pregnancy with retroperitoneal development of gestation, operated upon by marsupialization eleven months after conception, and ending in recovery. (3) Extrauterine pregnancy with the development of gestation within the anterior abdominal wall, complicated with uterine fibroids, operated upon four years and nine months after conception, ending in recovery. The author next presented résumés of seven cases in the practice of other operators, representing various other forms of development of extrauterine pregnancy. The conclusion reached by Dr. Reed was that the placenta presented the chief factor of danger in operation upon these cases. In instances in which the fetus was already dead, and in which there were no symptoms of sepsis demanding immediate operation, a delay for a few weeks was desirable, as thereby the vascularity of the placenta would be greatly reduced, if not entirely destroyed. One case indicated that it might persist to an embarrassing degree after six weeks. The operation by marsupialization was recommended, as it avoided hemorrhage, facilitated perfect drainage, and placed all conditions under control. The importance of the yeast ferment in eliminating attached fragments of placental detritus was emphasized.

**Observations on the Treatment of Face Presentations.**—Dr. Augustus P. Clarke, Cambridge, Mass., said that typical cases of face presentation were not common. Undoubtedly nearly all cases of such presentation were originally brow positions, but by some irregular uterine contraction and other incidental factors they changed to the character of face presentations. If the occiput was anterior in a face presentation, naturally delivery became impracticable. Schat's method for relief by external manipulation had its advantages as an initial measure. In dolichocephalic cases other methods would be demanded. Podalic version would sometimes be successful. In mentoposterior presentation rotation of the chin should be made toward the symphysis pubis. If the child was not dead, and the case was that of mentoanterior presentation, and impaction was taking place, and the maternal pelvis was not too narrow, forceps might with benefit be used. In a mentoposterior presentation, when the case was seen late and the position of the face could not be conveniently changed, and the child was still alive, symphyseotomy offered the best method of procedure for saving both the mother and the child.

**Myomectomy.**—Dr. Walter P. Manton, Detroit, Mich., contributed a paper in which it was stated that the ruthless sacrifice of the uterus in many cases of single and multiple fibromyomas of that organ was greatly to be deprecated, and the influence of good surgery should be toward the discountenancing of such unnecessary procedure. Myomectomy afforded relief in a large percentage of these cases and had the advantage over hysterectomy in that the uterus was conserved, its tissues put in the way of renewed health, and functional activity restored. Under modern methods, in skilful hands, the dangers from this operation—hemorrhage and sepsis—so greatly feared by the older operators, had been practically removed, and in suitable cases almost any number of tumors, wherever situated, might be enucleated with satisfactory results. In determining on myomectomy as the operation of choice, the age and physical condition of the patient, the arrangement and distribution of the tumors, and the amount of uterine musculature present must be given chief consideration.

**Officers.**—The following officers were elected: *President*, Dr. John Young Brown, St. Louis, Mo.; *First Vice-President*, Dr. James N. West, New York; *Second Vice-President*, Dr. Frank F. Simpson, Pittsburg, Pa.: *Secretary*, Dr. William Warren Potter, Buffalo, N. Y., reelected; *Treasures*, Dr. X. O. Werder Pittsburg, Pa. reelected; *Members of Executive Council*, Drs. Robert T. Morris, New York, and Howard W. Longyear, Detroit, Mich.

## MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

*Fifty-fifth Annual Meeting, Held at Scranton, September 26, 27, and 28, 1905.*

**(Special Report to the Medical Record.)**

(*Continued from page 602.*)

SECOND DAY—WEDNESDAY, SEPTEMBER 27.

**Address on Otology.**—Dr. Michael V. Ball of Warren in this address gave a summary of the accomplishment in the last four years in otology. The electrolytic treatment with bougies was mentioned as an instance of some things which had not proven so beneficial as hoped for. Harris of New York, he said, had found that it was of no value in otosclerosis, that it had some value in a narrowed Eustachian tube and in relieving tinnitus, that it was not without danger, and that in the majority of cases it was not really an electrolytic process. Reference was made to the so-called Baginski treatment for labyrinthine diseases by lumbar puncture. In the radical operation for chronic suppurative otitis the tendency was to become more bold and to make a thorough excision of every particle of diseased bone, using skin grafts to enclose the cavity. The speaker felt that the old method of treatment of a chronic ear suppuration by cleansing with lotions and powders must give way to surgical means. In the matter of the mastoid operation he insisted that the mastoid cells might be thoroughly diseased while many of the classical symptoms were absent. The method of transillumination of the mastoid region through the ear he thought of value.

**The Present Treatment of Squint.**—Dr. Wm. Campbell Posey of Philadelphia said that all children were more or less predisposed to squint, dependent primarily upon vicious optical conditions. The vision in the squinting eye he believed rapidly deteriorated. Treatment he outlined under the following heads: (1) The improvement of the vision in the defective eye; (2) neutralization of the far-sightedness and the lessening of the accommodative effort, and (3) the strengthening of the nervous and muscular mechanism which controlled the movements of the eyes, and the cultivation of the desire for binocular vision. Attempts to improve the vision should be inaugurated at once, since improvement could not be secured in subjects over six years of age. At the age of two or three years glasses should be prescribed, and when the child was older, vision might be still further improved by the use of the amblyoscope, a modified form of stereoscope introduced by an English ophthalmologist. In a certain number of cases he believed the eyes could be made straight only by tenotomy. The amblyoscopic exercises should be continued for a year or more after operation.

Dr. S. D. Risley in opening the discussion of Dr. Posey's paper said that binocular vision was in every one a question of experience, as for example, an infant would reach out for an object held up to it, but its hands would never go directly toward the object desired until it had learned by experience where the object was and how to find it. This he regarded as a species of muscular sense acquired by experience. So in binocular vision the infant had to learn to use both eyes at the same time and to converge upon the object. The fact that one child acquired binocular vision readily and another child obtained it only with the aid of optical appliances he attributed to anatomical anomalies.

Dr. Taylor of Wilkes-Barre disagreed with Dr. Posey that benefit could not be secured for the child after six years of age, and had seen many cases improved by the use of properly fitted glasses after this age.

Dr. Posey in closing said that he did not think the correction of squint could be undertaken at too early an age.

He considered it important to study the character of the deviation and ascertain the exact muscle at fault.

**Herpes Zoster Ophthalmicus.**—Dr. Edward Stieren of Pittsburg said his observation of six cases of the ophthalmic variety of the disease included two showing a wide disparity in the eruptive process and ocular involvement, and these two might be considered classical illustrations of the extremes of herpetic eruption following the course of the fifth nerve. A history of the maximum and of the minimum case was given with photographs of each. The patient suffered an enucleation in the maximum case. In the minimum case there had been the disappearance of a bleb which had been observed upon the limbus, leaving, however, a decided scar and a slight patch of congestion which persisted for several months. In all the cases of this affection Dr. Stieren has been able to trace a history of exposure to cold or dampness after some unusual exertion, with consequent fatigue, in individuals of otherwise sedentary habits.

Dr. Zentmayer of Philadelphia believed it an extremely rare occurrence for herpes zoster to take such a disastrous course as illustrated in the first case. He cited a case complicated by the occurrence of ocular motor palsy and corneal ulcer in which the ulcer healed promptly but in which the palsy was of several years' duration.

Dr. Stieren in closing said he thought the disease seemed to run a self-limited course and that there was a certain amount of immunity given a patient who had had one attack. Rather against the hypothesis that the disease was an acute infectious disease was the fact that seldom, if ever, was more than one case found in a household.

**The Mastoid Operation.**—Dr. Edward Bradford Dench of New York City read this paper. He believed that in 99 per cent. of the cases the disease was secondary to an inflammation of the middle ear. The most characteristic symptom in his opinion was tenderness on firm pressure over the mastoid process. The prognosis in mastoid operations he believed to be excellent. Out of 489 operations by himself there had been but twenty deaths, and in none was death due to the mastoid involvement. The first point in the technique which he insisted upon was absolute asepsis. The operation was described in detail. The second incision, extending horizontally backward from the middle of the curvilinear one, of which much had been said of late, had in his practice been rarely necessary. The possibility of three accidents during operation was mentioned; these were (1) failure on the part of the operator to find the mastoid antrum, (2) injury to the lateral sinus, and (3) injury to the facial nerve. Variations in technique were necessary in young children. In the after-treatment he usually allowed the cavities to fill up by granulation In most of the cases the hearing following operation had been excellent.

**Mastoiditis—Its Importance in General Practice.**—Dr S. MacCuen Smith of Philadelphia in this paper gave a brief outline of the historical aspect of mastoiditis, and then directed attention especially to its relation to general practice A physical sign of the greatest diagnostic importance he said, was the ominous bulging or drooping of the superior and posterior wall of the external auditory canal. The most urgent measure in the treatment of mastoiditis arising from acute tympanic disease he emphasized as early and free incision of the membrana tympani, especially when complicating infectious disease—that is, opening of the drum head during the stage of hyperemia and before the stage of pus-formation has been reached. In the after treatment of myringotomy the canal was dried with a cotton-wrapped probe, and then an impalpable powder was dusted on the walls of the canal. Emphasis was placed upon the word "dusted," as much powder would impede drainage

Dr Taylor of Wilkes-Barre was glad that Dr. Smith had referred to the pernicious idea that a child would outgrow a "running ear," and that it was dangerous to stop a discharge of the ear.

*(To be continued.)*

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 7, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 52 | 2 |
| Diphtheria and Croup | 198 | 19 |
| Scarlet Fever | 58 | 1 |
| Smallpox | .... | ..... |
| Chickenpox | ..... | ..... |
| Tuberculosis | 381 | 168 |
| Typhoid Fever | 97 | 14 |
| Cerebrospinal Meningitis | 12 | 14 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | ..... |
| Totals | 798 | 218 |

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, Public Health and Marine Hospital Service, during the period from September 23 to 30, 1905:

SMALLPOX—UNITED STATES.

| | | CASES. | DEATHS |
|---|---|---|---|
| California, Los Angeles | Sept. 16–23 | 1 | . |
| San Francisco | Sept. 16–23 | 1 | . |
| Illinois, Chicago | Sept. 23–30 | . | 1 |
| Galesburg | Sept. 23–30 | 3 | . |
| Ohio, Cincinnati | Sept. 17–29 | 1 | . |
| Pennsylvania, Altoona | Sept. 23–30 | 1 | . |
| Washington, Tacoma | Sept. 16–23 | 1 | . |

SMALLPOX—FOREIGN

| | | | |
|---|---|---|---|
| Africa, Cape Town | Aug. 19–26 | 1 | . |
| Brazil, Pernambuco | Aug. 1–15 | . | 215 |
| China, Hongkong | Aug. 19–20 | 1 | 1 |
| Niuchwang | Aug. 5–12 | 3 | . |
| Ecuador, Guayaquil | Sept. 5–12 | . | 4 |
| France, Marseilles | Aug. 1–31 | . | 1 |
| Paris | Sept. 8–16 | 22 | 5 |
| Gibraltar | Sept. 3–10 | 2 | . |
| India, Madras | Aug. 19–25 | . | 8 |
| Mexico, Dona Cecilia | Sept. 25 | 1 | . |
| Russia, Odessa | Sept. 9–16 | 4 | 1 |
| Spain, Barcelona | Sept. 1–10 | . | 1 |
| Cadiz | Aug. 1–31 | . | 1 |

YELLOW FEVER—UNITED STATES

| | | | |
|---|---|---|---|
| Florida, Brent | Sept. 26 | 1 | 1 |
| Pensacola | Aug. 20–Oct. 1 | 158 | 26 |
| Louisiana, Ascension Parish | To Sept. 28 | 77 | 4 |
| Assumption Parish | To Oct. 2 | 38 | . |
| Avoyelles Parish | To Sept. 29 | 11 | 2 |
| East Baton Rouge Parish | To Sept. 30 | 7 | 1 |
| East Carroll Parish | To Oct. 2 | 278 | 33 |
| Iberville Parish | To Oct. 3 | 30 | 8 |
| Jefferson Parish | To Oct. 2 | 428 | 46 |
| Lafourche Parish | To Oct. 2 | 381 | 47 |
| Madison Parish | To Oct. 2 | 307 | 18 |
| Natchitoches Parish | To Sept. 27 | 80 | 5 |
| Orleans Parish, New Orleans | July 21–Oct. 4 | 3083 | 308 |
| Plaquemines Parish | To Oct. 2 | 54 | 8 |
| Rapides Parish | To Oct. 3 | 24 | . |
| St. Bernard Parish | To Oct. 3 | 24 | 3 |
| St. Charles Parish | To Sept. 29 | 117 | 16 |
| St. John the Baptist Parish | To Sept. 27 | 151 | 14 |
| St. Mary Parish | To Oct. 3 | 756 | 29 |
| St. Tammany Parish | To Oct. 2 | 7 | 1 |
| Tensas Parish | To Sept. 30 | 6 | . |
| Terrebonne Parish | To Oct. 1 | 271 | 13 |
| Mississippi, Gulfport | Aug. 8–Oct. 1 | 90 | 2 |
| Gulf Quarantine | July 22–Sept. 16 | 65 | 1 |
| Hamburg | Sept. 15–Oct. 1 | 39 | 5 |
| Mississippi City | Aug. 22–Oct. 1 | 65 | . |
| Moss Point | To Oct. 1 | 3 | . |
| Natchez | To Oct. 1 | 62 | 3 |
| Port Gibson | Sept. 27–Oct. 1 | 4 | . |
| Rosetta | Oct. 1 | 2 | . |
| Scranton | Sept. 29–Oct. 1 | 17 | . |
| Vicksburg | Aug. 30–Oct. 1 | 81 | 7 |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Guatemalas, Zacapa | Sept. 21 | . | 18 to 20 |
| Honduras, Chamelicon | Sept. 8 | 6 | . |
| Sholoma | Sept. 8 | 1 | . |
| San Pedro | Sept. 8 | 2 | 2 |
| Mexico, Coatzacoalcas | Aug. 19–26 | 2 | . |
| Vera Cruz | Sept. 9–23 | 4 | 2 |

CHOLERA—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | Aug. 23–25 | 21 | 17 |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| China, Shanghai | Aug. 19–26 | Present. | |
| India, Bombay | Aug. 31–Sept. 5 | .. | 1 |
| Japan, Yokohama | Aug. 13–20 | 1 | 1 |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | Aug. 12–19 | . | 1 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| India, Bombay | Aug. 31–Sept. 5 | . | 43 |
| Karachi | Aug. 27–Sept. 3 | 22 | 17 |
| Japan, Formosa | Aug. 1–31 | 2 | 2 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 17.
Whole No. 1824.

New York, October 21, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### A PLEA FOR LOCAL ANESTHESIA IN THE RADICAL CURE OF INGUINAL HERNIA, BASED ON A STUDY OF 300 CASES.*

By JOHN A. BODINE, M.D.,

NEW YORK.

PROFESSOR OF SURGERY IN THE NEW YORK POLYCLINIC.

This communication presents a personal experience of 300 radical operations for the cure of inguinal hernia under local anesthesia. The patients number 284; 16 were double ruptures; 275 males, 9 females. The youngest was 15, the oldest 80. Ten were strangulated. The omentum was amputated in more or less quantity twelve times. The appendix was found with the contents of the sac three times and in each instance was excised. Undescended testicle one time; castration. Hospital detention two weeks; away from work one week additional. The amount of cocaine used in no case exceeded ½ grain. No wound suppurated. No patient died.

It is a general custom to limit the use of local anesthesia to operations of short duration and especially to ailments not justifying in their nature general narcosis. There is incongruity at times in the selection of the anesthetic. Painful, inflamed fingers are amputated under cocaine, possibly on the principle that a minor operation justifies a minor anesthetic, while ether is employed in the suture of a fractured patella. In these instances the anesthetic should be reversed. Furthermore there is a disposition to rest satisfied with reducing the pain within the limit of endurance. In nearly all instances the entire abolition of pain can be accomplished by the proper use of cocaine. The cause of imperfect results probably lies in the fact that the newer methods of using the drug are not widely understood. A common proceeding is to inject into an area a few drops of 4 per cent. solution, wait a few moments for diffusion, cut as long as the patient will stand it, inject more, and so on to completion of operation. This is the old regional method. Schleich's infiltration marks a wonderful step forward. The strength of the solution is reduced to a minimum and, contrary to the idea of diffusion, the solution is packed so densely in the tissues as to produce acute local anemia, effectually retaining the drug at that spot.

Corning's discovery that cocainization of a sensory nerve trunk abolished pain-sensation throughout its area of distribution made it possible to extend the use of local anesthesia from minor operations into the field of major surgery. It is this fact of "nerve-blocking" that makes possible a painless dissection for the radical cure of inguinal hernia.

The anatomy of the inguinal region is so constructed, in accessibility, regional restriction, paucity of blood-vessels, and above all in sensory nerve supply, as to make the operation in question the most favorable in general surgery for local anesthesia. We are indebted to Cushing of Baltimore for prominently bringing forward the propriety of local anesthesia in cases of rupture when a contraindication to cerebral narcosis exists.

Consider for a moment the regional restriction in the field of operation and the superficial position of the operative area. Neither nerve trunk nor sizable blood-vessel is encountered in the skin or subcutaneous fascia. Beneath the aponeurosis of the external oblique lie the three nerve trunks that preside over sensation in the entire field of work. The inguinal branch of the ilioinguinal, hypogastric division of iliohypogastric and genital branch of the genitocrural are the three nerve trunks in question. If all are found and cocainized the operation afterwards is totally devoid of pain. Their identification is not difficult. The first two named lie between the two oblique muscles directly under the incision. The genitocrural is usually among the structures of the cord. The nerves are named in the order of their pain-bearing importance and in the order of constancy in anatomical position.

All three are derived from the first and second lumbar trunks and participate feebly in forming the lumbar plexus prior to entrance upon the field of this operation. Intercommunicating branches pass from one to the other throughout their course, which explains the comparative freedom from pain after cocainization of the ilioinguinal though the other two are not found. The largest, most constant, and easiest found is the ilioinguinal. It runs from the iliac crest inwards, resting upon the surface of the internal oblique and is always to be found running a course parallel to the long axis of the hernial protrusion, sometimes as far outwards as the shelving process of Poupart's ligament. If it is large, the iliohypogastric is small and correspondingly inconsequent, and but little time should be spent in search of the latter. They invariably bear inverse proportion in their size. The iliohypogastric may be absent and, as stated, is less faithful in position. In fact it may be ignored if the margin of the internal ring is properly infiltrated. Generally it lies upon the internal oblique an inch or more above the arching fibers of the internal ring. The genitocrural is also inconstant in situation and is frequently not identified during the operation. It emerges from the internal ring along with the cord and consequently behind the neck of the hernial sac. It possesses an unimportant pain-bearing consequence.

An apology is due for this imperfect anatomy, but together with Cushing's drawing of these nerves the ilioinguinal can be found always, the iliohypogastric frequently and the genitocrural at times. This uncertainty of position is not discouraging, as the all-important ilioinguinal can be found and the operation completed without pain by infiltrating areas known to be sensitive. To substantiate the claim that local anesthesia is an improvement on general narcosis in this operation it should withstand a comparative criticism of safety to patient,

* Read before the New York County Medical Association.

thoroughness of operative detail and freedom from pain.

*Safety to Patient.*—The mortality, in the hands of a clean surgeon, of operation for inguinal hernia as at present practised is practically the mortality of the anesthetic. General narcosis has a danger, small, it is true, but sufficient to be considered by the surgeon. To the laity it is the greatest deterrent factor in the operation.

It is an obvious proposition that a solution of cocaine injected intermittently into the circulation, amounting in all to ½ grain and occupying one hour in the introduction, is less dangerous than ether or chloroform carried to full surgical narcosis for the same period of time. In strangulated hernia with profound shock and toxemia this method finds an imperative application. General anesthesia is often a load too heavy to bear.

Patient of Dr. Barker, Woodside, L. I., admitted to St. John's hospital March 16, 1905. Hernia strangulated for eight hours. Profound shock with usual weak, thready pulse. Operation under local cocaine anesthesia. After relieving constriction, the gut was found to be of doubtful vitality. Hot saline towels were applied to the loop for possibly thirty minutes, when the color was restored. The radical operation was then completed and the patient returned to bed. Instead of increased shock from ether, the pulse and general condition of the patient improved during the operation. There was no complaint of pain.

Not infrequently the vitality of a strangulated coil of gut can be determined if hot saline towels are applied long enough. With local anesthesia these may be applied for an hour or more. General narcosis for this length of time, added to the existing shock, may take away the chance of recovery. The alternative is to resect or return the doubtful loop. Fatal consequences from a wrong decision is a possibility.

It is quite probable that fewer wounds will suppurate under local anesthesia. The very nature of the anesthetic compels gentle handling of the tissues. This lack of bruising leaves the wound in best possible condition to resist infection. Primary healing is essential to cure. In none of my cases was there suppuration. Textbooks and monographs are strangely silent on the importance of respecting the structural integrity of these nerves, yet they preside over the strength and nutrition of the structures concerned in preventing recurrence. Division of the genitocrural produces atrophy and relaxation of the cremaster muscle. Division of the ilioinguinal and iliohypogastric will no doubt produce like results in the conjoined muscle and tendon. When authoritative teaching ignores their importance it is quite certain they are often sacrificed. Under local anesthesia these nerves are left intact and the cocaine affects them functionally only for a time.

Danger to the line of deep sutures from nausea and vomiting is obviated. This is an important point indeed. It is conceivable the powerful abdominal muscles might tear out some or all of the deep sutures during the violent vomiting before full consciousness returns.

Much of the prevalent idea of the toxicity of cocaine is exaggerated. It comes from the alarming symptoms reported during the early days of its improper use in surgery.

Strong solutions were permitted to enter the circulation before incision relieved the tension. Many of the idiosyncratic effects reported were psychical phenomena—the result of a lively imagination regarding the coming operation. This psychical shock is occasionally noted now, but is properly placed. The symptoms are in part similar to those of cocaine poisoning—pallor, sighing, rapid pulse, and facial perspiration. Recumbency and aromatic spirit of ammonia bring about rapid restoration. Attention to the concentrated solutions applied daily to the vascular nasal and pharyngeal membranes gives a better understanding of the relative toxicity of this drug. The maximum safe dose in all cases under all circumstances has not been determined. Analogy proves there is one, as in the case of strychnine, hydrocyanic acid, and other poisons. None will gainsay the statement that intermittent injections throughout the period of an hour, amounting in all to ½ grain, are well within the limits of absolute safety. We have come to regard morphine as not only the antidote to cocaine in its graver manifestations but, by its calmative effect upon the nervous organization, a trustworthy preventive of the psychical phenomena just mentioned. It is our custom to administer hypodermically morphine ¼ grain prior to the operation. In none of our cases was even the exhilarating effect of cocaine observed.

*Thoroughness.*—As no temptation exists to save the patient pain, no detail of the operation essential to cure is omitted. The work proceeds with the same deliberation and thoroughness as under ether. The patient remains quiet, placid, and contented. We have practised, as the case demanded, all the variations of the simple form of operation. Bloodgood's transfer from the rectus muscle, to supply a deficient conjoined tendon, once. Sliding the sheath of the rectus muscle into the same situation, as suggested by Halsted, once. The stitch above the internal ring, as recommended by Coley, in nearly all cases. Excision of existing varicocele twelve times. Amputation of adherent omentum causes no additional pain.

In one instance a mass of lumpy omentum weighing sixteen ounces was ligated in sections and amputated without additional cocaine. There was shock and some nausea, but no pain. Cutting and tying the omental blood-vessels seems to give no pain, which is not true of similar structures elsewhere. Traction on the omentum nauseates the patient.

Undescended testicle complicating rupture was encountered once. Operation August, 1904, at Houston, Texas—patient of Dr. Sampson. Young man, twenty-one years, with omental rupture on right side. An undescended and undeveloped testicle lying high in the canal. The cord was too short to permit anchorage in the scrotum, and as the functional value of the organ was in question the patient demanded its removal. The cord was included in the transfixion-ligature at the neck of the sac and the testicle removed. Some pain at moment of tightening ligature but not enough to cause movement of patient's body.

The appendix was found three times as part contents of the hernial sac. In each instance it was amputated and stump inverted without additional cocaine and without pain. Many times the gut has been withdrawn gently, handled freely, and returned to the cavity without pain. Forcible traction on the mesentery will, however, cause both pain nausea. As the visceral handling in the average case of rupture is both simple in character and short in duration it can be thoroughly accomplished.

No case of strangulation has yet demanded resection. On this point our experience does not justify an opinion. The size of the protrusion does not constitute a limitation to the method. Patient of Dr. E. N. Shaw operated upon August, 1904, at Cameron, Texas. The tumor, size of adult head, was carried in a bag, a truss being ineffectual. The operation under cocaine was as free from pain as

any in the list. Neither size of tumor nor contents of sac form a limit to this method. Very fat patients require too much of the solution to give freedom from pain during incision through the adipose layer and the wide retraction necessary to expose the field. Children too young to understand and appreciate are obviously unsuited for local anesthesia.

*Pain.*—The amount and degree of pain suffered by patients are purely relative, and a difficult matter to determine. They differ widely—great pain to one is slight pain to another. Patients have not been selected with a view to their pain-bearing capacity. Different types are here represented, from the stolid and phlegmatic to the neurotic and imaginative. In not a single instance was there complaining, restlessness, nor movement of hand nor foot during the operation. That the method is passed along from patient to patient in the ward and requested instead of ether is good negative evidence on this point.

As types of the intelligent patient, take the following two: Clergyman operated upon at St. Joseph's Infirmary, Houston, Texas, in presence of visiting physicians. Patient requested by physicians to give opinion at close of operation answered, "There was a rather disagreeable momentary expectation of pain that did not materialize." A physician operated upon before the Tri-State Medical Association at Greensboro, N. C., March 1, 1905, summed up his experience as "wholly insignificant in pain." At the New York Polyclinic, February, 1905, an Italian laborer who could not speak English refused operation unless "put to sleep." Under persuasion he permitted trial of this method with promise of ether "if it hurt." The operation was completed without evidence of pain. Finally, an old negro man, eighty years, incapable of enjoying otherwise good health on account of large incarcerated hernia. Tumor measured twenty inches in circumference, and when unsupported reached half way to his knee. Operation at Fort Worth, Texas, August, 1904, Drs. Thompson and Saunders assisting. The large mass of intestine was freely handled and returned to the cavity without any expression of pain from the patient. The clergyman, doctor, the frightened Italian, and the negro, would seem well to represent types of intelligence, imagination, and fear. We can safely say the pain endured is not as disagreeable as the nausea following ether.

*The Cocaine Solution.*—Two-thirds of a grain of cocaine is a safe dose. In no case have we exceeded ½ grain. It is not grudgingly doled out to the patient but freely used upon the slightest complaint of pain. One grain is dissolved in one ounce of sterile salt solution, making a strength practically 1-5 of 1 per cent. This stock solution is used for skin infiltration and cocainizing the nerve trunks. For all subdermic infiltration a solution half this strength is used. This second dilution is made in the syringe by drawing it half full of the stock solution and half full of a physiological solution of salt. We have experimented with solutions stronger and find them unnecessary, while weaker solutions do not produce perfect anesthesia. When properly infiltrated a solution of this strength will completely anesthetize the skin for one hour and a half. It should be made fresh, as cocaine solution rapidly develops a fungus. In a few hours it is potentially septic and in a few days it is distinctly so and will produce suppuration. Lack of this knowledge is the cause of an existing belief that cocaine wounds do not heal well. It is conceivable that a solution of pure water might interfere with wound healing by swelling the tissues from inhibition, but when the law of osmosis is regarded and salt solution of proper density used to dissolve the drug, thus making it isotonic with the blood serum, it cannot interfere with the well-being of the wound. Cocaine solution may be boiled sufficiently long for sterilization without detriment to its anesthetic value. The crystalline form of the drug dissolved in a sterile fluid will not produce suppuration.

We have not used the solution advised by Schleich because the one just mentioned is simpler and satisfactory. A warm solution is more effective than a cold one.

*Technique.*—Much can be done by a personal calmative demeanor to quiet the nervous apprehension of the patient. A nervous, jerky surgeon will produce a correspondingly nervous, jerky patient. The position assumed by the patient on the table should be one of comfort and relaxation. For instance, if the arms are crossed above the head, the patient will be "fidgety" before completion of the operation from the tiresome position. To a nervous patient the click-click of the dissecting scissors may become unbearable.

If at the beginning, when everything is ready, the surgeon asks in pompous manner for a "knife," the patient's courage instantly vanishes. The word "bistoury" obtains the instrument desired and does not shock the patient; better still, an assistant who hands without asking. Even the initial prick of the needle must be explained. If after assuring the patient you suddenly and unexpectedly jab him with a needle, the subsequent argument that no man can call that real pain will only serve to convince him that your idea of pain and his do not agree. Observing the total sum of these little points makes big surgery under local anesthesia possible.

The line of skin incision is infiltrated throughout its extent. It should be sufficiently tight to hold the local anemia for an hour or more. The depth to which the needle is plunged in the skin is important. The highly differentiated end-organs of the sensory nerve are superficial. When the needle point lies true it can be seen from the surface. The skin incision should stop at the suprapubic skin fold. Downward traction will give abundant space for operative work, and the venous plexus in the mons veneris is avoided. Pain results whenever a surface blood-vessel is divided, and this is multiplied by each grasp of artery clamps and ligature. These repeated twinges occur at the *beginning* of the operation. There is a wide difference between pain at the beginning and pain near the end of operation. One destroys the patient's confidence in promised immunity, the other is borne with equanimity because the termination is at hand. The needle should be passed through the anesthetized skin and the fascia and the solution infiltrated around the external ring. The terminal branches of the ilioinguinal nerve lie in this situation. There is no necessity of waiting for the cocaine to take effect, but immediate incision down to the external oblique muscle. If the layer of subcutaneous fat is thick, Mata's massive infiltration is necessary before the skin is incised. Fat cannot be edematized after the skin incision. A solution of 1 to 10,000 cocaine may be used for the purpose.

The aponeurosis of the external oblique requires no anesthesia. Over the situation of the underlying internal ring the aponeurosis is incised. Before carrying this incision into the external ring the flaps are retracted sufficiently to expose the ilioinguinal nerve. This is cocainized at the highest exposed point by injecting the trunk with a few minims of the stock solution. The incision can now be carried painlessly into the external ring and the flaps reflected to full exposure of the shelving process of

Poupart's ligament outwardly and the conjoined muscle and tendon towards the median line.

Search for the iliohypogastric in the situation named can now be instituted. As stated, it is not always found; it is at times small and inconsequent: finally, it may be absent. If found and cocainized it greatly assists towards painless operation. If search is fruitless the margins of the internal ring and adjacent substance of the conjoined muscle are infiltrated with the 1-10 of 1 per cent. solution. Along the central line of the long axis of the protrusion a line of infiltration with the same solution is made. This line of infiltration is specially needed if the iliohypogastric is not found. A clean incision with scissors on this line is carried through hernial coverings to the sac. The ability of the patient to cough at request and define the sac makes this dissection safe and avoids the unsurgical blunt dissection.

The sac is now opened and the contents dealt with as needed. Trendelenburg's position is invoked to retain viscera within the cavity when possible, as it gives pain to crowd a pad into the peritoneal cavity. The neck of the sac is infiltrated, dissected away from the underlying cord, ligated, and amputated. The genitocrural is now sought, and if found and cocainized the operation can be completed in any manner the operator prefers without additional cocaine and without pain. If the nerve is not found the sac is dissected away from the cord by clean snips of the scissors from above downwards, and the operation completed *secundum artem*. It is believed by some surgeons that no harm can come from leaving the sac fundus *in situ* and by others that the integrity of vas deferens and testicle is safeguarded by at least leaving that strip of the sac that is intimately applied to the cord.

Operation on the female is easier than on the male, the round ligament being less sensitive than the cord.

If in the future transplantation of the cord is abandoned as of no value in preventing recurrence, the radical cure of inguinal hernia will be strictly one for local anesthetis.

9 East Thirty-ninth Street.

## THE ETIOLOGY OF TABES; ITS SOCIAL, LEGAL AND THERAPEUTIC CONSEQUENCES.

By FEODOR VON RAITZ, M.D.,

NEW YORK.

When, about sixty years ago, German physicians began to recognize tabes dorsalis as a distinctive disease, the question, what causes tabes, grew with that recognition; and, as at that time, syphilis was not under therapeutic control, its pathology and clinical aspects offered plenty of opportunity for observation and study. For this reason, those familiar with syphilis in its various phases, found no evidence which permitted them to make it responsible for tabes.

About thirty years later, French physicians, however, began to consider syphilis as a cause of tabes, and Fournier finally pronounced it as *the* cause. But, as the pathology of sypnilis did not support his statements, his views were considered idle theories, until Erb, a few years later, came to his support. Since then the syphilis theory has grown and appears accepted to-day.

But, while the etiology of tabes appears to be settled, there are a great many earnest observers who ignore syphilis as its cause, and some of them raise their voices from time to time in opposition, arguing that more than one factor is responsible for tabes.

The apparent establishment of syphilis as the cause of tabes is, therefore, not a natural consequence of progressive science, built on pathological facts, but a result of dogmatic ruling.

Dogmatism in medicine is, however, losing its influence more and more, and physicians of all countries cease to follow blindly the opinions of others, no matter how high their professional standing may be; and they begin to see that tabes is an important disease, not alone from a medical, but also from a legal and social viewpoint. They realize that persons afflicted with tabes are branded as syphilitics, which robs them of the respect and sympathy of those they love, and, in case of accident, of justice and compensation. But, worst of all, this view subjects them to the antisyphilitic treatment, which destroys all chances for recovery.

Tabes in itself is an affliction deplorable enough; to add to it the stigma of syphilis is simply cruel. If it were a fact that syphilis caused tabes, the cruelty would be unavoidable, but as it is only a dogmatic dictum, without any basis, it is our duty to clear away every doubt, so as to prove or disprove syphilis as the etiological factor.

A few cases will illustrate the harm the stigma of syphilis works. R. M., a lawyer, was thirty-five years old when tabes began to show symptoms. He had a loving wife and three children, and was just beginning to reap the benefits of his professional labors. After the diagnosis of tabes was made, his wife, an intelligent woman, learned that her husband's disease was attributed to syphilis. She soon knew what syphilis meant, and turned from a loving, sympathetic wife into an enemy of the patient, despite all his protests of innocence. The poor woman suffered great mental agony and grew nearly insane, first, because her husband had been to her the personification of all that was good, and secondly, because she feared that her children might show consequences of syphilis. As time went on the domestic conditions of this family grew unbearable, and, finally, she took her children and left her husband. This patient asserts that he never had any sore on his genitals, nor any eruption, nor other symptom of syphilis, and that he never led a life of dissipation, but he did not deny that he had a urethral discharge, about fifteen years ago, which was treated and cured by a physician in about two weeks.

Mrs. E. R., when thirty-one years of age, began to show symptoms of tabes. She had then been married ten years and had two children. She also denied having had any symptoms which could be attributed to syphilis, but stated that when about eighteen years old, she had a small abscess on the vulva, which was poulticed in accordance with a physician's directions, and which disappeared shortly afterward.

Her husband, however, prejudiced by the professional opinions as to the causation of tabes, lost confidence in his wife. She now lives apart from her family, although well supported by her husband.

J. L., a plumber, twenty-nine years old, while working in a building during construction, fell about twenty feet and landed on a heap of rubbish in the cellar. He felt somewhat dizzy and his left shoulder was a little sore, but after resting a while he felt better and attempted to work. He was, however, not able to do anything on account of a sense of weakness and nervousnes, which almost prevented him from walking. He was assisted to a street car and went home. The next day was Saturday, and as he still felt weak and nervous he did not go to work before Monday. For a few days he was, to all appearances, as well as ever, but although he did not feel well, he continued to work, believing that he would

overcome the weakness. After about two weeks, he began to feel unsteady on his feet and grew gradually worse, showing locomotor ataxia and abolishment of reflexes. Inside of six weeks all reflexes below the waist line were abolished, but his eyes remained as good as ever. The patient, upon the advice of his physician, had made a claim for damages, and an accident insurance company, stepping in for his employer, sent a physician who pronounced the condition as tabetic, entirely unconnected with the fall, and due to syphilis, which the patient admitted to have had about eight years previous. The patient's physician did not consider the case tabetic at first, but an injury to the spinal cord. The insurance physician, however, succeeded in convincing him that it was tabes, due to syphilis. The patient, in consequence, accepted a trifle as a compensation for an injury which left him a cripple for the rest of his life.

Those who accept syphilis as the cause of tabes have no difficulty in finding syphilitic evidence in everybody who has tabes. If a person admits having had syphilis, no further proof is necessary; if syphilis is denied, every disturbance at the genitals, no matter whether it be a specific of a simple urethritis, a vulvar abscess or abrasion, a chancroid or a simple sore, is sufficient evidence of syphilis. If disturbances at the genitals are denied, then any eruption on any part of the body furnishes the proof. And if everything is denied, then the "benefit of the doubt" is a convenient support to establish syphilis, and so the hundred per cent. is accounted for and tabes stands as a postsyphilitic disease.

The actual cause of any disease is, however, not determined by opinions and theories, but by pathological facts alone, and these facts must give such evidence as proves that the disease under consideration rests on them.

To ascertain whether tabes is a postsyphilitic disease, let us look at the pathology of syphilis first, as far as it can have any bearing on tabes. For this reason we need not consider the nature of the syphilis poison, nor any of the various pathological conditions outside of the nerves, cord, and brain.

Since the successful therapy of syphilis has been established, post-mortem examinations of bodies dead from syphilis are unknown, and whatever knowledge of the pathology of syphilis we possess is handed down to us by pathologists of days prior to our present antisyphilitic measures. I believe that no one of those who make syphilis responsible for tabes has ever examined a syphilitic cadaver, perhaps not even a tabetic cadaver, and all that modern writers on tabes say of syphilis is quotation.

We, however, still meet, now and then, badly neglected cases of syphilis, presenting abscesses, fistulæ and severe cachexia which, if observed studiously, and for a long period of years, prove very instructive. It also sometimes happens that a syphilitic dies from other causes, and that a studious physician gets hold of the body with a view of studying syphilitic degeneration, but how seldom that is, we all know. But, insufficient as our knowledge of the pathology of syphilis is, we know enough to make it practical for the comparison with tabes.

As stated above, for our purpose we need to consider syphilis only as we find it in the nervous system, but wherever found it presents itself in two forms. First, the exudative, which is due to transudation of the pathological products from the blood-vessel walls at points of least resistance. This form is always diffused, even if it appears in lumps or tumors, and it furnishes what should be called gumma. Secondly, the productive type, which is due to cell-proliferation, and furnishes the syphiloma, which is never diffused, even if it does not appear as a lump or tumor.

Despite this absolute difference, everybody speaks of gumma and syphiloma as if it were one and the same thing. Moreover, gummata appear prior to syphilomata when the virus is most potent, while syphilomata appear later, as a consequence of perverted nutrition.

But whether gumma or syphiloma, and wherever situated, both give pressure symptoms, if they give symptoms at all, but no symptoms of nerve degeneration. And, after their absorption, all symptoms disappear. When now, after a number of years, tabes does develop in any individual who has had syphilis, what pathological facts remain to prove that syphilis is the cause?

Moreover, syphilis everywhere presents itself with absolute clearness as a blood disease, without any tendency to cause degeneration, except by its productions and exudations, and by the cachexia. If the syphilis virus had a degenerating tendency on the nervous system, this would manifest itself at the time when the virus is most potent, but not years afterward. And, if antisyphilitic therapeutic measures are potent enough to overcome all activity of syphilis, why then should we expect any syphilis virus, the nature of which is to act as long as it exists, to remain dormant in the system for years?

Has anybody ever found dormant syphilis virus? But suppose the syphilis virus could remain latent, it could be so only when hermetically encapsulated, and it could grow active only by rupture of the capsule. To speak of dormant syphilis virus is so absurd that nothing more need be said about it. Furthermore, if tabes were a postsyphilitic disease, then the antisyphilitic therapy would have a curative effect on tabes, but it is a fact that such therapy in tabes does nothing but harm.

Examinations of the cord and brain of tabetics show no gummatous deposits but the characteristic degeneration of nerve fibers. The degeneration of the spinal sensory nerves is simple atrophy, due to cessation of function, and brought about by the degeneration of the nerve fibers in the cord.

Whether the nerve fibers of the central system degenerate first, or in consequence of the degeneration of their ganglionic cells, is not material for an argument against syphilis. The nerve fibers and ganglionic cells degenerate, however, one by one, leaving sound fibers and cells between, until finally, as the disease progresses, not only the whole parenchyma of the posterior columns, but also the whole spinal cord degenerates. This is all that needs to be considered to prove that the pathology of tabes is as different from that of syphilis as is tuberculosis from rheumatism, and that tabes is not a metasyphilitic disease.

Now, as syphilis does not prove to be the etiological factor of tabes, quite a number of physicians have begun to doubt the syphilis theory, and a few have expressed their opinions, holding that there must be factors outside syphilis which cause tabes. To find them, we must remember that tabes begins either in the nerve fibers, or in the ganglionic cells of the central nervous system, or in both. What agents are potent enough to induce such degeneration? We know that mental strains affect the power of reasoning, and also that physical strains affect the cells which govern locomotion and sensation. Physical strains, therefore, call for our consideration.

Inquiry into the previous histories of tabetics teaches us that many tabetics have practised coition excessively, and that, in time, the coitus has caused peculiar, even painful sensations in the genitals and

in the head. Others, who, to prevent fecundation, have practised interruption of the sexual act by depositing the semen *ante vulvam*, and other still, who have practised masturbation excessively, have experienced the same sensations.

The sexual center lies in the lumbar portion of the cord. Sexual impulses descend from the brain to the center or ganglionic cells in the gray matter, and from those cells, along the nerve fibers of the posterior columns, through the posterior nerve roots to the genital apparatus. Sexual sensations ascend from the genital organs in a reversed order to the brain. When sexual impulses force the concerned ganglionic cells too often, and for too long periods of time, they lose power; and if the state of exhaustion continues without time for physiological recuperation, degeneration is the final result. Sexual sensations travel along separate roads upward to the brain, and a too frequent descent of impulses and ascent of sensation will, therefore, exhaust separate ganglionic cells in the cord and in the brain.

After the death of ganglionic cells the attached nerve fibers grow useless, degenerate and cause atrophy of the nerves leading to the periphery. The tabetic process, in cases due to sexual excesses, starts, therefore, in the ganglionic cells of the cord and brain. This class of tabetics furnishes what might be termed the cerebro-cerebellar type, with early ocular, visceral, and bulbar symptoms.

We know, further, that diphtheria, cerebrospinal meningitis, and typhoid fever affect the nervous system, and that they are often followed by loss of reflexes and symptoms of paralysis. As yet no prolonged observations of such sequelæ have been made after the original disease has subsided, and after the paralytic symptoms have ceased to be apparent. The history of some tabetics informs us that they have had one or more of these diseases, that their periods of convalescence were prolonged, and that they were never as strong afterwards. To make these diseases responsible for tabes, no chain of evidence can be established. And yet, the fact remains that they cause, in a number of cases, nervous symptoms which are not due to peripheral, but to central intoxication. This proves, even if this intoxication is only temporary and leaves apparently no impairment of function, that the toxins of these diseases are capable of affecting the central nervous system. Nerve substance is very delicate, and it is, therefore, quite probable that some spinal cells have been left weak, so as to break down at a later time, when their functions are called upon beyond their power of endurance.

All matter is chemical, and life, in its various forms of existence, is nothing but the result of chemical action. So also is the human body nothing but a compound chemical mass, built by certain elements. When substances, which are not used by nature in the construction of the body, enter it, they will, sooner or later, more or less, according to their physical properties, to the amount introduced and to the period of time during which the offense lasts, cause symptoms of harm. Toxins which result from the decomposition of organic matter, are poisonous in varying degrees. And, although the elements which compose them are not foreign matter, having been used in the construction of the body, the process of decomposition forces new chemical combinations, the products of which become foreign substances. The body is ever active to rid itself of all that is, or becomes, a foreign substance, but, when the system is not strong enough to eliminate the toxic substance quickly, the power of resistance weakens, and fails to check the diffusion of the toxin, and consequences show themselves immediately, or in after effects and predispositions to other troubles, which are not always recognized as such. Inorganic toxic substances affect the body and are affected by the body in the same way.

We have, therefore, two classes of toxic agents which may cause tabes or predispose to it. If we admit organic toxins as a possible cause, the syphilis poison is one of them. To ascertain whether any of them is indeed an etiological factor of tabes, remains for the future, but that syphilis does not cause tabes is already proven by the pathological and therapeutic divergence of both diseases. Whether inorganic poisons can predispose to or cause tabes, also awaits answer in the future. Mercury, however, stands suspected already, as many tabetics, who have had syphilis, have been treated with mercury.

Injury to the cord, as an etiological factor of tabes, has of late arrested the attention of unbiased observers, and there is sufficient evidence to force serious consideration of those cases whose history points to accidents after which tabetic symptoms appeared. Injury to the cord may occur without any external evidence, and, as a matter of fact, seemingly trivial accidents are, at times, followed by tabes. Severe traumatism to the spine may cause instantaneous partial or total, transient or permanent paralysis below the level of the injury, but no symptoms of locomotor ataxia, while a simple fall or sharp twist of the spinal column, leaving no external evidence of injury to the spine, and no immediate symptoms referring to the cord, may induce locomotor ataxia. When, after a fall, symptoms appear gradually, they are not understood until locomotor disturbance sets in; and even then serious attention is not paid to them, but liniments and antirheumatic remedies are employed until a competent man makes a diagnosis of tabes. If this physician holds to the syphilis theory, he will, under all circumstances, find that the patient has had syphilis some time ago, no matter whether he has had symptoms of the disease or not, for, if all evidence fails, the "benefit of the doubt" covers every lack of information. The fall is thrown out as an etiological factor as soon as mentioned, because no explanation of how a fall can cause tabes has, as yet, been offered. Some, however, admit that a fall, while not the cause of the condition, might have hastened the progress of the disease, which was present before the fall.

How a simple fall can cause injury to the cord and subsequently tabes is, however, not difficult to understand. We know, when a bloodvessel is subjected to tension and torsion, it loses its elasticity by overstretching or rupture of the muscular fibers of its walls. When a person falls, he will, before the body reaches the ground, try to save himself by throwing his weight in the opposite direction. This motion is carried out with great suddenness and with as much power as the person has at his command. The spine is then bent and twisted at the point of greatest flexibility. The anatomical relations of the spinal column allow the greatest freedom of motion in the lumbar spine, and there the center of gravity of the lower part of the body, in its downward course, is suddenly met by the weight of the upper part of the body in its opposing direction, thus mitigating the impact of the body with the ground. To oppose the falling of the body still more forcibly, the arms are suddenly thrown out in the opposite direction, and according to the degree of pronation of the upper body, necessary to oppose the fall, a corresponding bending and twisting of the spinal column takes place, during which the bloodvessels are stretched and twisted. If the degree of tension and torsion is greater than the elasticity of the implicated arterial walls can endure, the mus-

cular fibers are damaged and the walls may, at one or more points, collapse and obliterate. The portion of the cord concerned will now, sooner or later, suffer want of nutrition, in proportion to the number or importance of the nutrient arteries involved, and corresponding symptoms of degeneration become, more or less, apparent. The process of degeneration once started, has a tendency to progress, unless checked by forced nutrition, which, no doubt, often enough, takes place in strong individuals. Quick restoration of nutrition may take place, leaving, after a shorter period of weakness, no trace of disability, and giving no information of the danger just escaped. After such injury the spinal nerve fibers or ganglionic cells, or both, may be affected, as this depends on where nutrition ceases, and the first symptoms which present themselves are disturbance of locomotion. This class furnishes the motor type of tabes.

Now, when sexual excesses, toxic agents, and traumatism claim consideration as etiological factors of tabes, it can readily be understood why the pathological anatomy, the symptoms, and the rapidity of the course of this disease vary so greatly.

That traumatism is being recognized as an etiological factor of tabes, is proven by a few cases awaiting compensation for damages by the courts, but those physicians who are overcome by the syphilis theory deny the existence of traumatic tabes, without having any basis whatever upon which to prove the existence of syphilis, or to deny traumatism as a cause. It is simply their opinion, or the opinion of others which they offer. But opinions are worthless, no matter by whom expressed. Facts alone carry weight.

About four years ago a woman was thrown out of a trolley car; she was unconscious for a little while, and was then brought home by the assistance of fellow travelers who witnessed the accident. There were no visible signs of injury anywhere on her body, but she complained of headache, nervousness, general weakness, and some pain in her right shoulder. After a few days had gone by without improvement in her condition, she entered my office, complaining mostly of vague pain in the shoulder or back. She could not say where the pain actually was. My examination was negative, and I attributed her symptoms to shock, which, as I then thought, would disappear under rest and other appropriate measures in a short time. A lawyer had taken hold of the case, and I was asked what amount would compensate the damage. I recommended one hundred and fifty dollars as a reasonable sum. The patient went, according to my advice, for fourteen days to a quiet place in the country, and when she returned to my office I was astonished at her appearance and gait, and I found then that her spinal cord was injured. Meanwhile, a suit for one hundred and fifty dollars had been instituted. I, therefore, informed the patient of the nature of her injury, and also that the suit should be withdrawn, and all legal proceedings stopped, until the nature and the consequences of the injury could be ascertained. The railroad company engaged a prominent neurologist, whose opinion then was that the patient had sustained injury to the cord, and he advised compensation and settlement. At first the symptoms were vague, but soon they grew markedly tabetic. The case being of great interest from a scientific standpoint, I wished that the company's specialist might have every opportunity of observing the patient, and I instructed her to go to him as often as he desired, despite the fact that my patient's lawyer objected to my professional motives, as he feared that the physician for the company, might misuse the trust I placed in him for the benefit of the company. The case is now in the supreme court with a claim for fifty thousand dollars. This patient represents a pure locomotor type of tabes and did not have syphilis.

Another case of traumatic tabes, also that of a woman, Mrs. B., thirty-six years old, came shortly afterward to me and stated that, about eight months before, she had slipped on a banana peel and had fallen on the sidewalk.

As this case of Mrs. B. also represented the locomotor type of tabes, due to traumatism and without a history of syphilis I, led by professional motives, placed her also at the disposal of the same specialist, instructing her to allow him to observe her as much as he pleased and as long as it was convenient to her. After a few months the patient ceased to come to my office, and when I received no answer to my inquiry, I went personally to see her, but found that she had left her boarding house for quarters unknown. The lawyer of Miss H., who sued for $50,000 damages, holds that Mrs. B., was "spirited" away to prevent her appearance in court, as she, not being a syphilitic, and, having no claim for damages, could prove to be a great blow to the defense and to the syphilis theory as a cause of tabes.

The plumber, whose case I mentioned before, although he has a syphilitic history, represents also traumatic tabes of the locomotor type.

An iron constructor, while working at an elevator shaft, bending far over, and having the lower half of his body resting on the adjoining stairsteps, bent too far and began to fall. At the very beginning of the fall, his arms being in the frame work of the iron structure, he took hold of what was within his reach, but the lower part of his body, below the waistline, fell down and twisted to the left side and backward. A workman just below him, with the assistance of others, took him down and laid him on the floor. He was semiconscious for a while, but recovered from the shock after about one hour and went home, as he did not feel like working. He had, as he stated, "wrenched his back rather a little too much for comfort," and thought he would take a rest. This man intended to work next day, but felt so weak and nervous that he remained at home. For a few days he had his back rubbed with liniments and felt better, but he could not walk down stairs without holding to the railing, and he then grew very nervous. His gait slowly became more and more unsteady, though he complained of nothing but nervousness, lack of power, and impaired sensation in his legs, and, for a few weeks after the accident, of peculiar headaches. Three years have gone by. The patient's eyesight is perfect, his arms are strong, but his reflexes are lost below the umbilicus. He feels quite comfortable, as the therapeutic measures to which he was and is subjected are based upon the pathological facts of his case, which exclude antisyphilitic treatment, and all measures which lack indication.

The fifth case is that of a man who jumped from a wagon while his horse was running away. He landed on his left heel with great force, was twisted somehow, and fell on his face. He had abrasions on his face, hands, and knees, which did not mean much, but the heel gave trouble for four months, and he has yet, nineteen months after the injury, at times, peculiar sensations in his heel and lower extremities. After the fall he had but slight headache and was not very nervous, and whatever attention he needed was to his left heel. A few weeks later, however, he began to feel that his legs did not follow his will as usual, and his reflexes were impaired. To-day he is quite comfortable and goes to

his business, although he has to use a cane to steady himself occasionally, especially when he is in a crowd. For a time the ataxia was serious, but he grew gradually better, until he now shows very little locotomor disturbance, and it looks as if he were going to get well.

These few cases of traumatic tabes occurred in individuals who were physically sound and strong before the injury. They all represented the locomotor type.

I have had two more cases of the locomotor type, but no history of any accident to which the condition could be attributed, although both of them stated that they had bent and twisted their bodies often enough, and that they have had backaches. It is, therefore, not impossible that in both these cases injury to the cord may have occurred. And again, there may be other, yet unknown, etiological factors which cause this type of tabes.

That sexual excesses alone can gradually predispose to tabes, is theoretically clear enough, but I have not had a case with a history of such excesses, without a concomitant history of diphtheria, typhoid fever, or some other disease which might have been cerebrospinal meningitis or inflammation of the cord. Miss Ida E., was forty-two years of age when I was called to her bedside in October, 1897. Other physicians had treated her, and one had seen her shortly before I was called. When I saw her first she could not stand on her feet, not even while holding to the end of the bed. All reflexes were totally abolished, the bladder did not act, and there was a peculiar cystitis. The rectum had no sensation. Girdle sensation was very sharp and there were frequent attacks of oppression in the chest, which almost suffocated her, and caused severe hysterical outbreaks with suicidal impulses. Darting pains in her lower extremities caused much suffering. At the waist line, all around the body, was an area, about six inches broad, studded with warty, brown eruptions. After I had stopped the potassium iodide and strychnine, and after she had improved enough to be more peaceful in mind, she gave answers to my inquiries, and admitted having practised masturbation from her early girlhood until shortly before tabes set in. At first, and for a while, she masturbated five or six times daily, and then gradually less. Her mother informed me that the patient had had diphtheria and typhoid fever. The patient also admitted having had sexual relations a few times when in her teens, but she never had any sore on her genitals, nor any eruptions, save those at the waist line, which began to break out shortly before she experienced the first pains in her lower extremities; nor did she have any other symptom which could refer to syphilis. As soon as tabes was recognized she was put under potassium iodide, and forthwith she grew worse, and as soon as I stopped it, she grew better. Because she had tabes, the attending neurologist held that she had had syphilis, no matter whether it could be proven or not. What was the cause of tabes in this case? To answer syphilis, is absurd, but was diphtheria, typhoid fever, or the excessive masturbation the real cause?

M. H., 46 years of age, a merchant, married, had three sound children, the oldest fifteen years, the youngest nine years of age. He came under my observation in 1894. He was also treated with potassium iodide by various physicians and grew steadily worse. He had no syphilis, but had practised masturbation excessively from his early boyhood to his marriage. His mother informed me that he had had diphtheria and all children's diseases, and that he, as a child, was peculiar and very quiet. His first tabetic symptoms were disturbed locomotion, without pain in the lower extremities. He had no thoracic nor abdominal symptoms, but bulbar symptoms appeared later in a manner strikingly similar to general paresis. In this case, also, syphilis was out of question. What caused the tabes?

G. H. F., a patent lawyer, forty years of age, married ten years, no children. Had diphtheria in 1900, which was followed by loss of reflexes and locomotor disturbances. He did not have syphilis. Under judicious treatment, without potassium iodide, he grew gradually better, and is to-day practically sound, although the reflexes are still somewhat impaired and he has to hold to the balusters when going downstairs. His pupils do not react normally, but he sees well. In this case diphtheria appears as the cause of tabes.

R. S., 27 years old, a merchant, single, came in 1898, from Texas to New York City to recover from the effects of malarial fever, which left him weak. After he was in this city for about six months he grew ill with typhoid fever, from which he recovered. Before he went to Texas, he was a strong fellow, but malaria and typhoid fever had reduced him to a physical wreck. As the typhoid fever kept him in bed for six weeks, nothing was thought, for some time, of his inability to use his legs normally. Gradually, however, his locomotion grew worse instead of better. When I was called in I found loss of reflexes in the lower extremities and a generally broken down nervous system. In a confidence-inspiring manner, I stated that the patient's condition was not as serious as it appeared, and that, while the recovery would be slow, it would be perfect. This assertion had an almost magic effect on the patient, and the members of his household. It lifted the cloud and assisted my therapeutic measures. The nutrition of the body was my sole aim, which, while difficult, was effected by external and internal agents, according to appearing indications. This patient improved and is now practically well, but there is still some delayed sensation in the lower extremities, and there are no patellar reflexes. He had no syphilis.

George M., a cigarmaker, 43 years of age, married fifteen years, and has two sound children, came under my observation in 1901, with pronounced symptoms of tabes. He denied syphilis and every venereal disease, but stated that, as he was not earning much money, and as two children were all he could afford to rear, he interrupted the sexual act by withdrawing. He stated also that he had been very sound all his life, and had not even had any children's diseases. Before he came to me he was subjected to antisyphilitic treatment and grew slowly worse. After I stopped this treatment he improved and has held his own ever since. In this case there is nothing to which to attribute tabes except the "withdrawing," which he practised excessively, as both he and his wife were very amorous, or the excessive sexual function in itself.

R. L., 44 years of age, a hotel keeper, married eleven years, no children, contracted syphilis at the age of 25, and was put under antisyphilitic treatment, without delay and for about three years, although all symptoms of the disease disappeared within one year. He always was well and strong before his twenty-fifth year, but never regained his strength after the syphilis, although he had no special symptoms to complain of. When about forty years old, vague sensations in his legs began to appear, which for some time received no special attention; later on, however, he was treated for rheumatism. Two years after the first tabetic symptoms, locomotor disturbances set in, which grew gradually

more marked, and forced the recognition of tabes. Ocular symptoms were present also, and in 1903, when he came under my observation, bulbar symptoms began to appear. Four months later he died, and his death-struggle was similar to that of general paresis. Within one year this patient outgrew the syphilis, but he was treated for two more years by mercury. To what was tabes due in his case?

If syphilis is the cause of tabes, then every person who has had syphilis to a marked degree, and who was not treated by mercury, should develop tabes, but this is not the case. On the contrary, it appears that syphilitics who have not been treated by mercury do not develop tabes, while some of those who have been subjected to this agent are afflicted by it. And, retrospecting the medical history of pre-mercurial ages, we find that syphilis was then, in proportion to the existing population, more prevalent than now, and that, despite the lack of mercury, tabes was not known. When physicians began to employ mercury against syphilis, symptoms, which gradually led to the recognition of the pathological entity of tabes, began to appear. Tabes appears, therefore, as a sequela of mercury.

F. S., a salesman, contracted syphilis in 1892. As he had previously had various attacks of urethritis and also ulcers on his penis, he considered himself competent to take care of the sore at the glans penis. He cauterized it with nitrate of silver and kept it clean, and it healed in a short time. When, after a while, eruptions broke out all over his body, he took hot sulphur and salt baths, kept his bowels open, and held to a plain diet. The eruption disappeared within about four months and he believed himself cured. Gradually, however, he noticed nodules in various parts of his body, and abscesses developed. He then looked for competent treatment, and in about two years after the infection, 1894, he came under my observation. He was then pale and emaciated, and had two discharging abscesses, the sinus of one opening in the perineum, the other in the right side of the chest. After six months I discharged him from active treatment, but kept him under observation for about one year. Ten years have gone by, and the patient states that he feels well. If syphilis causes tabes this man should have it, for he represented a severe case.

Considering now the few facts, which experienced physicians know to be as presented here, we must conclude: (1) That there are various factors which cause tabes, and (2) that syphilis is not proven to be a cause of tabes.

Consequently, even if a person afflicted with tabes is proven to have had syphilis, it does not follow that tabes was caused by it; and it is obstructive to science and injurious to public welfare to pronounce a person, because he has tabes, a syphilitic.

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## EYE DEFECTS ASSOCIATED WITH THE DEVELOPMENT OF PUBERTY.

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For seven years it has been in my mind to present my observations upon a certain class of cases, occurring in children from eight to fourteen years of age, characterized by great loss of vision, marked limitation of the visual field, and an eye ground varying from normal to frayed blood-vessels with a "shot silk" fundus, while the general health of the patient has been good.

To my mind the best explanation of the phenomena is to be found in changes in the optic nerve and blood stream, incidental to the development of the reproductive organs. This position is the more certain in my mind since treatment is of little avail, and recovery is not complete until the caramenial function has been established in the girls, and the seminal function in the boys. My observations were carefully made, but whether the hypothesis of dependence upon changes incidental to the prepubertal condition was a valid one, made me hesitate to present this physiological change as the cause of a pathological condition. Therefore, letters under date of June 18, 1904, were addressed to Drs. Gruening, DeSchweinitz, and Gradle, with the result of still causing me to hesitate in presenting the report. But since Dr. L. Webster Fox's paper before the Ophthalmological Section of the American Medical Association, has appeared in the issue of the *Journal of the American Medical Association* for January 7, 1904, and since the details of his cases are similar in all respects to my own, with the exception that my cases never received any benefit as regards the restoration of the field of vision from treatment, I concluded to present them together with the etiological hypothesis as suggested in the title.

It is to be understood definitely that the cases were not cases of chlorosis. None of the subjective or objective symptoms of chlorosis were present. The patients were all well nourished children, in good social conditions, such as obtained in a small town, where the general hygienic surroundings were unexceptionable. None of the children were pale, ill-nourished, flabby, hysterical or neurasthenic. Their complaint was simply that they could not see. Neither was their defective vision the result of errors of refraction, since the same relation of defect was maintained for distant as well as near vision, and for the additional reason that any and all glasses added nothing to the degree of sight. Furthermore, none of my cases were, when first seen, beyond the age of twelve years, which is the minimum age limit laid down by Osler for chlorosis.

Case I.—My first case in which I recognized the possible relation between the pathological state and the etiological factor of pubertal development was seen February 14, 1898. Girl, age, 8 years, blonde, from a neighboring village; social conditions good. She was well nourished and complained of some headache and inability to ride her bicycle. At the age of seven years she was very expert, but now cannot ride owing to her inability to see objects in the general field of vision. Family history good. R. E. S. 20/80; Jaeg. No. 6. L. E. S. 20/80; Jaeg. No. 6. Sight not improved by glasses. Examination of the field showed it reduced almost to point of fixation. Colors almost centrally perceived. On ophthalmoscopic examination no change was noted in the fundus except that the veins might be a little fuller than normal and the macular region somewhat paler than normal. Dr. Drayer examined the blood and reported: white cells 300,000; polynuclear leucocytes; few microcytes; red cells 2,560,000; urine alkaline: sp. gr. 1,018: no albumin, no sugar, phosphates abundant.

Patient was placed at once upon strychnine and iron, while cascara was exhibited to regulate the bowels.

February 21.—R. E. S. 20/80: not improved; Jaeg. No. 6; L. E. S. 20/80: not improved; Jaeg. No. 3. Blaud's pills were administered.

February 23.—Blood examination. Red cells 3,986,000; white cells 160,000, few poikilocytes, polynuclear leucocytes and a few microcytes.

March 1.—R. E. S. 20/50: not improved; Jaeg.

No. 4; L. E. S. 20/50: not improved; Jaeg. No. 4. Field unchanged.

March 22.—R. E. S. 20/50; L. E. S. 20/50. Strychnine, gr. 1/30 t. i. d. ordered.

April 21.—Vision same as March 22 and field narrowed to original area and even narrower.

Patient passed out of my hands and subsequent inquiries elicited the fact that she was still having defective vision two years later. There was no variation in the visual field, no reversal of the color sense and very little improvement in the sight after several months of treatment.

Case II.—Russel A., age 10 years. This boy was the son of well-to-do parents, and his general appearance was that of a healthy child. He first consulted me January 10, 1898, when his visual condition was as follows: R. E. S. 20/20; L. E. 20/20; ophthalmoscopic examination nil. Complains of pain in the eyeballs and irritation of eyes in bright light.

Diagnosis: Follicular conjunctivitis. I saw him no more till October 14, 1898. He then complained of nictitation and twitching of the mouth, and defective sight. The general health seemed good and he seemed to be well nourished. R. E. S. 10/100: + 1.25D 16/40; L. E. S. 16/100; + 1.25D 16/40. Static equilibrium, Jaeg. No. 10 with either eye. I could not account for the disparity between close and distant vision under glasses, except on the basis of a high degree of hypermetropia. Paralyzed accommodation with atropine 1 per cent., with the result of no improvement in distant vision.

October 17.—Examined the field and found it reduced almost to point of fixation.

October 20.—R. E. S. 16/100: + 1.25D 16/50; L. E. S. 16/100: + 1.25D 16/70. Field reduced to central fixation for either eye for form and color.

November 11.—R. E. S. 16/50: + 0.75D 16/40; L. E. S. 16/50: + 0.75D 16/40. Field extended to about ten degrees. He was under the care of his family physician, who was administering iron and strychnine. After one year of continuous treatment he began to recover a normal field.

Case III.—B. F., girl, age 10. Well nourished and in fair general health. Consulted the writer on October 15, 1895, with the complaint of headache. Functional examination: R. E. S. 16/20: + 0.75D accepted; L. E. S. 16/40: + 0.5D = 16/20. Under atropine 1 per cent.; R. E. S. 16/40: + 1.25D = 16/20; L. E. S. 16/40: + 1.5D = 16/20.

October 18.—R. E. S. 16/100: + 1.25D = 16/30; L. E. S. 16/70: + 1.25D = 16/30. Field seems much contracted, whether actually or comparatively I do not know. Have any observations been made to determine the extent of the visual field in children? Observation of the case was continued till December 30, 1898, when the field was found complete. The test for vision continued to show 16/20 during all the time in which the field was much contracted. The child was under the care of the family physician, who had prescribed iron and strychnine. The vision remained good and the field complete in this case a year after restoration.

Case IV.—M. L., age 14, colored. May 22, 1904. Well developed girl; had not yet menstruated. R. E. S. 16/100; not improved, Jaeg. No. 12; L. E. S. 16/70: not improved, Jaeg. No. 9. Field limited almost to point of fixation. Prescribed strychnine and iron. Child continued under treatment for about one year, and passed from under observation not much improved.

January 14, 1905.—R. E. S. 15/15; L. E. S. 15/15. Field completed. Menstruation established.

Case V.—Delcie D., age 10. December 27, 1901. Came from neighboring town. Complains of eye-pain upon reading or use of eyes for close work. R. E. S. 16/30+: not improved; L. E. S. 16/30: not improved. Ophthalmoscopic examination showed a slight veiling of the fundus and the small arterial twigs were tortuous.

November 17, 1902.—Patient moved to town and was referred to me by Dr. Geo. W. McCaskey, who had been consulted on account of nervous symptoms. She complained of much headache and had very acute changes in circulation, so that the teacher sent her home one day fearing she was ill with scarlatina. R. E. S. 16/70; not improved, Jaeg. No. 9; L. E. S. 16/100; not improved, Jaeg. No. 9.

Dr. Rhamey reports that blood examination indicates leucocytosis. Strychnine and iron was prescribed. Was under galvanism by Dr. McCaskey and general treatment for over one year.

July 10, 1903.—R. E. S. 16/70+: Jaeg. No. 5, with difficulty; L. E. S. 16/70+: Jaeg. No. 5, with difficulty. Field contracted to ten degrees of point of fixation. Physically, the child is the picture of health. In November, 1902, the least exertion made the child very tired and she had frequent sighing respiration.

Case VI.—Donald D., age 10 years. Consulted me May 23, 1904, for defective vision. The teacher had complained that he could not see, and placed him on the front seat. The mother noted that he brought his book too close to his eyes and read indifferently. He had pain in the eyes when he read, which was undoubtedly due to the exertion caused by the attempt of an amblyopic eye to see. R. E. S. 15/70; L. E. S. 15/70. Field reduced to fifteen degrees of fixation. Boy seems healthy.

May 26, 1904.—Examination of blood by Dr. N. L. Deming, the family physician, shows red cells, 2,500,000; white cells 4,000; hemoglobin 47 per cent. A diagnosis of anemia was made from the blood examination. Examination of urine negative. My diagnosis was amblyopia, due to defective blood supply, coincidental to the prepubertal state. The family physician was directed to put the boy upon a full diet with plenty of outdoor exercise, together with strychnine and iron. This was done. I suggested that the eye trouble would not likely disappear till the seminal function was established. I did not see the patient again until February 5, 1905, when the following was observed: R. E. S. 15/70: Jaeg. No. 5; L. E. S. 15/70: Jaeg. No. 9. About this date, January 7, 1905, Dr. L. Webster Fox's article entitled, "Contraction of the Visual Field, a Symptom of Anesthesia of the Retina in Children," appeared in the *Journal of the American Medical Association*. In it he reported a series of cases so exactly similar to those which I had seen that I was very anxious to have galvanism applied as suggested by him, viz., the "voltaic alternative current," which consists in repeated reversals of the voltaic current, about two milliamperes, continued for five minutes. At the same time believing that the pathology rested upon the blood changes due to the prepubertal development, I told the parents that no beneficial results would be had from the treatment. Dr. L. P. Drayer made the application as directed and nineteen séances were had. The boy then left for Chicago, and I saw him for the first time after the galvanic treatment, on April 16, 1905. R. E. S. 15/70: Jaeg. No. 9; L. E. S. 15/100: Jaeg. No. 11. Strychnine with manganese was ordered. The fields were much contracted for form and color.

April 22.—R. E. S. 15/70: cyl. + 1.75D axis 90° + 0.5D = 15/40; L. E. S. 15/70: cyl. + 0.75D axis 90° + 0.5D = 15/40.

May 6.—R. E. S. 15/70: cyl. + 1.25D axis 100°

= 15/20. Jaeg. No. 2; L. E. S. 15/40: cyl. + 0.75D axis 90° = 15/30. Jaeg. No. 1.

May 8.—Dr. Drayer again examined the blood and found hemoglobin, 85 per cent.; white cells, 12,000; red cells, 3,800,000. The field had shifted in form and varied in extent, but had not improved in area with improvement in vision.

Case VII.—June 7, 1905.—E. L., age 11; child of a physician. Was brought to me because the barber-optician who was changing her glasses every two or three weeks, wanted to put on a still stronger pair.

R. E. S. 15/100: + 1D = + 0.75D axis 90 = 15/30; L. E. S. 15/70: + 1.25D = 15/30. Jaeg. No. 3 with either eye. Blood examination by Dr. Rhamey. Red cells, 4,500,000; white cells, 15,000; hemoglobin, 75 per cent. Diagnosis, leucocytosis. Prescribed iron, manganese, and strychnine.

July 12.—R. E. S. 15/30 +: + .75D = 15/20: Jaeg. No. 1; L. E. S. 15/20 +: + 0.75D = 15/20. Jaeg. No. 1. Field contracted to 20°.

Two other cases have come under my observation, in one of which a boy, about fourteen years of age, consulted me for defective vision in which there was no lesion of the fundus, and in which the vision was greatly reduced both for distance and the near point. Glasses did not improve the sight, nor was he helped by treatment. The field was not examined at that time. The boy went through school greatly handicapped and is now a teacher. Recently, I examined his eyes and found his vision reduced to 16/50 for either eye, reading Jaeg. No. 3, and marked limitation in the field.

Another case was that of a young woman, married, age twenty years. She consulted me for defective vision, which came on her as early as the tenth year. Her sight is reduced to R. E. S. 15/70, L. E. S. 15/100; field very narrow and the papillomacular section of nerve very pale. Neither of those cases was materially improved by hypodermic injections of strychnine, gr. 1/15, twice daily. I do not doubt but that many cases of so-called congenital atrophy of the nerve are developed from conditions of defective blood supply incidental to the prepubertal state.

In conclusion, I would call attention to the following points:

1. Defective vision for distance and reading.
2. Limitation of field for form and color.
3. Age of patients eight to ten years.
4. Absence of chlorosis.
5. Absence of hysteria.
6. Blood examination showing leucocytosis.
7. Recovery of normal sight both for reading and distance with much contracted field.
8. Treatment addressed to restoring hemoglobin and nerve force best accomplished by iron, strychnine, and manganese.
9. Complete restoration of sight and field occurring only after the establishment of the menstrual function in the female, and the seminal function in the male.
10. There may be some relation between this condition and chorea, as suggested in case three.

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**An Epidemic of Glandular Fever.**—Chicago physicians have had many cases of a glandular fever in children which resembled a streptococcus sore throat, but was accompanied by sudden and marked swelling of the cervical glands, signs and symptoms of a general sepsis, swelling of the spleen and liver, and in severe cases acute nephritis. Influenza bacilli were found on the tonsils, as well as pus cocci. Heliodor Schiller reports cases in *The Journal of the American Medical Association* and discusses the diagnosis. Diphtheria and tuberculosis were easily excluded. No case was fatal, in spite of the serious character of disease and complications in some of the cases.

## DIAGNOSIS IN CARCINOMA OF THE STOMACH.

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Symptoms of cancer of the stomach vary greatly. In some cases there are no symptoms whatever save failing health; and only the postmortem, reveals the malignant disease which has so insidiously done its work; in other cases vomiting is an early and constant symptom, or the patient complains of a persistent indigestion or heartburn or acid eructations. Asthenia, cachexia, and loss of weight are usual accompaniments. Pain and discomfort in the epigastrium are common, and when a tumor has been felt, the diagnosis of cancer can generally be made. The condition of the appetite is as varied as the other symptoms; with some there is little interference with the desire for food, while in others the appetite is early lost.

I have just stated that when a tumor is associated with some or all of the symptoms enumerated a diagnosis of cancer can generally be made, but there are none of us who continually see these cases, whether it be in our own practice or in those of others, who do not have it brought home sooner or later by having some patient on whom we have placed a label of incurability get well, that our conclusions after all may be based upon defective observations and reasonings. I learned of such a case recently. There had been in a patient over fifty years of age just such typical symptoms; a consultation was held and the consultants concurred in the opinion of the attendant that the disease was cancer. The unfortunate sufferer, face to face with his doom, determined to do one thing for himself—take a sufficient amount of saleratus to relieve the acidity, which had made life almost unbearable. Beginning with very large quantities, which he reduced with lessening acidity, he slowly improved till he fully regained his weight and strength.

Nearly two years ago a business man came to my office for examination. Several symptoms, together with a tumor in the region of the stomach, were strongly suggestive of carcinoma, and I was not surprised to hear him say that two other physicians had already given him that diagnosis, and one had urged an early operation. When I had completed the chemical as well as the physical examination, I had no hesitation in assuring him that he did not have a cancer; I have since had the satisfaction of seeing him make a full recovery. These two cases are cited to emphasize the unreliability of symptoms as a basis for diagnosis. I would not disparage their value, however, as corroborative indications.

The correct diagnosing of carcinoma of the stomach has been a problem to which scientific effort of the brightest minds in gastroenterological work has been directed. If we compare the knowledge of twenty-five years ago with that of to-day and realize that the following diagnostic aids were then unknown, we must conclude that real progress in scientific diagnosis is largely confined to this later period. During this time it has been learned how to inflate the organ so that not only the size and position of the viscus can be accurately outlined, but it can be clearly shown whether tumors, which seem to be connected with the stomach, are united to, or separate from it. A reliable determination of the motor powers of

*Read before the Connecticut State Medical Society Meeting at Hartford May 24, 1905.

the organ is now possible. It is almost unnecessary to add that the chemical analysis of the stomach contents is one of these latter day methods.

The life of a gastric carcinoma may be divided into three periods: (1) from inception to the appearance of an exudate; (2) from the beginning of the exudate to the breaking down of the neoplasm; (3) from the breaking down of the neoplasm to death.

Of the first period we can say but little. The patient suffers no inconvenience to send him to a physician; hence the doctor has had no opportunity of working to discover any indications which may exist that would point to a cancer. We have reason to believe that the length of this period differs greatly in different cases, as cancer of the stomach partakes of the same general characteristics of cancer in any other part of the body. We know a slowly developing warty growth may persist for years; or without any discoverable cause take on at any time a rapid proliferation which, if not interfered with, soon ends in death.

Our diagnostic investigations are confined to the second period, and the sooner the telltale exudate is discovered the more hope there is of saving the life of the patient. If discovered early, before surrounding tissues and organs have been invaded, the surgeon has his opportunity If the discovery is made late, there is no hope. Whatever methods may be advanced for discovery of cancer prior to the period indicated, which is also the beginning of symptoms, are entirely impracticable and have no place in the present paper.

In a recent issue of *Progressive Medicine* appears a presentation of four tests, all advanced during the last two years; and again in the same publication is an article on "The Chemical Significance of 'Occult' Blood in Gastric Disease." By way of explanation this article defines occult blood as such small quantities of blood in the stool that it cannot be seen macroscopically, and the author states further that "the physical condition of blood is usually so altered by its passage through the intestine that it is not easily recognized by the microscope, hence the need of a delicate chemical test which Boas has elaborated from that suggested by Weber."

Boas, Hartmann, Joachim, Schmilinsky, and Schloss have all contributed something to the present fund of knowledge which is epitomized as follows: (1) "Occult blood in feces or stomach contents is of the same significance as macroscopic hemorrhage, and of the same value in diagnosis; the advantage of the test is that by its use a much smaller quantity of blood can be detected. (2) Occult blood is constantly found in cancer of the gastrointestinal tract. (3) It is present intermittently in ulcer. (4) It is occasionally present in organic and spastic pyloric stenosis. (5) It is absent in acid, anacid, and subacid gastritis, hyperacidity, hypersecretion, and neurosis."

The technique of the test is as follows: "The patient must be kept on a diet free from all sorts of meat, cooked and uncooked, for several days; this includes even fish. The stools must be made soft by some mild laxatives, such as Carlsbad salts. A small quantity of feces, two or three grains, is thoroughly mixed with 20 c.c. of water. This is first extracted with 20 c.c. of ether to remove the fats, etc., from the stool. This is a very necessary part of the procedure, otherwise the ethereal extract becomes a thick emulsion with which it is impossible to get accurate results. This mixture is extracted with one-third its volume of acetic acid and thoroughly shaken; 10 c.c. of ether is then added and the mixture is again thoroughly shaken. After a short time the ether will rise to the top. If this does not occur quickly a few drops of absolute alcohol will hasten the separation of the ether. To 2 c.c. of the ethereal extract is then added 10 drops of freshly made tincture of guaiac (resin of guaiac 1, absolute alcohol 25), with 10 to 20 drops of an old ozonized oil of turpentine. No water must get into the mixture, and the oil of turpentine must be added slowly drop by drop. If blood is present in a few seconds an intense blue color will appear in the mixture, which gradually assumes a reddish-violet tint. A solution of hydrogen peroxide, if used in the same proportion as the oil of turpentine, if free from impurities, will give almost equally prompt results."

I desire to call your attention to the four tests already alluded to. These tests are: 1. The tryptophan reaction; 2. Salomon's albumin test; 3. Gluzinski's test; 4. The estimation of the fatty acids in the urine. The tryptophan reaction has been found in some cases unreliable—Salomon's test for albumin is of considerable diagnostic value. It is made in the following way: The patient takes only liquid nourishment for twenty-four hours, and then at noon he takes his last liquid meal, free from any albuminous food; at 8 o'clock in the evening the stomach is very carefully washed with water. The next morning the stomach is washed with a pint of physiological salt solution. The same fluid is run in and out several times. This water is then tested for albumin by Esbach's test and for nitrogen by Kjeldahl's method. It is believed that when a distinct reaction is obtained and albumin found to be present it is always in favor of carcinoma.

"Gluzinski's test is based on the fact that a chronic mucous gastritis develops on the basis of an acid gastric catarrh during the transition of an ulcer into a cancer. If, then, we can exclude the healing of the ulcer, we have a valuable test for the development of a cancer in an ulcer. The healing of an ulcer never gives rise to a mucous catarrh. The stomach is tested three times the same day—first rinsing it out fasting in the early morning, then three-quarters of an hour after a test breakfast, and finally, four hours after a beefsteak test meal. When there is absent or very slight HCl in one of the tests while after the other meals there is strong HCl reaction, and if at the same time the long bacilli are present (though this is not indispensable), then the indications are strongly that the acid catarrh is beginning to change into a mucous catarrh and that a cancer has begun to develop in the floor of the ulcer. The fourth method is based upon the estimation of the volatile fatty acids in the urine in cases of suspected carcinoma."

The discovery of the bacillus was the cause of increased microscopic study of the stomach contents some few years ago. The investigations of Schlesinger and Kaufman settled that the bacillus and lactic acid were present at the same time, and each has about the same diagnostic value. Samberg has recently experimented with these bacilli and has isolated two varieties, the long and the short. The concentration of lactic acid destroys all the bacteria save the long variety, hence we readily see why in cancer of the stomach large quantities of these organisms are present.

Kaufman and Schlesinger have shown that these long bacilli are completely destroyed by HCl; but others developed and multiplied rapidly in the culture medium made with organic (lactic) acid.

It is a well established fact that no one isolated symptom or condition can be considered pathognomonic of carcinoma of the stomach. Free HCl may be absent or present. No diagnostician to-day would consider that alone of any importance. Lactic acid may be found, but because Uffelmann's test is positive it does not necessarily follow that the disease is cancer.

I believe, however, when the two conditions (free HCl absent and lactic acid present) are coexistent in the same stomach, even though there is but a trace of lactic acid, we have strong ground to suspect a carcinoma. If there is inability to digest albuminous food at the same time, we have the three legs to our diagnostic stool and a diagnosis may be made, whether a tumor be felt or not. If, then, the symptoms point to the same conclusion we may have the greater assurance. If there are no other symptoms these will be sufficient to make a diagnosis. It is always better to let a diagnosis be made from several, rather than one examination. This holds good especially in the chemical examination of the stomach contents. To emphasize some of these points we can make an application to certain special cases. If there be stenosis of the pylorus due to a cicatrix from a former ulcer we will find something like the following symptoms; cachexia, emaciation, ectasy, a decided tumor, and quite likely hematemesis. These are very suggestive of carcinoma, but the examination of the stomach contents reveals a large amount of free hydrochloric acid and no lactic acid. It is in this class of cases we need to make an examination every week to ascertain if there is any change in these constituents of the stomach contents; the whole matter will hinge on this very point, and if there is no substantial change the diagnosis is pyloric stenosis, but of a benign nature. If there is progressive decrease in the HCl and development of lactic acid, with weakened albumin digestion, it is carcinoma. A reliable diagnosis can never be made from one symptom.

It is frequently difficult and sometimes impossible to diagnose between carcinoma and atrophic gastritis without having the patient under observation a long time. If the patient emaciates rapidly, and other symptoms likewise grow much worse, it is carcinoma. If the conditions show little decided change it is gastritis.

It is always advisable to locate the tumor if possible, but in most cases of cancer the tumor can be palpated. In cases where there is doubt and there is objection to anesthesia, place the patient in the dorsal position, with head toward a window, where there is good light; draw the shade so that a modified light falls upon the abdomen; watch the peristaltic wave pass over the position where a possible tumor may be located; if the movement at this point is lessened or lost it indicates a tumor. Patients may be palpated in a warm bath when tumors can be more readily felt. The question of age must not be allowed too much weight in our diagnosis, for while cancer of the stomach is more frequent in middle life and old age, it may occur at any time. The differential diagnosis between cancer and tuberculosis of the peritoneum in young persons can be decided without difficulty by a chemical examination of the stomach's contents.

Carcinoma in nearby organs may be difficult to diagnose from that of the stomach. Usually in such cases we will be helped by inflation of the stomach.

The differential diagnosis between carcinoma and ulcer is not difficult, even though some symptoms seem conflicting. The history of the case; a study of the whole symptom-complex of the disease, and a chemical examination of the stomach contents will make the matter plain.

Finally, while I have endeavored to present the chief difficulties in diganosing carcinoma of the stomach and approved methods of meeting the same, I am not insensible to the fact that no two cases are exactly alike, and that any one of us may meet in our next case conditions which will try all our knowledge, and give us something new to record concerning carcinoma of the stomach.

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## A REPORT OF THE WHITMAN METHOD OF TREATMENT OF FRACTURE OF THE NECK OF THE FEMUR.*

By F. E. ASCHCROFT, MD.,

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THE object of this paper is to call your attention to a method of treatment of fracture of the neck of the femur advocated by Dr. Royal Whitman of New York in the MEDICAL RECORD, March 19, 1904, and to demonstrate, in the person of a patient, a good result in the only case in which we have had an opportunity to test it.

The disabling results of this accident are sufficiently familiar. In fact, according to published statistics, complete restoration of function is almost never attained, and in the large majority of cases the patients are practically crippled for life. Dr. Whitman, who has repeatedly called attention to the frequency of the accident in the young, as well as in the aged, thinks that these results may be accounted for, at least in part, by ineffective treatment, the fragments either not being in contact, or not being properly supported during the period of repair. He suggests that the shortenings should first be overcome by direct traction on the limb, which should then be carried to the limit of normal abduction, or about forty-five degrees from the line of the body. In this attitude the trochanter is in contact with the side of the pelvis, so that upward displacement is impossible, while the tension on the capsule should remove folds, and should direct the fragments towards one another.

The abductor muscles are relaxed and the direction of the iliopsoas is so changed that muscular contraction can no longer exert a harmful influence. The author truly says that "a new treatment must appeal to reason, rather than to experience." This method appealed to our reason more forcibly because of the disappointing results that have usually followed better-known methods.

April 18, 1904, I was visiting at a mining camp eight miles from here, and was informed that I was wanted at the boarding house, a man having been hurt in the mine. I hurried there and found Mr. J. C., age 42, height 5 feet 10 inches, weight about 190 pounds, lying on a bed, with his right foot inverted to a right angle. He at once demanded of me something to relieve his continuous intense pain, and would not permit me to approach him for any other purpose than to administer morphine hypodermically. Pending the arrival of Dr. Bowman, who had been telephoned for, he allowed me to repair a scalp wound of considerable size, and minor injuries to the hands and arm. I elicited the following account of the accident: While the man was in a crouching or stooping position, preparing to pick up a rock, weighing about fifty pounds, from the floor of

* Read before the South Dakota State Medical Association, July 6, 1905.

the stope in the mine in which he was working, a mass of rock of about two tons' weight fell from the roof, struck him on the back, shoulders, and head, crushing him to the floor. He felt a sudden snap in his right hip and continuous pain from that time. After a few minutes he was extricated and carried to where I found him. When Dr. Bowman arrived we anesthetized the patient and made a diagnosis of intracapsular fracture of the neck of right femur, and contusions and lacerations of the knee and leg. We prepared him for removal to Deadwood by train. When he had recovered from the chloroform we informed him that he had a broken hip, and would probably be a cripple the rest of his life; that we would do our best for him, and he must not hope for anything better than a leg shorter than the other, some pain, and a limp as long as he lived.

At St. Joseph's Hospital we applied treatment as outlined by Dr. Whitman, except that we did not

Röntgen picture showing the result of treatment. The arrows point to the line of fracture.

anesthetize the patient. I will describe, in the author's own words, the application of the method: "A piece of ordinary seamless shirting, such as is used for plaster jackets, about six feet in length, cut and sewed in shape to cover the body and limb, is first applied and fixed securely in place by bands passing over the shoulders. This is threaded with several long bandages, the 'scratchers,' designed to keep the skin in good condition. It is also advisable to insert a substantial 'dinner-pad.' The patient is then anesthetized and is placed in a position for the application of the bandage. The head and shoulders may be conveniently supported on a box of proper length and about eight inches in height; the pelvis rests upon a sacral support. A wide, firm band of cloth is then carried about the perineum, the two ends of which, united over the shoulder and held by an assistant, furnish counter traction. If the fracture is complete, the shortening is first entirely overcome by the traction and counter traction. The limb, in the extended attitude, under traction is slowly abducted by the assistant until the trochanter is fairly opposed to the side of the pelvis; the operator meanwhile pressing the trochanter downward and inward. In some instances there is a distinct snap as the outer part of the neck slips beneath the rim of the acetabulum, and in any event the abduction is increased until the trochanter is firmly apposed to the side of the pelvis. The primary object of the abduction is by leverage against the upper border of the acetabulum to overcome the deformity; secondly, by tension on the capsule to remove folds, to appose the fragments, and by actual contact of bone with bone to oppose redisplacement.

"A plaster spica bandage is then applied in the usual manner from the mammary line to the toes; this should fit snugly about the hip, and, most important of all, should completely enclose and support the buttock. As a rule the support is comfortable because it is efficient. It absolutely prevents rotation of the limb. The support may, at the end of four weeks, be shortened, to allow action at the knee, and at the end of eight weeks, or when it may appear that union is assured, it may be removed. The best time for the application of the treatment is immediately after the injury, for with the comprehensive support of the whole limb, from the toes up, there is little danger of constriction."

In the case of our own patient there was so little pain that he jokingly said we were deceiving him and did not believe a bone was broken. The period in bed was free from event, except that on the eighth day the cast was broken at the groin by lifting on the heel during an attempt to roll him over in bed to place a bedpan.

On the tenth day the cast was removed and replaced by a new one, without anesthesia. At the expiration of eight weeks the patient was allowed to cut his own cast, emerge from his shell, and move about on crutches, and after a few weeks he discarded these for a stout cane. He now, fourteen months after the injury, walks without a cane or any support whatever, with a scarcely perceptible limp, and has only a slight pain at the knee. He thinks his injured leg is half an inch longer than the other, but the difference is so slight that it is difficult to demonstrate which is the longer. At the hip there is some limitation of motion in all directions, which is gradually diminishing, and may ultimately not be apparent. He has returned to his work as a miner in the same mine where he sustained his injury, and is considered an ablebodied man, and receives full pay. pay.

This *x*-ray picture, taken thirteen months from the accident, illustrates what we call a good result. If I can induce a few to reread Dr. Whitman's very lucid article, I am repaid.

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**Empyema.**—James Berry says that thoracotomy for this condition should always be done under as light anesthesia as possible, and the patient should never be turned on the sound side. The patient is kept flat on the back, and is drawn so far over the edge of the table that the operator, seated on a low stool, can make the incision as far posteriorly as desirable. Omission to draw the patient sufficiently far over the edge of the table accounts for many of the cases of relapsed empyema. Various forms of tube have been recommended, but the simplest is the best. Nothing is really better than the common T-shaped tube made of two large pieces of stout india rubber tubing. In the middle of the shorter tube two holes are cut on opposite sides, and through these the longer piece of tubing is drawn. The short or horizontal limb of the T prevents the tube from slipping back into the pleural cavity. It is scarcely necessary to point out that this unpleasant accident should be avoided. It is more easy to lose a tube in the thorax than to find it again, or to remove it when once it has disappeared from sight.—*Clinical Journal.*

MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, October 21, 1905.

## THE THERAPEUTIC USES OF SUNLIGHT.

PHYSICAL methods have come to occupy an important position in therapeutics, and perhaps the most notable development in this field during the last decade is concerned with the application of light for the cure of a variety of pathological processes. It is really important that the physician keep in touch with the advances in this field, for some of them have already been exploited, and it must be admitted with considerable success, by the nature healers and other irregular practitioners. Various sources of light have been employed, but it has been found that sunlight is the most intense of all. Its efficiency is affected, however, by the state of the atmosphere, particularly by its humidity, for the latter greatly retards the chemical rays, though it has little effect on those of a thermal nature. It is quite evident, therefore, that a high altitude and a clear, dry climate constitute very important factors in the application of heliotherapy.

The beneficial effects of sunlight have been known to the peoples of the earth from very early times, and we find repeated references to its use in the writings of the old Greek physicians. The subject was again rejuvenated during the last century and has received considerable scientific attention more recently. The favorable effects of general sun-baths may be traced to the factors of increased perspiration, with a corresponding increase in the excretion of deleterious substances; a prolonged hyperemia of the skin, resulting in a derivation of the blood from the internal organs to the surface of the body; a stimulation of the metabolic processes; a direct and peculiar action on the blood and the vessels; and finally a bactericidal effect in the superficial layers of the skin. The indications for the use of sun-baths may be found in diseases of metabolism (diabetes, gout, etc.), in congestions in the internal organs (cardiac defects, asthma), and in anemia, chlorosis, general weakness or protracted convalescence, skin diseases, scrofula, and rickets.

The modern system of local light therapy owes its development largely to the efforts of the late Prof. Finsen of Copenhagen. He based his theories of treatment on the bactericidal properties of sunlight, but later also employed the rays from an electric arc, as being more convenient. The splendid results he obtained in lupus and other parasitic dermatoses are well known. The extension of the method to other surgical affections has been greatly developed by Bernhard of Switzerland, who has also been favored with very satisfactory results. In a recent contribution to the *Zeitschrift für diätetische und physikalische Therapie*, August, 1905, he describes his observations made at a sanatorium in the Engadin, at an elevation of over 5,000 feet, with a southerly exposure. This location was favorable not only because the rare atmosphere allowed the chemical rays full play, but also because the general temperature was low enough to permit sun-bathing without any discomfort being produced by the heat. Bernhard reports successful cures in lupus from exposure during a considerable period to the rays of the sun alone without the use of any accessories. Furuncles, phlegmonous processes, and all streptococcus infections were greatly improved, and the results in tuberculosis of the superficial glands and joints were very favorable. In addition to bactericidal powers, the sun's rays also possess other therapeutic properties. Epithelial formation is visibly promoted by exposure to the sunlight and flabby granulations are stimulated to renewed and healthy growth. The same author, in another paper, in the *Zeitschrift für Chirurgie*, July, 1905, also notes the favorable action of sunlight in cases where a transplantation of skin flaps has been performed, the adhesion of the flaps and their final attachment being markedly hastened.

The suggestions contained in these are interesting and timely, and among other things may exert an influence upon our present methods of wound treatment. Occlusive dressings have been quite universally employed for both primary and secondary wounds, although there is apparently no reason why, after the danger of infection is once past, factors with such well marked healing tendencies as have been proved to be associated with sunlight and fresh air, should be entirely excluded. Sunlight is an agency which is easily obtained and readily applied and as a therapeutic factor in surgical procedures, it is deserving of more extended attention and study.

## THE PURIFICATION OF WATER SUPPLIES BY COPPER.

ABOUT two years ago there was issued by one of the bureaus of the Department of Agriculture, a publication dealing with this question, in which it was recommended that the object be accomplished by the use of the salts of copper. Moore and Kellerman, the authors of this method, claimed that the addition of minute quantities of copper to the water at ordinary temperatures, resulted in the destruction not only of the common green algæ, but also of the pathogenic bacteria. A similar result could also be accomplished, it was claimed, by the suspension in the water of a quantity of copper foil, from which was given off sufficient of the metal to produce a colloidal solution.

The daily and scientific press has discussed these observations pro and con, but nevertheless the question is still sub judice and more conclusive scientific proofs of the value of the method must be gathered together, before it can either be entirely condemned or adopted. Among the more recent investigations is one by a foreign observer, whose conclusions are of considerable interest. Major C. E. P. Fowler (*Journal of the Royal Army Medical Corps*, September, 1905), has subjected the method to a practical test, using in his experiments, *Bacillus coli communis*, for seeding the water, because its resistant power is slightly

greater than that of *Bacillus typhosus*, and it may readily be recovered from the water, even if present in very minute quantity. Specimens of the ordinary London tap water, and also some drawn from the Thames were employed. These experiments were very carefully carried out, and Fowler concludes that a contaminated water, standing for 20 hours in a copper vessel, even though a large quantity of copper foil be suspended in it, is not rendered safe for consumption, by this treatment. Copper sulphate was found to act as a fairly efficient germicide for intestinal organisms in 24 hours in clear water containing about one part to 60,000 parts of fluid, or in turbid water containing one part to 30,000.

If an individual drank one quart of this weaker solution per diem, he would be taking about ¼ grain of the copper sulphate, of which the usual astringent dose is from ½ to 2 grains. If long continued, this would probably harm the consumer of the water. The author has shown by his investigations that although the findings in the laboratory might prove correct and afford great promise, they would most likely break down in a practical application of the method. The procedure as originally advocated need not, however, be condemned, for it has been found of service in freeing a reservoir from the obnoxious growth of green algæ, and for this purpose a much weaker dilution of copper sulphate is effective than is necessary to destroy pathogenic bacteria.

## THE FATTY CONSTITUENTS OF INFANTS' MILK.

Wasting in children, as in adults, must be due to deficiency in quantity or quality of food, enfeeblement of the digestive processes, or general disease. In infants by far the most common cause is some defect in the nourishment supplied, with resultant gastrointestinal derangement. Breast-fed children, therefore, suffer less commonly than hand-fed children, although the former by no means invariably escape. Often the untoward result is averted by timely and intelligent milk-modification. When, however, well-developed marasmus has been set up, none of the usual measures appears to be of much avail. One of the causes for this relation of events that in the past seems to have been too much neglected, is dwelt upon at some length by Dr. Heinrich Stern (*Archives of Pediatrics*, June, 1905), who dilates upon the importance in this connection of the chemical character of the fatty substances contained in milk. As he points out, the presence for protracted periods in mother's milk of fat in abnormal amount or imperfect emulsion or in perverse combination, will eventually give rise to gastrointestinal disturbances with metabolic irregularities and toxic phenomena, terminating in bodily decline and atrophy. Such a condition, if permitted to continue for a considerable period, cannot always be checked in time to avert a fatal termination, even if meanwhile the secretion of the fatty principles of the mother's milk has been restored to normal.

The problem is still more difficult in the case of cow's milk, because we have here a difference in the composition of the fat as compared with mother's milk. The former contains less fat, has a lower specific gravity, a somewhat higher melting-point, and a considerably higher solidifying-point. Cow's milk, further, contains a much larger proportion of volatile fatty acids, the most important of which is butyric acid, the mother-substance of the acetone bodies. These acids are decided irritants to the gastrointestinal mucous membrane of the infant. Besides, the fats of mother's milk are more readily digested and assimilated by the infant than are those of cow's milk. As a substitute for milk-fat whenever this proves a source of disturbance, Stern proposes the use of yolk of fresh hens' eggs, which is well borne and well liked as a rule, is readily absorbed, yields little or no volatile fatty acids, contains large amounts of lecithin, and a diastatic ferment that aids in the conversion of amyloid substances, and stimulates the digestive secretions. In order to obtain good results, the yolk-fat should completely replace the milk-fat and the amount, without being excessive, should be adequate, that is in conformity with the caloric and nutritive demands of the organism. A quarter teaspoonful of yolk will at first be sufficient for each feeding, and the amount may be increased as need arises. The yolk may advantageously be admixed with skim milk, which may be further modified in accordance with the requirements of the individual case. It is believed that the electric conductivity of such a mixture is somewhat greater than that of native cow's milk.

## The Jewish Physician in History.

It is probable that no other race has been influenced in its development and general progress by members of the medical profession to so great an extent as has been the case with the Jews. In the earliest times the practice of the healing art was stamped with prestige and authority since it lay largely in the hands of the Levites, and therefore acquired some of the distinction belonging to the priestly order. The functions of the members of this tribe, especially in assisting at the sacrificial ceremonial, no doubt rendered it especially easy for them to obtain an insight into the workings and functions of the organs of the animal body, thereby becoming possessed of knowledge that could readily be applied to the treatment of disease in man. How intimately at that time the care of the body was associated with the rules of religious observance is evident from the many regulations regarding public and personal hygiene laid down in the Mosaic laws, sanitary doctrines that in principle are most of them as sound to-day as then. Somewhat later on in the evolution of the race it appears that the practice of medicine became largely an avocation among the expounders of the laws, as these functionaries for a long time received no remuneration for their services in legal matters and so took up the other learned profession as means of livelihood. During the later periods of disaster and captivity, and the centuries of dispersal and persecution, the Jewish physicians assumed a conspicuous position in striving for the rights of their race, in assisting their less fortunate fellows, and in influencing rulers to mitigate the hardships to which the Jews were universally subjected. Many of them became the court physicians and favorites of powerful monarchs, some even enjoyed the confidence of Popes and prominent ecclesiastical functionaries, others advanced the cause of their people by writings of a literary or controversial nature. An interesting survey of these

members of our profession is to be obtained from a little work entitled "Jüdische Aerzte und ihr Einfluss auf das Judentum," which has just been issued by Dr. Simon Scherbel. One of the most prominent of the earlier personages mentioned is Chasdaï, who became a minister under the Calif Abdul-Rahman III and did much to establish the position of the Jews among the Moslems in Spain during the tenth century, as well as to foster the study of the Talmud in that country. Jehuda Halevi, who lived a hundred years later, was a busy physician who was also the author of distinguished practical and philosophical works. The great Maimonides of Cordova is included among the list of physicians by the author, who says that he created what is almost a new Talmud, and alleges that Richard Cœur de Lion wished to make him his court physician, in spite of the edicts of the Popes Eugenius, Nicholas, and Calixtus that Christians should not employ Jewish physicians. In Spain for many years they were practically the only practitioners of medicine. Somewhat later the notorious Pope Alexander VI had as personal physician a Jew, Bonet de Lates, who subsequently became attached to the court of Leo X. The edict against Jewish physicians was finally raised by Sixtus V, largely at the instigation of two then celebrated physicians, David de Pomis and Elia Montalto. In the latter part of the eighteenth century Mendelssohn's efforts in behalf of his compatriots were ably seconded by his friend the physician Marcus Herz, who contributed much toward the elevation of the Jews of Germany. In still more recent times Ascher, Steinheim, Erter and Johann Jacoby have been prominent, and the author closes his enumeration with the widely known names of Strassmann, Neumann, Baginsky, and Senator.

### Child Suicide in Germany.

The yearly increase in the number of child suicides in Germany has given rise to much discussion as to the causes of this unhappy state of affairs. During the past eighteen years 747 suicides of children have been reported, but the annual proportion has been rapidly growing. For example, in 1902 seven cases of child suicide occurred in Saxony, but in 1903 the number of persons under fourteen years of age who killed themselves had risen to twenty-one. The suicides of adults during the same period increased only from 1,388 to 1,427. Various suppositions have been advanced to account for this morbid tendency among the young. The socialists consider it the result of the generally increased difficulty in making a livelihood which darkens the lives of children as well as those of their parents. The clergy maintain that the growth of irreligion is to blame, and that a revival of spiritual aims would be followed by greater serenity and love of life. Finally, critics of the school system assert, and this seems to us the most rational view, that the children are forced too much, that they are compelled to attempt work which is impossible for those whose capacity is at all below the average, and that the fear of punishment and of falling behind their comrades urges the less intelligent to seek relief in self-destruction.

### Euthanasia.

The question of purposely ending the life of individuals suffering from incurable disease or hopelessly injured in railway or other disasters was brought before the American Humane Association at a recent meeting in Philadelphia by several advocates of this practice who endeavored to have the society stamp it with the seal of its approval. The chairman, however, ruled out the proposition after some argument, on the ground that the articles of incorporation of the society confined its operations to cases of cruelty to animals or children. The question is one that has often been raised by would-be philanthropists, and in 1895 the question whether physicians ever have the right to terminate life was one of the subjects of discussion at a Medicolegal Congress held in this city under the auspices of the New York Medicolegal Society. The views of the medical profession are well expressed in the classical reply of Larrey to Napoleon in the pest house at Joppa. When the emperor suggested to the great surgeon that it might be an act of mercy to put an end to the illness of some of his wretched patients, the answer was, "Sire, it is my function to preserve life, not to destroy it."

## News of the Week.

**Medical Union Assured.**—As is noted in another column, the reunion of the long divided medical profession in this State is now assured. The vote by which the New York State Medical Association decided the question of union was the very decisive one of 1517 to 2. This very nearly met Dr. Goffe's expressed desire that the vote might be unanimous.

**Anniversary Meeting of the Academy.**—On Thursday evening, November 2, the anniversary meeting of the Academy of Medicine will be held in Hosack Hall. The orator of the evening will be Dr. Arpad G. Gerster. The subject of his discourse will be hospital management. The anniversary meetings of the Academy are open to the public, and a large attendance is expected. A reception will be held after the delivery of the oration.

**City's Tuberculosis Sanatorium.**—The plans have been completed for the New York City Sanatorium for Consumptives, which it is purposed to erect near Castleton on the highest point of Staten Island. This location was chosen on account of the prejudice among the poorer classes against leaving the city for treatment. The plans provide for eight buildings for patients, with a capacity of 100 beds each, an administration building, kitchen and dining halls, and a power house. The architect estimates the expense at $2,000,000, which is less than $3,000 per bed. The ward buildings are arranged in a semicircle about the administration buildings, and all of the local advantages of position have been taken advantage of in providing sunshine and free circulation of air for each building.

**A Pan-American Quarantine System.**—At the meeting of the International Sanitary Convention held in Washington, D. C., on October 13, the delegates accepted the forty-nine articles of the Paris Convention of December 3, 1903, with only a few modifications required by the conditions in tropical countries. When ratified by the different South and North American governments there will be on practically all of the American continent one system of quarantine and preventive measures. About thirty delegates were in attendance when the convention was opened on October 9, representing nearly every South American republic and the West Indies. Secretary of State Root, Assistant Secretary Horace A. Taylor of the Treasury, and Surgeon-General Wyman of the United States Marine Hospital Service, delivered the opening addresses.

**Nothnagel's Last Words.**—The *Deutsche medizinische Wochenschrift* in its issue of September 28 contains a reproduction of the manuscript notes found at Nothnagel's bedside after his death. These were written after several attacks of angina pectoris,

and evidently with the sense of impending death. Translated they run as follows: "Attacks of angina pectoris with extremely severe pain. Pulse during the attack very variable, at one time slow, about 56-60, quite regular, marked tension; then again rapid, 80-90, quite regular in force and rate, finally complete arrhythmia, very unequal, sometimes rapid sometimes slower, with variable tension. The first warnings of these attacks date back several (3 or 4) years, at first very slight, gradually more and more pronounced. Real attacks with great pain began only five or six days ago. Written on July 6, 1905, late at night, just after I have had three severe attacks."

**Impure Olive Oil.**—The chemist of the San Francisco Board of Health has made an examination of many specimens of olive oil bought in the open market, and finds that most of those found to be impure bear foreign labels. About one in four specimens labeled as imported from Italy or France was found to contain cotton-seed or sesame oil. Of seventy-two samples of California oil, however, only five were found to contain impurities. These facts are believed to demonstrate, not so much the impurity of imported oils as that the dealers in adulterated goods protect themselves by the use of apparently foreign labels. A list of many dealers in adulterated oils is published in the report.

**Disposal by Will of Corpse.**—In compliance with a provision of the will of George William Catt, president of the Atlantic, Gulf and Pacific Company, and a well known civil engineer, who died last week in his home at Fifty-seventh street and Seventh avenue, his body, after a funeral service had been held over it, was given without restriction to the Bellevue Hospital Medical College to be used in the interests of science. Such disposition of the testator's corpse is authorized by section 305 of the Penal Code of the State of New York, which reads: "A person has the right to direct the manner in which his body shall be disposed of after his death; and also to direct the manner in which any part of his body, which becomes separated therefrom during his lifetime, shall be disposed of; and the provisions of this chapter do not apply to any case where a person has given directions for the disposal of his body or any part thereof inconsistent with those provisions."

**Harvey Society Lectures.**—The following are the titles of the lectures to be given this winter under the auspices of the Harvey Society: November 4, Prof. F. G. Novy, Trypanosomes; November 18, Dr. P. A. Levene, Autolysis; January 20, Prof. W. H. Park, A Critical Study of Serum Therapy; January 27, Prof. Lewellys F. Barker, The Neurones; February 2, Prof. F. S. Lee, Fatigue; February 9, Prof. L. B. Mendel, The Formation of Uric Acid; February 16, Prof. T. H. Morgan, The Extent and Limitations of the Power to Regenerate in Man and Other Vertebrates; February 23, Prof. Charles S. Minot, On the Nature and Cause of Old Age; March 2, Prof. J. C. Webster, Modern Views Regarding Placentation; March 9, Prof. Theobald Smith, Some Phases of Tuberculosis; March 16, Prof. W. H. Howell, The Cause of the Heart Beat. The first lecture by Prof. Hans Meyer on the Theory of Narcosis was delivered on October 7, and the second by Prof. Carl von Noorden on Modern Problems of Metabolism on October 14.

**Insanity Among Negroes.**—The annual report of Dr. W. F. Drewery, superintendent of the Central State Hospital, at Petersburg, Va., contains interesting statistics regarding the alarming increase of insanity among the negro population. The number of patients sent to the hospital during the year was 170 more than the previous year, showing an increase of about 50 per cent. The number in the hospital was 1,449, or 115 greater than the year before. The smallest number under care at any one time was 1,101 and the largest 1,305. The number present at the end of the year was 1,181, or 80 over the previous year. The growing prevalence of mental disease among the negroes is ascribed to physical conditions and degeneracy induced by indolent, unhygienic, and immoral methods of life, as well as to the influence of heredity, rather than to any forms of mental stress or overwork.

**The Terror by Night.**—According to the *Medical Press* the inhabitants of Liverpool were very indignant when an advertisement was circulated by the School of Tropical Medicine, offering a half-penny apiece for five hundred uninjured specimens of *Cimex lectularius*. It was not aversion to the experimental methods of the school, or tender-heartedness for the welfare of living creatures that aroused the storm, but the slur cast on the character of the town. It was freely alleged that the experimenters would be disappointed, as there was no more probability of five hundred bugs being found in Liverpool than of five just men being found in Sodom. Alas for the pride of the great cotton city! More than the desired number were forthcoming in a day, and since then the authorities have been simply overwhelmed with would-be caterers of the required insect.

**Yellow Fever in New Orleans.**—With the advent of cool weather a great improvement is being noted in the yellow fever situation. On October 15 for the first time since the beginning of the epidemic the number of new cases was below ten, only eight being reported. During the five days previously only eighty-four cases were reported, as against 108 for the preceding five days and 122 for the five days before that. Reports from the surrounding country are also very favorable and show few new cases.

**Cholera.**—During the period from October 5 to October 11, forty-seven cases of cholera, twenty-four of them resulting fatally, were reported from Poland.

**Yellow Fever at Panama.**—It is reported that yellow fever has been virtually stamped out on the Isthmus. During the first two weeks in October there was but one case, a non-employee, who was taken ill on September 29. The quarantine at Punta Arenas, Panama, Port Limon, and Colon has been raised, and it appears that the work of sanitation is progressing in a very encouraging manner.

**Ambulance Collision.**—At Brooklyn's hebdomadal ambulance accident on October 15 a St. John's Hospital ambulance taking an injured child to the hospital was struck by a Marcy avenue car at Bergen street and Classon avenue. The surgeon, Dr. White, escaped injury by jumping.

**Smaller Medical Classes.**—The registration just closing in the Cornell University Medical College shows a decrease over the best of the previous years. The three advanced classes are somewhat larger than usual but the first year class, which hitherto has contained an average of about 130 students, this year has less than 120.

**A Fireproof Library and Museum at Los Angeles.**—Through the generosity and public spirit of Dr. W. Jarvis Barlow, the Medical Department of the University of Southern California has established a museum and library in a fireproof building contiguous to the college hall. A circular letter has been sent by Dr. William A. Edwards, chairman of the committee in charge, asking physicians to contribute books, plates, charts, journals, rare and

curious instruments, and pathological specimens. It is hoped to make the collection of benefit to the entire profession of Southern California, and every effort will be made to make the library a complete source of reference.

**More Insurance Graft.**—The editor of a newspaper in a small town of Southern California recently published, under glaring headlines, an account of wholesale traffic in dead bodies by one of the great life insurance companies which are now attracting so much unsavory criticism. The statement was made that more than a thousand bodies had been bought in a single day and sold within a week at an enormous profit. It was the second issue of the paper and a decided "scoop." But, undoubtedly the ambitious editor mistook the word "bonds" for bodies and depended upon his inflamed imagination for the rest.

**Turbulent Undergraduates.**—The freshmen and sophomore students of the University and Bellevue Hospital Medical College at their annual rush recently displayed such vigor that a riot call was sent in to the East Twenty-second street police station. Every policeman on reserve and all who could be spared from nearby registration places were hustled around to quell the disturbance. They arrested three freshmen. A hundred freshmen and seventy-five sophomores, more or less, were engaged in the encounter, and as a result the senior students had two hours of practice at minor surgery and bandaging.

**Hospital Cashier Arrested.**—The cashier for the New York Polyclinic Medical School and Hospital, in East Thirty-fourth street, has been arrested on the charge of stealing about $4,500 from the hospital, the indictment containing three specific charges of forgery in the third degree.

**Washington Heights Hospital Dedicated.**—The new Washington Heights Hospital, which was informally opened on August 1, was formally dedicated on October 15. The hospital is using the old Hosea B. Perkins house at Broadway and 179th street until the new building is erected.

**Open Air Cure for Monkeys.**—Stimulated by the successful results of the open-air treatment of tuberculosis in man, the superintendent of the Lincoln Park Zoo in Chicago has decided to try the same plan with his thirty-eight simian charges. While it is true that most of the deaths among captive monkeys in this climate occur from tuberculosis, it is hardly likely that the abrupt transition from the superheated air of the animal house to the zero weather of the Michigan shore will prove as beneficial as it is hoped.

**New Sanatorium for Brooklyn.**—Application for a charter has been made to the State Board of Charities by the incorporators of the Long Island Open Air Sanatorium of Brooklyn, formed to furnish hygienic treatment for consumptives and to encourage work for the control of tuberculosis on Long Island.

**Obituary Notes.**—Dr. Max Urwitz of Houston, Texas, died of apoplexy on October 4, at the age of fifty-six years. He was born in Prussia but came to this country while a young man and was graduated from Tulane University in 1881. He remained for some time in New Orleans, but for the last eighteen years he practised in Houston.

Dr. Joseph B. Jones of Brooklyn, died on October 10 in his seventy-seventh year. He was born in New York, and, after graduating from the College of Physicians and Surgeons in 1855, moved to Brooklyn. He served several terms as coroner in the old city of Brooklyn, and once as health commissioner. He was long a member of the Board of Education, and in late years was attendance superintendent of the Board of Education. He was an ardent devotee of athletics, and for several years conducted a gymnasium in old Montague Hall.

Dr. Vernon G. Culpepper of Portsmouth, Va., is dead at Norfolk, Va., of paralysis, at the age of fifty-two years. He was graduated from the Medical Department of the University of Virginia in 1876.

Dr. Thomas Addison Jenkins of Brooklyn, died on October 11 of pulmonary tuberculosis at the age of thirty-three years. He contracted the disease six years ago while taking a post-graduate course in the Nursery and Children's Hospital, and vainly battled against it by a four years' residence in Denver, Col. He was a graduate of Princeton College and of Bellevue Medical College in the class of 1897.

Dr. Carl Seiler died at Easton, Pa., on October 10 at the age of fifty-six years. He was born in Switzerland, and was graduated from the Medical Department of the University of Pennsylvania in 1871. He practised his profession in Philadelphia for a number of years.

Dr. Eugene P. Bernardy of Philadelphia died at Atlantic City of uremia on October 11, at the age of fifty-eight years. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1868. He served as demonstrator of surgery and of anatomy and later as instructor in medical jurisprudence and toxicology in the University. He was also for a time physician to the Philadelphia Dispensary, obstetrician to the Philadelphia Hospital, physician to the French Benevolent Society, and to the French Consulate. In 1899 he received the decoration of the palms of the French Academy, and only recently was appointed Belgian Consul at the port of Philadelphia.

Dr. Charles M. Shanely of Barataria, La., died on October 9 of yellow fever in consequence of his heroism in volunteering for service against the yellow fever epidemic while still weak from an attack of the disease, from which he had barely recovered. The work proved too much for him, and he suffered a fatal relapse. Dr. Shanely was thirty-six years old and a native of Ohio. He was graduated from the Baltimore Medical College in 1894.

Dr. W. H. Mansell of Cedartown, Ga., died on October 8. He was graduated from the Atlanta Medical College in 1875.

Dr. Ira Kinnison of Cleveland, O., died September 27 at the age of thirty-four years. He was graduated from the Starling Medical College in 1898.

Dr. W. F. Milligan of Wabasha, Minn., died at Chicago on October 1, after an operation for appendicitis performed twenty-four hours previously. He was thirty-five years of age and was graduated from the Medical College of Ohio in 1892.

Dr. R. S. Boles of Mansfield, Ohio, died on October 3, at the age of sixty-two years. He was graduated from the University of Wooster, Cleveland, O., in 1869.

Dr. J. H. Witherspoon of Lancaster, S. C., died on October 4, at an advanced age. He was graduated from the Medical College of the State of South Carolina in 1861 and served in the Confederate Army throughout the entire war.

Dr. John A. Ouchterlong of Louisville, Ky., died on October 9 at the age of sixty-seven years. He was graduated from the University of the City of New York in 1861. Dr. Ouchterlong was Professor of the Practice of Medicine in the University of Louisville, and was knighted several years ago by King Oscar of Sweden and by Pope Leo XIII.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

A SANATORIUM FOR THE POOR—THE UNEMPLOYED—"BILE BEANS"—DANGEROUS IMMIGRANTS—CORONERS' SOCIETY—INQUESTS—TYPHOID OUTBREAK.

LONDON, September 29, 1905.

An appeal headed by the Princess Christian has been issued for £50,000 to build a sanatorium for working class patients. The "friendly societies" cannot use their funds for building, but they can for the up-keep, and it is understood they will do so. The trade unions have promised to assist. So we may expect that the institution will be established. Reckoning the number of patients for which it is to provide, I find the estimated cost of the building works out at £250 per bed. This is less than most of the existing sanatoriums, but far too much to spend on bricks and mortar. The chalet system could be provided for less than half, but even that may well be too much. I am afraid the magnificent example of the King's Sanatorium will be emulated by architects and others, but it should be remembered that a model institution for well-to-do persons is not the sort that should be proposed for cattagers. There is a tendency to throw away money on costly buildings when a much more modest provision would suffice. It is seen in our hospitals, asylums, charitable homes, and even in poor-law institutions; and not only in the buildings, but in all the equipments. Only the other day Sir H. Burdett declared that the sooner the profession recognizes that it is wrong to bring up students with the idea that they cannot perform operations except in a marble hall costing £10,000, the better it will be for science and for all requiring their care and treatment.

The subject of the unemployed in view of the approach of winter is causing much uneasiness and giving rise to numerous suggestions—more or less practical, rather less than more. It seems early for distress to become prominent or for loafers to be taking advantage of the benevolent. But already I have seen men apparently healthy and well fed wheeling a barrel organ, three of them with one; and on mentioning this to a friend, was told he had met four and five, with a woman and child, engaged in this arduous work. We shall have to be careful to prevent imposture.

The act passed last session to deal with the subject is about to be put on its trial, but its provisions are not giving satisfaction. Already there is a cry that the act does not directly allocate public money for setting men to work, and some are advocating a special session of Parliament to provide funds for that purpose. Some of the local authorities are appointing distress committees under that act, and others are putting in hand as much cleaning and other necessary work earlier than usual in order to minimize the suffering from want of employment in their districts. Nevertheless, this is the time chosen by the central government to dismiss thousands of skilled workmen from the dockyards—an immense proportion of whom will be thrown on the rates, and all of whom will be additional competitors for any work going. Thus our rulers give with one hand and take away with the other—another example of what Kipling calls "England's awful way of doing business."

The fraudulent advertiser flourishes in so many departments of modern life that there seems scarcely sufficient cause for the surprise expressed at the exposure in a law court of the "Bile Beans" fraud. You know something of this, but possibly have not heard that its success depended on the expenditure of £300,000 in advertising—mostly in so-called society and religious periodicals. Advertising in such cases really seems a weak euphemism for bribery, and it is a blot on our boasted freedom of the press that high-class newspapers, from the big dailies down through the weeklies and monthlies, are open to receive and eager to obtain these bribes. Morality of the press! Faugh! Religious papers! Distributers of falsehoods! "Partakers of other men's sins."

The proprietors of "Bile Beans" brought an action in the Edinburgh Court of Session against a druggist to prevent him from applying the term to other than their own nostrum. These parties had previously tried their game with some "tonic pills" which did not take with the public, but in November, 1899, imagined that the name of bile beans would succeed, and since then the £300,000 expended on the press has resulted in the sale of many millions of pills. So great is the gullibility of the public that on the conclusion of the contract the drug firm which manufactured them had some 31,000,000 pills in stock.

The Port Medical Officer of Health reports the death of two children among 257 immigrants on a steamer arriving in the Thames, and declares that their quarters were in a filthy condition. Little if any attempt had been made to clean these quarters, and the atmosphere was unbearable. It is under similar conditions that thousands of aliens are dumped in the East End of London every month, and political partisans scream about the sacred right of asylum when their opponents propose to restrict the danger. The advance of cholera should warn them.

The Coroners' Society is considering a bill which has been drafted to relieve juries from the obligation of viewing the bodies. It is said that there are different opinions in the society. But it is generally admitted that in a case of crime the jury should see the body. It is said a coroner who excused his jury from the inspection could not be blamed in certain cases—say, virulent diphtheria. But it is not likely he would risk dismissal by the Lord Chancellor or even censure. No doubt he is the best judge as to the necessity, and perhaps a bill merely giving him permission to excuse a jury on assigning his reason in writing might be passed.

An inquest was held on a woman of thirty-nine who died in Guy's Hospital the day after admission from anthrax. Her husband had been at work pulling about bales of China hides for the inspection of underwriters, as they were damaged by sea water. He said he washed his hands afterwards according to rules. He went home in the clothes he worked in, and his wife washed his neckerchief, but she had no abrasions whatever about her. The house surgeon intended to use the serum introduced by Dr. Legge, but when he went to the laboratory there was none in stock, and the woman died two hours later. The Medical Officer of Health for the district said he had investigated twenty-two cases, and most of them he traced to foreign hides. Verdict: Death by misadventure.

A verdict of death from misadventure was also returned on Wednesday at Middlewick concerning the death of Dr. G. W. Dutton, who had suffered from insomnia and was accustomed to take narcotics. Unfortunately he took an overdose.

An outbreak of typhoid fever has occurred at Basingstoke. On Tuesday the isolation hospital had twenty-two cases, practically exhausting its accommodation. On Wednesday seventy-eight cases had been notified, but only one death to that date. Preparations were being made to remove cases to the smallpox hospital.

## OUR VIENNA LETTER.

(From Our Special Correspondent.)

CHOLERA—PROPHYLAXIS OF LEAD POISONING—HOUR GLASS STOMACH—LUMBAR PUNCTURE IN CEREBROSPINAL MENINGITIS—SCLEROMA—UNUSUAL MUSCULAR CONTROL.

VIENNA, September 18, 1905.

Our country is again, as often before, threatened by a cholera epidemic. In Galicia, the province adjoining Russia, four cases of Asiatic cholera have been discovered, and three of the patients are dead. The scourge was brought across the frontier from Russia, and there is no doubt that the disease, starting in Arabia, Syria, and Mesopotamia, is advancing through Persia to the Caspian Sea and thence into Russia along the Volga. Although until now only isolated cases have been observed, the danger of a spread of the disease westward is urgent, and the health officers are making great efforts to prevent the development of an epidemic. In consideration of the present political conditions in Russia, and especially in Poland, it is hardly conceivable that efficient sanitary control will be possible, and it is not unlikely that the disease will spread rapidly through the valley of the Vistula and be carried into Austria by fugitives. According to past experiences an extensive morbidity is not to be apprehended until next spring, but this does not relieve the situation of any of its gravity.

The Bureau of Manufacturers has investigated the question of lead poisoning in lead and zinc foundries. All of the experts stated that workmen less than eighteen years old and all women should be excluded from the actual smelting operations. There was also unanimity of opinion concerning the necessity for restriction of the hours of labor at especially dangerous branches, opinions differing only in regard to the length of the periods of work and of rest to be established. It was also recommended that non-observance of the hygienic precautions imposed upon the workmen should be made a punishable offense. Dr. Hueppe, in discussing the matter of medical service in this connection, laid stress on the prophylactic obligations of the physician as opposed to his curative ones, and stated that improvement in the statistics of morbidity would have to go hand in hand with a very broad extension of the system of sanitary inspection. The necessity for medical examination of the employees before their admission into the smelting shops and for periodical re-examinations was universally conceded, and Prof. Sternberg advised that the intervals between inspections be made shorter in the case of men engaged in especially dangerous work.

Dr. L. Brauner presented before the Society for Internal Medicine a case of hour glass stomach in a woman forty-two years of age, diagnosed by means of the *x*-ray. The patient had for five months been complaining of abdominal pain, which was independent of taking food and was accompanied by vomiting of bitter fluid. On examination, aortic insufficiency and visible gastric peristalsis were discovered. On dilation with carbonic acid gas the lesser curvature was found to be placed above the umbilicus and the greater curvature a hand's breadth below it. The patient was then given a quantity of soft pudding which had been mixed with 35 grains of subnitrate of bismuth. A portion of the food lodged above the painful spot and did not sink to the bottom of the stomach until several deep inspirations had been taken. The *x*-ray examination then revealed the mass of food under the costal arch in the left mammary line, but it soon collected itself in the left hypochondrium, and neither through pressure nor massage could union of the two portions be effected, so that the diagnosis was confirmed.

Prof. Johann von Bokay read before the Royal Medical Society of Budapest a paper on the value of lumbar puncture in cerebrospinal meningitis. He reported two cases in which he had employed the measure for curative purposes. In the one, that of a twelve-year-old girl, the symptoms were not severe, and the removal of 30 c.c. of spinal fluid was followed by recovery. The other patient was a boy five years old, and in his case the gravity and subacute course of the process made it necessary to repeat the operation systematically. The result was satisfactory. In the course of two weeks the puncture was repeated seven times, and altogether 165 c.c. of fluid were removed. Bokay believes that in cases of cerebrospinal meningitis lumbar puncture is a valuable curative measure. In the discussion that followed Dr. Jul. Donath spoke of a man twenty-four years old who, without warning, woke up early in the morning with headache, then had epistaxis, and died in nine hours with stiffness of the neck, opisthotonus, and unconsciousness. This was a case of fulminating cerebrospinal meningitis. He further said that lumbar puncture never does damage, and therefore is always to be tried. The amount of fluid abstracted should be replaced by twice the quantity of salt solution.

Nasal scleroma is a rare condition, but recently cases of it have been observed more frequently, so that several clinicians have made it the subject of careful study. Dr. H. V. Schrötter has made a map showing the distribution of the disease. It is most often seen in certain parts of Poland, and from there it migrates into eastern Prussia, Galicia, and Moravia, where sporadic cases are seen. A case observed in Bavaria was found to have come from Moravia, but two cases in Switzerland were born in that country and had never come in contact with other sufferers from the malady. The disease appears to be becoming commoner, and cases from Galicia and Moravia reach Vienna, so that recently five or six have been observed. It would be very desirable to send suitable investigators to the regions in which the disease originates in order to study it more closely, and especially to determine its method of transmission. Scleroma is produced by Frisch's bacillus, an organism very similar to the bacillus of Friedländer. Morphologically these two germs have much in common, but they differ in their action on animal tissues. Whereas the tubercle bacillus is destructive in its action, and the bacillus of leprosy gives rise to destruction and production, in scleroma there is production of new tissue without any destruction. An interesting observation is the simultaneous occurrence of tuberculosis and scleroma in the same spot. Although most of the Viennese cases have come in from elsewhere, Dr. Schrötter knows of one patient who has never been out of the city.

Viennese medical circles have lately been thrown into astonishment over a man whose powers of muscular control are developed to a phenomenal extent. This individual possesses to a surprising degree the ability to make use of muscles of whose very existence the ordinary person is entirely ignorant. For example, he is able to throw his abdominal muscles into wavelike contractions, by means of usually passive muscles he produces a vibration of skin of the neck, and he also moves the larynx by means of its intrinsic muscles. He can dilate or contract the pupils at will, and once when on exhibition before Prof. Hoffa, on being challenged to simulate a scoliosis, he succeeded in producing a lateral curvature of the spine without any movement of the pelvis. A still more remarkable feat is his ability to stop his radial pulse by drawing the first rib up to the clavicle by means of the subclavius muscle, thus compressing the subclavian vessels. This remarkable individual can displace various organs—for example, his heart, causing the apex beat suddenly to appear in the most unexpected positions. His most remarkable performance is a dislocation of the small intestine. The diaphragm is forced upwards to such an extent that the lungs are compressed into about a half of their usual volume, and then the small intestine is moved up into the space thus formed, so that the vermiculation of the gut may be perceived through the thoracic parieties. The displacement of the intestine can also be verified by *x*-ray examination. The man discovered his singular powers by accident in the course of a physical examination by a physician, and since then through studies of his own and aided by hints from his medical friends he has developed these strange faculties to an incredible degree.

## OUR LETTER FROM PERU.

**(From Our Special Correspondent.)**

BUBONIC PLAGUE—YELLOW FEVER SCARES—SMALLPOX—NEGLECT OF SANITARY PRECAUTIONS—ANKYLOSTOMIASIS.

AREQUIPA, September 15, 1905.

THE lazaret for reception of cases of bubonic plague, in Mollando, was closed on June 25, the last five cases, fully convalescent, being discharged on that day. The number of patients admitted was 125. Of these 49 died. Yersin's serum was used liberally. Whether to that or to a comparative mildness of the epidemic is to be attributed the low mortality I am not in a position to say, as I saw only one case here. So far as I can ascertain, at least three patients came to this town; all died, but there was no case of contagion here. Was this to be credited to the excessive dryness of the air, the great amount of sunlight, the electrical conditions, or what? It cannot be laid to the credit of excess in preventive measures.

In Lima cases continue, and now there is some alarm as to yellow fever. Whether the latter is owing to cases having arrived in a steamer or steamers from the North, or whether it is owing to a physician of Lima having announced that he had caught specimens of the stegomyia, the press telling the public that this is the cause of yellow fever—not explaining that when yellow fever exists in a locality this is the intermediary host.

Smallpox has been very severe in Chile. That country suffers much in the epidemics of smallpox, owing to indifference to vaccination and revaccination. So far as I can remember, we always know for a month or two before smallpox arrives here that it is coming from the South. Do we then redouble our efforts to have all persons vaccinated and revaccinated? Not in the least until it actually arrives; then we bestir ourselves a little.

Ankylostomiasis is apparently widely distributed over the world, and will, from want of care, probably become more so. It has been recognized in the central parts of Peru, and now Drs. Escomel and Ricketts have shown me specimens of eggs and worms from patients who have come from the interior—the Santo Domingo gold mines. In one case the eggs of *Trichocephalus dispar* were found along with those of the *Ankylostoma*. I believe the association is not uncommon. As yet there seems to be no remedy for the trichocephalus, so we agree to class it as comparatively harmless.

## Progress of Medical Science.

*Boston Medical and Surgical Journal, October 12, 1905.*

**Resection of the Nasal Septum.**—L. E. White traces the history of the development of this now popular operation which, he finds, dates back to half a century ago. It was especially popularized by Krieg in 1898 and Killian in 1899, and brought prominently before American rhinologists by Freer two years ago. White's own operations number forty-five. He prefers weak solutions of cocaine, one-quarter of one per cent. for submucous injections and one per cent. for local application. The anterior vertical incision is chosen whenever possible. It can be extended backward, if necessary, at either top or bottom. The convex flap should be kept intact and the deflection removed through the vertical incision. Sutures are more or less optional. If the edges of the incision can be nicely approximated, tampons will keep them in place until they heal. They are decidedly advantageous if the vertical incision is extended backward. The time of the operation, from half an hour to one and a half hours, according to the difficulties of the case and the operator's natural skill. Under ordinary circumstances, healing of primary union occurs in one week. The operation is adapted to all types of spurs and deflections. White does not consider it advisable to operate on children under 14, the aged and infirm, tuberculous, or syphilitic patients.

*New York Medical Journal,* October 14, 1905.

**Reflex Irritations from Lesions in the Male Urethra.**—A series of cases is detailed by L. Bolton Bangs. He calls attention to the fact that the urethra has not only a urinary but also a sexual function, and that reflex disturbances are accordingly roused in both these domains of the animal economy. A urethral irritation may be reflected to the

muscular structures of the penis, the base and neck of the bladder, the prostate, and the seminal vesicles. This transmission takes place more frequently than is generally suspected. The bodily suffering caused thereby is not necessarily dangerous to life, but may gradually impair the patient's constitution and impair his vigor. Moreover, patients coming under this category are not by any means necessarily of the neurotic class. Most of those who are not are, however, generally of the class leading a "strenuous" life in our modern acceptation of that term. The lesion found in all is generally that of a localized urethral ulceration. Under urethroscopical examination it is possible to definitely expose the diseased area and make silver applications directly thereto. Under this procedure, together with the therapy naturally suggested by the conditions of each individual case, we may greatly ameliorate the patient's sufferings and often bring about a complete cure.

**Three Cases of Extraperitoneal Rupture of the Bladder Complicating Fracture of the Pelvis, with Recovery.**—The histories of these cases are given by J. R. Eastman. In Case I a man was caught under a falling refrigerator and the pubic arch was driven in on the right side, and operation revealed a large spicule of bone from the right horizontal ramus thrust through the anterior wall of the bladder. The rent extended around the right side of the internal meatus almost to the right ureteral orifice. Closed with chromicized gut, rubber drain placed in bladder, and the viscus lightly packed with gauze. In Case II the rectum and bladder were transfixed by some sharp object in a railway wreck. There was also a fracture of the anterior superior spine of the ilium, splitting the horizontal pubic ramus and a comminuted fracture of the right femur. The wound edges were trimmed and the same procedure followed as in Case I. The wound in the bladder floor leaked for ten days, after which all the urine was discharged in the natural manner. In Case III a crushing accident fractured the pelvis and ruptured the bladder. The pubic arch was driven in at both sides, causing fracture at the symphysis. The anterior wall of the bladder and roof of the prostatic urethra were torn for a distance of two and one-half inches. In this case, no attempt was made to close the wound in the bladder; a large drain was passed into the urethra and passed out through a suprapubic incision. The displacement of the depressed pubic arch was reduced by manipulation to the extent that while there was still deformity, there was no compression of urethra or rectum. This case became infected and a fistula developed at the right of the suprapubic opening. Another fistula appeared in the penile urethra, involving the membranous and prostatic portion, so that for a time the urine was discharged through all three of these unnatural openings. Simple curettage of these fistulæ and continuous catheterism finally effected their closure.

**The Relation of Certain Extreme Emotional States to Insanity.**—T. H. Kellogg notes that extreme emotions may suddenly cause mental disease, or, if prolonged, may gradually evenuate in insanity, of which they may constitute prominent symptoms. Extreme emotional instability and the insane diathesis may be vicarious and precede or follow each other in families. These hereditary extremes of emotion may be transmitted in direct line for several generations. The admitted relation between crime and insanity will be found, if traced to its ultimate source, to consist often in abnormally intensified emotion and correspondingly diminished self control. As types of extreme emotional states, may be cited the psychical condition arising out of passionate love between the sexes, violent and persistent hatred (shown for instance in the family feuds which pass on from one generation to another), uncontrollable anger, jealousy, fear, etc. In all these extreme emotional states the normal control of the feelings by the will is lost to a greater or less degree. Yet these emotional states may exist in persons having no distinct form of definite mental disease. It is precisely in these latter cases, when there have been legal infractions, that lawyers and laymen demand full infliction of punishment, while the enlightened medical expert recognizes the morbid stress and emotional duress under which the accused sufferers may have acted, and, therefore, favors the claim of modified responsibility.

*The Medical News, October* 14, 1905.

**The Teachings of Failures.**—F. L. Hupp records a series of cases referring particularly to post-operative hemorrhages. In one case of gall-bladder surgery, the patient passed on the third day after operation into a condition of sudden shock, though there was no evidence of internal bleeding. Death occurred on the sixth day and autopsy showed an extensive extravasation of blood. A second case was one of renal calculus. A tampon of gauze was carried down through the cortex into the renal pelvis, from which the stone had been removed. On the fifth day, owing to some indications of suppuration, the tampon was removed and profuse bleeding occurred, which proved fatal four hours later in spite of the reopening of the wound and ligature of the pedicle of the kidney. In another case a diagnosis was hurriedly made of cancer of the uterine cervix, but the case proved to be a sloughing submucous myoma. In still another case, one of supravaginal hysterectomy, foudroyant and fatal sepsis followed on the fifth day, though no failure in aseptic precautions could be determined. In a case of typhoid fever there developed on the eleventh day induration in the right iliac fossa. Incision revealed pus, and in the washing there escaped a tubular segment of the appendix. A suspiciously dark area was noted over the cecum, but the patient's collapsed condition forbade further interference. Two days later the dressings were saturated with a dark, offensive fluid, and on removal of the drainage strips decomposed blood clot welled from the wound. Death resulted the next day. Autopsy showed a gangrenous perforation of the cecum, while an eroded vessel at the base of one of Peyer's patches showed the site of bleeding. Several other interesting cases are narrated, and some references are made to the general subject of causes of sudden death, the statistics given being based on Lochtes' recent article on this subject.

**The Symptomatic Treatment of Tuberculosis.**—J. R. L. Daly refers to certain procedures he believes to be of value. Cough calls for sedative rather than stimulating expectorants. For pleuritic pain counterirritation is preferred, and often must be of considerable strength. A mixture of Croton oil, tincture of aconite, and tincture of iodine is suggested. This should be painted on lightly and not allowed to run. As to hypnotics, bromides are safest. If possible, a tepid bath may be given while hot bottles are applied to the extremities and a bandage placed about the abdomen to assist in the dilatation of the peripheral arteries and thus derive blood from the brain. Painful larynges may be cocainized just prior to the injection of food. Ethyl chloride sprayed in the larynx has proven serviceable in cases of tuberculous ulcers in the larynx. In the night sweating, the author has used atropine.

**The Gynecological Bladder.**—A. E. Gallant reviews 500 consecutive cases seen in one of the New York gynecological clinics and finds that 42.6 per cent. presented bladder symptoms. Some of the more unusual cases are epitomized. Six cases occurred (out of 213) in children under 16 years. In the 207 cases over that age the most common symptom naturally was frequent micturition with burning or cutting pain. Purulent urethrovaginitis was found in 25 per cent. Urethral caruncle once, hematuria three times. The histories of cases of trigonitis, pelvic peritonitis, "plaster-of-Paris" pelvis, pyosalpinx, cystocele, pregnancy, and uterine displacements as related to bladder disturbance are summarized. The author's conclusions are: (1) That frequent and painful micturition is met with in about one-third of females who apply for gynecologic advice; (2) that in 25 per cent. this is due to specific (gonorrhea) urethritis, often associated with vaginitis, etc.; (3) that but few cases of gonorrheic infection are met with after thirty-two years; (4) that vesical prolapse and intrapelvic or abdominal tumors are the most common factors after thirty years; (5) that uterine displacement, inflammation involving the broad, the uterosacral ligaments, the tubes and ovaries must be reckoned with, and relieved by appropriate measures before the bladder symptoms can be cured; (6) that as changes in the urine producing symptoms do not occur in more than 5 per cent. of all cases, after medical treatment has been tried for a time and found wanting, the pelvis should be explored digitally, and the anal region inspected, not infrequently the rectum and sigmoid as well. Whenever urinalysis points to calculi or infection in the bladder, ureter, or kidney it is our custom to pass the cystoscope and catheterize the ureter.

*American Medicine, October* 14, 1905.

**Patent Urachus.**—George Tully Vaughan gives a review of 52 cases of this rare condition, and reports one of his own complicated with stones in both kidneys, which were successfully removed at two subsequent operations. He explains the defective development in the embryo which results in the formation of patent urachus and of Meckel's diverticulum. He mentions four kinds of patent urachus: the complete, the blind, the blind internal, and the blind external, and these may be congenital or acquired, some of the acquired varieties being caused by pressure of urine in the bladder opening Wutz's valve (a small valve which guards the bladder opening of the urachus) and allowing urine to enter the urachus. He thinks the best treatment is to dissect out the urachus, and sew or ligate the stump or opening in the bladder, after the manner of removing the vermiform appendix. A short space is given to tumors and cysts of the urachus.

**Bilharzia (Schistosoma) Hæmatobium.**—Claude A. Smith reports seven cases found among the Boers and the South African negroes who were with the Boer Wa

Spectacle at St. Louis during the World's Fair, and who also appeared in Atlanta during March of the present year. Out of 45 specimens of urine examined the eggs of the Bilharzia hæmatobium were found in seven. It was not possible to examine more than 45 specimens on account of the short time the company remained in Atlanta, but many other members of the company gave histories indicating that they might harbor the parasite. The seven cases were apparently chronic, as macroscopic inspection did not indicate the presence of any blood or blood clots in the urine. Dr. Smith directs attention to the fact that the eggs are more or less cylindrical, one end being bluntly rounded, while the other runs to a point or "spine," and that the egg is not a flattened body as it appears to be when first viewed under the microscope. A description is given of the anatomy of the embryo and the hatching of the egg, the rupture of the shell apparently being due to the change in the specific gravity of the fluid surrounding the egg. In conclusion, the question is raised as to the advisability of permitting such a number of cases of this disease to drift about this country when there is uncertainty as to the possibility of contaminating our streams with this parasite, especially in view of the fact that we have no remedy for this disease.

**Hemorrhagic Typhoid with Typhoid Parotitis.**—B. D. Black reports a case, ending in recovery. The patient gave a history of an arrested pulmonary tuberculosis; no hemophilia or syphilis; total abstainer. Hemorrhages occurred about the seventeenth day of illness. Intestinal oozing was followed by oozing from mouth, throat, and nose, hematemesis, hemorrhage from bladder and urinary tract purpura involving right leg, and pressure points on posterior surface of body. Multiple hemorrhages for eleven days. A complicating parotitis seemed to have a marked effect on the hemorrhagic tendency. Medication is unsatisfactory, but saline solution is indispensable, as it renders the typhoid toxins less virulent and fills up the vessels. Camphorated oil as a last resort, when other stimulants failed, was given hypodermically, P. R. N., 15 to 30 drops. Its action was satisfactory. The literature on the subject is not exhaustive. This form of typhoid is rare and very little light has been thrown on the etiology by the recent advances made in blood pathology. Tuberculous cachexia (although not apparent) was possibly a causative factor in the case reported. A review of the literature and study of the case would suggest the following conclusions: (1) The hemorrhagic tendency in typhoid is probably increased by the fairly constant leukopenia which exists in uncomplicated cases. (2) The hemorrhages are usually by diapedesis in this form of typhoid. (3) As a result of the bacillemia, toxemia, or both, a degeneration of the intima of the vessels takes place, a pathological permeability of the vessel wall resulting. (4) The development of an acute inflammatory process (in this case a parotitis), with resulting leukocytosis, has a decided effect on the hemorrhagic tendency.

*Journal of the American Medical Association, October* 14, 1905.

**Brain Injuries.**—D. C. Peyton points out the indications for operative interference in cases of brain injuries. He holds that surgery is called for when there is evidence of hemorrhage or symptoms of compression, either from hemorrhage, depressed bone, or the presence of a foreign body, and emphasizes his opinion that in cases with symptoms of serious brain injury the danger to the patient of an exploratory opening with the observance of the highest degree of aseptic technic, is infinitely less than the unreasonable delay that is frequently permitted while waiting for definite diagnostic symptoms. He urges the importance of the surgeon watching the symptoms very closely from the beginning until he can assure himself that no injury has occurred within the cranial walls. Two cases are reported, one of gunshot wound with extensive comminution of bone, in which the fragments were removed and the wound cleansed by irrigation with normal salt solution, followed by recovery, and the second, of fracture of the base, terminating fatally.

**Uncinariasis.**—Claude A. Smith reports the experiments made on a human being to confirm those of Loossas in demonstrating the possibility of hook-worm infection through the uninjured skin. The experiments were made with great care to avoid the objections made to those of Loossas that there was possible infection through other sources. He thinks, and his reports seem to justify it, that the experiments conclusively prove that general infection may take place through the uninjured integument. That this is the only route he does not say, but he believes it to be the mode of infection in the great majority of cases.

**Iritis Tuberculosa.**—W. E. Gamble and E. V. L. Brown report a case of plastic iritis producing nodules which was identifiable by a process of exclusion and still more by the tuberculin reaction, as tuberculous. The treatment was by repeated injections of Koch's tuberculin and the use of atropine continued over six months and causing disappearance of the ocular conditions. There was evidence of a tuberculous focus elsewhere, to which the eye symptoms were probably secondary, as shown by a persistent rise of afternoon temperature, slight cough, and enlarged supraclavicular glands. The afternoon temperature continued after the disappearance of the eye symptoms. The authors give a detailed review of the literature of the use of tuberculin in the eye, and conclude that there is very little question of its diagnostic value. Their own experience leads them to advise the lowest possible dose on account of the profound general reaction they met with from a five mg. injection. Less can be said of its therapeutic value, but they think that many patients, like the one reported, can be helped.

**Pneumonia in the Young.**—E. F. Wells points out that pneumonia is most frequent in early childhood, and next most frequent in full maturity from 30 to 50 years of age. He limits the term to pneumococcal infection and the fact that the pneumococcus is present in the mouths and upper respiratory passages of probably 50 per cent. of healthy persons accounts for the frequency of the disease. He has never failed to find the pneumococcus in several hundred examinations of persons who have had pneumonia. But he has not found it in recently born infants, which accounts for the infrequency of the disease in the very earliest periods of life. Once the throat becomes infected, however, the child is liable to pneumonia. The symptoms, high temperature, rapid pulse and breathing, pain, cough, the well-known expiratory grunt, the loss of appetite and the physical signs are described. The chill which is usually conspicuous in adults is absent in young infants and is infrequent in young children. The child is usually dull and apathetic, surface pallor is the rule. The duration of the disease is shorter in infants than in adults, and unless some complication like empyema intervenes, usually ends by crisis, or less frequently by lysis, in a week or more. Serious complications are more frequent in children. The treatment necessarily must be more or less individual. The healthy child must be kept out of the way of the infected one. Exhaustion and too profound sleep must be guarded against in the infected child, and the fluids of the body, whether intravascular or extravascular, must be cleansed of the soluble toxins. The child with pneumonia should have plenty of liquids to drink and, in addition, salt solution by rectum if necessary. Theoretically, this washes out the toxins. In his practice the author gives moderately large doses of a reliable tincture of digitalis with the enemata if they are retained Other vasomotor tonics may also be given. For high fever and restlessness, he prefers tepid sponging, followed by alcohol, repeated as required. This failing, he uses guaiacol in suitable dosage to the thin skin of the flexures, supplemented by the ice cap at intervals. Oxygen inhalations are useful when the patient is not fretted by them. Strychnine aromatic spirits of ammonia, etc., may be used as required. The best medical attention and nursing and fresh air are required, and the child should be disturbed as little as possible.

*The Lancet, September* 30, 1905.

**A Case of Mitral Incompetency and Ascites Treated with Apocynum Cannabinum.**—The patient of A. J. B. Duprey was a black man about 40 years of age with mitral disease, enlarged liver, and ascites. He had been tapped many times, but with only temporary relief. Digitalis and iron seemed to be without effect, but to this combination was added the tincture of apocynum in one-minim doses. This was gradually increased until the dose reached ten minims t.i.d. but the quantity seemed to be somewhat irritating and it was reduced a little. Under the addition of this remedy the patient's general condition greatly improved and the quantity of urine passed was greatly increased. The author notes that apocynum is a powerful kidney stimulant Overdoses easily cause congestion of the renal structure and may lead to complete suppression. He believes that it deserves a further trial as a diuretic.

**The Influence of Nasal Obstruction on the Form of the Face.**—W. B. Parsons alludes to the great difference of opinion existing as to the relation in cause and effect of the high-arched narrow palate and nasal obstruction. The latter leads to the facies known as the "adenoid" but we may have the facies without adenoids; the latter without the former or both may coexist. It is generally agreed that nasal obstruction is the cause of the deformity, but it is not generally recognized that so much of it as affects the maxilla is due to anterior nasal obstruction, that the lower jaw is not really, but only apparently affected, and that the deformity at the bridge of the nose

alone is consequent upon posterior nasal obstruction. Variation in intranasal air pressure is potent enough cause when acting on mouldable bones, such as are found in the lymphatic, rickety, or other diatheses accompanied by malnutrition. The main point brought out by the author is that nasal obstruction, as related to the form of the face, depends upon the exact location of the obstruction. An anterior obstruction is at each inspiration productive of negative air pressure within the nasal chambers, and a corresponding increase of pressure on the outside of the face, while a posterior obstruction, that is, one situated in the nasopharynx, cannot exert any influence to diminish the air pressure in the nose and its accessory sinuses. On the contrary, this pressure is common with the general air pressure outside the nasopharynx (and if buccal respiration be also impeded outside the lungs) must become excessive, and its effect would be to depress the bridge of the nose, and to widen it. Finally, he notes that the adenoid operation is not always successful, so far as affecting the shape of the parts is concerned. Symptoms previously present may continue. They are often due to hypertrophic rhinitis. To this latter lesion is to be ascribed the persistence of the habit of mouth breathing after the adenoids have been removed. The evidence of this is often stamped on the face, and the attempt to overcome it is too often an unjustifiable harshness to the child.

**Secondary Effects upon the System, which May Be Produced by Chronic Enlargement of the Tonsil.**—The views of H. B. Gardner have been suggested to him by his experiences as an anesthetist. He believes that some cases of varicose veins of the legs and of hernia, are caused by the presence of tonsillar enlargements. He believes that in the former state the chronic obstruction to free respiration (caused by the tonsils), and to oxidation of the blood produces a certain degree of chronic engorgement throughout the systemic veins, and that thereby a contributing cause to gradual dilation of the veins in the legs is set in motion. In hernia, intraabdominal pressure is the chief exciting factor, and in case of enlarged tonsils the patient will exhibit powerful contractions of the abdominal walls during cough or labored breathing. Such patients are apt to lie prone on their faces in bed with the forehead upon the pillow and head to one side, and the mouth open, in order that the tonsils should hang forward and free the breathway. Consequently the condition of the tonsils should always be ascertained in giving patients with varicose veins or with hernia, and if enlarged, their removal is the first logical step toward the cure of the varicosities and hernia. The removal of this cause of intravenous and intraabdominal pressure often has a distinct prophylactic value, with reference to the two conditions named.

**A Case of Tuberculous Meningitis Treated with Iodoform Ointment.**—The patient of H. C. Wilson was a boy of six years. One brother had previously died with what was regarded as tuberculous meningitis, and there was on the maternal side a tendency to tuberculosis. The patient developed the typical features of this form of meningeal inflammation, and on the fourth day an ounce of iodoform ointment, representing 15 grains, was rubbed in over the scalp and the back of the neck, and this was repeated every eight hours. Two days later the child began to improve and the crisis of the disease seemed to have been passed by the end of a week. The further progress of the disease was without incident. The ointment was applied for between two and three weeks. The case seemed hopeless until its use was begun. The accuracy of the diagnosis was based on the family history, and the patient's symptoms, viz., Semi-coma, retraction of the head. Kernig's sign, tache cérébrale, and muscular twitchings.

*The Lancet, October 7, 1905.*

**Chronic Paralysis of the Intercostal Muscles as a Primary Cause of Dropsy.**—The patient of G. W. Howland was a lad of seventeen years, who was injured four years ago by a blow on the neck, producing a dislocation of one of the cervical vertebræ. Myelitis followed, affecting the fifth, sixth, seventh, and eighth cervical regions of the cord, being probably secondary to small hemorrhages arising from the concussion due to the injury. Sensation was rapidly recovered, but atrophy of the muscle groups represented in this region gradually occurred, accompanied by a spastic paralysis of the legs. Respiration during these four years had been carried on entirely by the diaphragm, since the intercostal as well a the abdominal muscles were paralyzed; and this was the more remarkable when it is noted that the boy suffered last year from an attack of acute bronchitis, with consequent difficulty in expectoration. It is also interesting to note that the patient was able to cough feebly, but in doing so was unable to fix the chest, which expanded upwards with the forced expiration. In consequence of this purely diaphragmatic respiration there was diminished expansion of the upper lobes of both lungs and this had acted in the same manner as emphysematous or fibroid pulmonary diseases, and caused obstruction to the venous circulation and to the right side of the heart, although the venous obstruction might be partly due to a diminution in the negative intrathoracic pressure. During the last few months the legs had become greatly swollen, the dropsy being due mainly to the conditions outlined above, rather than to the diminished vasomotor tone, since the complication had only recently appeared. Following this very intense edema had appeared in the neck, face, and eyelids and latterly in the uvula and larynx, and the distress in breathing had been great. Rest in bed led to a rapid improvement in the dropsy. At the time the case was reported, there was no definite cardiac enlargement and no murmurs, but the heart was subject to strain, owing to the extreme action of the diaphragm, while there was a reduplication of the second sound on the left sternocostal area.

**Acute Dilatation of the Left Ventricle.**—A case occurring in a diphtheritic boy of five years, is reported by T. Nicol. He was so slightly ill that no antitoxin had been given. On the diphtheria supervened a mild scarlatina. Suddenly, six weeks after the diphtheria and three after the scarlatina, he was seized with syncope with vomiting, almost imperceptible pulse, and moderate fever. Examination of the heart (found normal on the day previous) showed extreme left-sided dilatation. The apex beat was diffuse and wavy, visible in the fourth, fifth, and sixth interspaces from the nipple line to the sternum. On auscultation the beats numbered 110 per minute, and were markedly intermittent, the first sound at the apex almost inaudible but without definite murmur, and the second much accentuated and occasionally reduplicated in both pulmonary and aortic areas. On percussion, the left border extended almost three fingers' breadth beyond the nipple line, the right being in its normal position. No reason could be assigned for the attack, since the child had not been sitting up or making any unusual exertion. That evening, however, the urine was found to contain albumin and blood in large amount, with numerous blood and granular casts. He was freely stimulated with brandy and hypodermic injections of strychnine, but his condition remained extremely critical for more than a week. After that time both the nephritis and the cardiac condition improved under treatment, and after a prolonged stay in hospital he was discharged with only a faint trace of albumin in the urine, and a heart in which the most careful examination could detect nothing abnormal, the pulse strong and regular, the sounds pure, and the left border one finger's breadth inside the nipple line. The unique feature of the case is that the dilatation did not follow (as it usually does) after some overexertion, but was rather coincident with the onset of a scarlatinal nephritis.

**Observations on the Thymus Gland in Children.**—Some interesting observations have been made on this subject, by J. M. Fortescue-Brickdale. His conclusions are summarized in the following statements: (1) The usual weight of a microscopically normal thymus in a child under one year is under 100 grains. (2) Children suffering from "primary atrophy" or marasmus commonly, but not always, exhibit fibrotic changes in the thymus; the weight and size of the organ are also usually diminished. (3) Children suffering from "secondary atrophy" exhibit similar changes but they are not so constant. (4) Possibly some other factor than mere malnutrition or starvation may produce these fibrotic changes, as in a case where pure starvation was produced by congenital stenosis in the alimentary tract they were not observed. (5) In cases of acute illness in children fibrosis of the thymus may accompany general wasting. It is difficult in these cases to exclude previous disturbances of nutrition, at any rate among hospital patients. (6) Enlargement of the thymus and other lymphatic structures in the body may occur as the result of acute toxic absorption (as in diphtheria) or a more chronic condition (as in lymphatism). In these enlarged thymus glands eosinophile cells are numerous, but no special types are peculiar to either class. (7) In some conditions, especially in tuberculosis, cells with basophile or neutrophile granules seem to replace the eosinophiles. (8) In congenital heart disease eosinophiles are not found in the thymus. (9) True hyaline degeneration very occasionally occurs in Hassall's corpuscles. (10) Fatty degeneration of the cells is common and appears often to affect the peripheral zone of the lobules.

**A Case of Motor Aphasia Without Agraphia.**—The case is reported by Byrom Bramwell, whose patient was a married woman, aged 27 years. The aphasia was purely motor. Certain defects in writing in the early stages of the case, were clearly due to defects in manipulating the pencil and not to a true aphasic defect. The onset of symptoms was sudden, due to either embolism or hemorrhage. In favor of the former are adduced the patient's age, a mitral

stenosis, the sudden occurrence during a febrile attack, attended with sore throat and phlebitis, and a very brief coma at the outset. The embolism probably affected the left middle cerebral artery or some of its branches, but the loss of sensation on the right side of the face, the right deafness and anosmia, suggest, perhaps, a lesion of the posterior end of the internal capsule. Against this localization is the fact that the leg was much less paralyzed than the arm and face. So far as the paralysis is concerned, and on the assumption that embolism of the left middle cerebral artery existed, the lesion would appear to have been both cortical and subcortical, a softening of the left motor area at its lower end. For two weeks after the onset of symptoms, the patient uttered no spoken word, though she tried so to do, but she was taught in due time to repeat vocal vowel sounds, and gradually recovered the power of speech. The author knows of no other case in which such complete motor vocal aphasia was associated with such perfect ability to write.

*British Medical Journal, September* 30, 1905.

**The Opening of Peritonsillar Abscesses.**—R. McClelland describes a method of emptying an abscess in this situation. The patient was an epileptic girl in whom, after scarlet fever, a large peritonsillar abscess had developed. She could with difficulty open her mouth wide enough to admit a finger. When the abscess fluctuated the writer opened it by driving a Paget knife through the soft palate into the center of the swelling. The patient slept fairly well that night, but the wound soon ceased to discharge, the abscess wall became tense, and the patient again could neither speak nor swallow. The writer sprayed the soft palate with a 10-per cent. cocaine solution, and passed a trocar and cannula into the center of the swelling. The patient held the cannula with her teeth while the trocar was withdrawn and one end of a piece of rubber tubing was slipped on, the other end being attached to the nozzle of the syringe. At one stroke two ounces of pus were withdrawn with instant relief. The patient had not had a fit during her illness of thirty days, but the epilepsy returned as recovery took place. The abscess completely disappeared with simple evacuation. Pus cells and numbers of diplococci were found on films that were made from the contents of the syringe. By this method the patient does not need to be moved if very weak, for the abscess can be evacuated even in dorsal decubitus. The mouth is not flooded with pus and little room is needed for working. If the distance between the soft palate where the puncture is to be made and the lower incisors is measured off on the trocar and cannula this method should be free from danger.

**A Case of Maladie De Tic Convulsive.**—James Johnson describes this case. The movements of the patient, a man twenty-eight years old, were quite different from those of an ordinary case of chorea. The involuntary muscular movements were well marked, affecting chiefly the brachial muscles of the face and arms. The patient often raised his hand, blowing at the back of it as if there were a piece of soot on it. He also spat on it in a convulsive manner. He sometimes suddenly jerked his head to one side without raising his hand, and then spit convulsively on the floor or on any one near and would often bark, and at times say "blast" or "damn" in quick succession. These words were frequently indistinct. At table he beat a tattoo on his plate with his knife or fork or spoon. When rising from a chair he shuffled his feet before commencing to walk as if preparing for a step dance. He was greatly attracted by lights in the street at night. Not only did he then indulge in his curious habits, but as he walked he turned his head round to keep his eyes fixed upon the light. At times he staggered as if he were drunk. He had imperative ideas which forced him to execute certain movements. He felt compelled to satisfy that impulse. The movements were always worse when the patient was busy. Otherwise the patient was in perfect health, always attending to his business.

*British Medical Journal, October* 7, 1905.

**Strain as a Factor in Cardioaortic Lesions.**—H. B. Anderson declares that we need only recall how often it happens that the cardiac muscle is insufficient to withstand the requirements of ordinary quiet life, to understand how powerful a cause of mischief severe exertion may be. As to the effect of repeated or habitual exertion within wise limits, it is known that athletic and other exercises, when properly regulated, are beneficial to the heart by producing physiological hypertrophy of the organ and lowering the average of peripheral resistance. Clinically speaking, the military surgeons first directed attention to, and carefully investigated the effects of overexertion on the heart. It was found that many cases of cardiac trouble existed in the otherwise healthy soldiers. Aside from certain modifying conditions in soldiers' surroundings, which appear to increase the liability to injury from overstrain, the tendency of overexertion in civil and military life is to produce cardiovascular lesions. Exercises in which the legs are employed are especially likely to be associated with cardiac trouble. These cases of overstrain may be classified as acute and chronic. The former is generally noted in the young, weakly, or untrained as the result of severe or prolonged exertion. The "irritable" heart is more often the result of repeated overexertion developing gradually. Mechanical stress not only injures the myocardium, but it is also a cause of aortic valvular lesions. It may even damage sound valves. The writer then presents the history of various cases which illustrate the effects of strain in a number of cases. He points out the extreme danger to older people of indulging in unusual exercise which could have been taken with impunity in earlier years. In the obese there is a condition of chronic overstrain, for there is a relative disproportion between the size of the heart and the work it has to perform. This state of affairs follows from the fact as stated that the size of the heart is proportionate to the size of the skeletal muscles, but the work of the heart is proportionate to the bulk of the body. The toxemia of the acute infective diseases produces serious changes in the myocardium and causes unwarranted exertion to be followed by the most serious consequences. In all cases of acute infection it must be admitted that a broad view of the pathology of the disease is the only safe guide to an appreciation of the state of the myocardium, even in the absence of all symptoms and physical signs of its involvement.

**The Cause of Angina Pectoris.**—James Mackenzie concludes that since angina pectoris occurs in lesions of great diversity, some condition common to all must be the cause of the symptoms. The fact that angina pectoris appears only after the heart muscle has been long exposed to excessive strain points to the cause being situated in the muscle. All the functions of the muscle fibers save that of contractility can be shown to be intact in many cases that suffer from angina pectoris. The alternating action of the heart is a demonstrable sign of exhausted contractility, and its presence is always associated with symptoms that are included in the symptom complex of angina pectoris. The same exciting cause—extra strain on the heart—may provoke both the angina pectoris and the alternating action, and both may disappear with removal of the cause. The inference to be drawn from the consideration of these facts is that the symptoms that are included in the term "angina pectoris" are so closely associated with an impairment of the function of contractility of the muscle fibers of the heart that in all probability angina pectoris will be found to be an evidence of the impairment of the function of contractility.

**The Albuminuria of Adolescents.**—Clement Dukes declares that the albuminuria of adolescents appears to arise from the want of adjustment of the cardiovascular system to changes of blood pressure. The nerves do not exert an effective control over the blood vessels, and thus serum-albumin is allowed to transude through the over-distended capillaries of the kidneys. In other words, there exists a congestive neurosis. The main features of this affection as enumerated by the writer are its intermission, the variability in the amount of albumin present from time to time, its duration, and the infinite variety of causes and the slight nature of each. The writer believes that when this condition is recognized and treated, there is little likelihood of its proving the precursor of organic disease of the kidneys even when it has existed for many years. The manner of life must be carefully regulated. Work must not be excessive. Daily exercise should be recreation rather than physical drill. Thus pleasurable sensations will increase the tone of the whole nervous and vascular system. The adolescent requires more food than the adult, and the girl more than the boy, on account of her greater rapidity of growth. The scavengers of the body should be so disciplined as to be brought under the habitual control of the will. Natural action should not be replaced by continual aperients, for the habitual use of the latter will encourage sluggishness of the intestines and tend to convert a temporary inactivity into a permanent abandonment of function.

*Berliner klinische Wochenschrift, September* 25, 1905.

**The Bacteriological Diagnosis of Cholera.**—Dunbar describes a method of performing the agglutination reaction with cholera organisms by means of which it is possible to make an approximate diagnosis in suspected cases very quickly. It is often a matter of great importance as regards prophylactic measures to be able to arrive at some conclusion concerning doubtful cases of intestinal disorder promptly, yet the ordinary agglutination reaction requires eight to nine hours before the agar colonies have developed sufficiently to make a test possible. The author tried the plan of using the stool itself in the fol-

lowing way. A drop of pepton solution is put on each of two cover glasses and a small flake from the suspected stool is rubbed up in each. Then to the one is added a drop of normal rabbit serum diluted fifty times, and to the other a drop of cholera serum of high valency diluted 550 times. The preparations are placed in hollow slides and examined. If cholera vibrios are present they will be found in motion in the normal serum drop, but not so in cholera serum drop, the difference becoming evident very promptly. If the preparations are placed in the incubator and examined at half hourly intervals active development and motion will be observed in the normal serum drop, and after a half hour agglutination will begin. Material containing only cholera-like vibrios can be readily identified in this way, but the question is more difficult when true organisms and some of the similar vibrios are together. With practice the distinction appears quite plainly, however. The author does not consider this plan an adequate substitute for the older cultural methods, but advises it as a useful time-saving measure, permitting the expression of an opinion within a very few minutes after the suspected stool is received.

**The Treatment of Gonorrheal Arthritis by Means of Bier's Congestion.**—Hirsch reports on the results obtained in the treatment of thirty-six cases of gonorrheal arthritis by means of Bier's stagnation hyperemia. The results, as far as the relief of pain and simplicity of application goes, were very satisfactory, but the average duration of the treatment was longer than that under the older methods. The functional results, also, it was found, were equally good before the Bier treatment was introduced. A prominent feature of the treatment, however, was the promptness with which the pain was relieved.

*Münchener medizinische Wochenschrift, September 26* 1005.

**The Migration of Lymphocytes.**—Schridde believes that he has been the first to furnish indisputable evidence of the power of migration of the lymphocytes in man. His observations prove that the lymphocytes have the ability by their own movement to penetrate vessel walls and enter these from the surrounding tissues. The question of whether the converse is also true and whether the lymphocytes can emigrate from the blood, that is, whether they retain the power of migration after reaching it, is still undecided, but the author believes that there is no evidence against this assumption. The crucial point in his study is stated to be the use of a special stain which is not described in detail in the present communication, by means of which it is possible to differentiate the lymphocytes clearly from leucocytes in sections of tissue. The method comprises staining with azur ii eosin and subsequent treatment with acetone. By using this differential stain in sections of mesenteric glands from a case of congenital leukemia the author was able to demonstrate large numbers of lymphocytes *en route* from the tissues into the lumen of capillaries.

**An Unusual Complication of a Diagnostic Excision.**—Steinbuchel says that all authorities are agreed that successful treatment of uterine carcinoma depends on early diagnosis, and that this often requires excision of bits of the suspected tissue. This little operation is one that the general practitioner is with propriety urged to do for himself, but that even this procedure, slight as it seems, is not without danger is shown by a recent misadventure of his own. A patient he had been treating for pelvic disorders for some time developed a suspicious erosion of the cervix. She was taken to a private hospital and in an aseptic operating room, after shaving and disinfecting the vulva and vagina as for a major operation, a wedge was excised from the cervix, and as there was moderate hemorrhage two silk sutures were applied. The same night the patient had a chill and high temperature, and though the sutures were at once removed and the wound was vigorously cleansed, she developed a septicopyemia, which ended fatally after four weeks of illness. The author ascribes the unfortunate outcome of what in itself was a trifling affair to the fact that one or two ovules of Naboth with turbid contents were opened by the incision and on this account it was a technical error to close the little wound with sutures. He therefore advises in all cases the omission of sutures and the control of bleeding by packing. The pathological report read carcinoma, but the condition might easily have been benign, and yet the fatality would have occurred just the same

**A Simple Method for Measuring the Temperature of the Skin.**—Gaertner says that so far no satisfactory method for obtaining the temperature of the skin has been devised. The inherent difficulties of the problem are great because any prolonged contact of the instrument with the skin changes the heat radiation of the skin, and the instrument itself is also subjected to the influence of air currents. The author's instrument consists of a thermometer having the mercury chamber flat and at right angles to the stem. The part of the bulb not in contact with the skin is protected against the air by a cover of hard rubber. In making a temperature determination two glasses of water, one warm and one cold are used. On applying the instrument to the skin the mercury column will immediately either rise or fall. The thermometer is alternately heated and cooled by touching it to the exterior of the vessels of water before placing it on the skin, within constantly narrowing limits as indicated by the rise or fall of the column, until it appears that the correct reading has been obtained. The error, it is estimated by the author, is not over .2° C. For convenience, instead of using one long thermometer it is recommended to employ two short ones, one calibrated from 20° to 32° C., and the other from 30° to 42° C. The former is used if the skin appears cool, the other if it is warm.

*Deutsche medizinische Wochenschrift, September* 28, 1905.

**The Removal of Foreign Bodies by Means of the Esophagoscope.**—Hacker is a warm advocate of this method of removing foreign bodies from the esophagus, and says that it is not yet practised to the extent it deserves. It is a procedure that general surgeons should learn to use just as they are now familiarizing themselves with the cystocope. Not every case is adapted to it, however, and the surgeon should always be ready to perform an esophagotomy immediately in case of failure with the esophagoscope. It is a great advantage for the patient to be in the care of a physician who is trained to every form of procedure that may become necessary. The author's total number of cases is now thirty-eight, and he says that he has never been obliged to perform esophagotomy on account of lack of success with the esophagoscope. He describes in brief his last twelve cases. The foreign bodies were bone fragments, artificial teeth, pieces of meat, and fruit stones. In seventeen of the author's thirty-eight cases the foreign body was removed from below the bifurcation of the trachea. With adults he does the operation under local anesthesia with cocaine, but children do better under a light chloroform narcosis.

**Sciatic Scoliosis.**—Lorenz in discussing this deformity says that there is first a primary curvature in the lumbar region with its convexity toward the diseased side, and secondarily there is a curvature in the dorsal region with its convexity toward the opposite side. It is the latter that has usually been regarded as the most conspicuous feature, and this is termed a heterologous or crossed scoliosis. The deformity is, however, essentially a rigid spastic primary lumbar scoliosis, and this is developed through curvature of the lumbar spine owing to reflex muscular spasm having for its object relaxation of the lumbosacral nerves in order to protect them from painful tension. The process is therefore a conservative one and should be fostered, not corrected, and efforts to dissipate the curvature result only in great pain to the patient and prolongation of the disease. During the painful stage the author advises the application of a plastic dressing from the thorax to the ankle of the affected leg, the patient being in the position which permits greatest relaxation and therefore greatest comfort. This dressing may be kept on for weeks or months, and then when the pain has ceased the usual treatment of massage, gymnastics, stretching of the knee, supporting body brace, etc., may be resorted to for the purpose of overcoming the deformity.

### *French and Italian Journals.*

**Contribution to the Study of Epithelioma of the Vulva.** Georges Mauxion calls attention to the rarity of both epithelioma and carcinoma of the vulva, sarcoma being far more frequent. There appears to be about one case of vulvar cancer to thirty-five or forty cases of uterine cancer. Goldschmidt in his thesis in 1902 reported two hundred and thirteen cases of vulvar epithelioma, as the entire number known up to that date. It is interesting to note that although malignant growths of the vulva are very rare, they are, nevertheless, nearly always primary. It is only exceptional that they are secondary, and more rarely still that they occur as an extension of a malignant neoplasm of the genital tract which has traveled from above downward. Malignant growths of the vulva, like the majority of other cancers, occur for the most part in older women. The most susceptible period seems to be between the ages of forty and sixty. The writer adds to those already reported two unpublished cases. A variety of this affection that is especially grave is that which is found about the meatus called periurethral cancer, on account of the rapidity of the appearance of the phenomena of retention of urine, vesical infection, and pyelonephritis. The prognosis of these neoplasms is grave. But, if the growth is removed in time, it may not recur for many years, and perhaps never. Treatment consists of thorough surgical removal of the diseased tissues. In inoperable cases, curettage of the fungous

patches with cauterization by the red hot iron, will often give relief. Recourse may also be had in these cases to radiotherapy.—*Revue Française de Médecine et de Chirurgie*, September 11, 1905.

**Electricity and Chronic Constipation.**—Paul Ch. Petit speaks of the good effects of electricity in cases of chronic constipation. In instances of temporary constipation, the return of the ordinary régime and purgatives generally suffice to overcome the condition. But, for the chronically constipated individual, retention of fecal matter is the habitual state. Certain individuals do not have a daily evacuation of the bowels, this condition being normal for them. They cannot be said to be troubled with constipation any more than those individuals who have two stools a day regularly, can be said to have diarrhea. The personal equation must always be considered. Besides the number of evacuations, their quantity and composition must also be considered in these cases. For many, constipation is a real menace. It is rarely that these patients are in good condition. Rectal affections are very common among them—fissures, hemorrhoids, and so on. The digestion is generally out of order. Vertigo, temporary deafness, and headache torment them. They are not capable of enduring prolonged labor Little by little neurasthenia develops. This affection never appears suddenly. It is common to middle age. Women seem to be affected more often than men. These patients—not considering the divers clinical aspects—may be grouped into two large classes. In the first spasm of the intestine is the prominent condition, in the second, atony is paramount. The writer concludes his paper by discussing the action of the galvanofaradic method of giving electricity. The galvanic current acts on the intestine through the mediation of the abdominal nervous system. The current abolishes spasm, and increases the secretion of the intestinal glands. The faradic current, light and rapid, offers a true massage to the parts treated. It thus stimulates the circulation. By this method, then, all of the abdominal tissues are reached. In many cases, from fifteen to twenty treatments are sufficient. The results of this method of treatment have been encouraging.—*Gazette des Hôpitaux Civils et Militaires*, September 7, 1905.

**The Preferred Operation in the Radical Cure for Crural Hernia.**—Salvatore Salinari tells us that there is no unanimity of opinion as to the best operation for the radical cure of crural hernia. There is slight tendency to recurrence of crural hernia, and it is usually small in size. On account of the fibrotendinous nature of the tissues, which allow of the passage of the hernia, and the peculiar conformation of the parts it is difficult to obtain exact coaptation of the parts and a perfect union, such as to hermetically seal the opening, and give a perfect obliteration of the crural canal. The author believes that the operation that corresponds best to the needs of the patient is the operation of Bassini. It avoids the formation of an acute angle, which might press upon the veins of the part, and give rise to thrombosis of the vein and embolism in the pulmonary artery. The only objection is the difficulty of preventing the existence of an infundibulum, which might cause recurrence.—*Giornale Medico del Regio Esercito*, August 31, 1905.

*Annals of Surgery, September, 1905.*

**Dry Iodine Catgut.**—The results of elaborate experiments are presented by A. V. Moschcowitz, who has used the iodine gut for some time, but has been somewhat disappointed in its lack of suitable tensile strength. He became convinced that this was due only to its long-continued immersion in the iodine solution (Claudius method). He has found that the objection named is obviated if the gut be removed from the solution at the end of eight days and preserved in a dry sterile vessel. For the catgut thus prepared he claims the following advantages: (1) The "dry" iodine catgut is absolutely sterile. (2) It is impossible to infect it by ordinary means. (3) Its inhibition with iodine is not sufficient to act as an irritant upon the tissues. (4) Its tensile strength is superior to raw catgut and to that prepared by the sublimate-alcohol method. (5) It is easily and cheaply prepared. (6) It is absorbed only after it has served the purposes for which it was intended.

**A Contribntion to the Knowledge of Endothelioma and Perithelioma of Bone.**—W. T. Howard, Jr., and G. A. Crile summarize the histories of nineteen previously reported cases of this unusual lesion and four personal cases, analyzing the material thus assembled. Their first personal case was that of a man, aged sixty-five years, who had a primary perithelioma of the left humerus. Symptoms began with pain which lasted two years, and then, while exercising, a transverse fracture occurred. This was followed by non-union, and metastasis occurred on the tip of the nose. Examination of a bit of tissue removed from the latter gave the diagnosis of perithelioma. Amputation of the humerus and nasal tip was done, but the patient developed some obscure pulmonary symptoms immediately thereafter, and died rather suddenly on the third day. A detailed report is given of microscopical findings. The second patient was a man of thirty-one years, who, in January, 1899, had a spontaneous fracture of the middle third of the left humerus. The bone apparently knit, but nine weeks later a second fracture occurred at the same place. Shortly after the first fracture the patient noticed a small nodule over the right temporal bone. He died of exhaustion about seven months after the first fracture of the humerus. The third case was one of primary endothelioma springing from the lymph spaces and channels of the lumbar vertebræ, clavicle, and ribs, with extensive metastases, chronic cholecystitis with gallstones and thickening of the gall-bladder occurring in a man of forty-five years, who died in a condition of coma. The last case was that of a girl aged eleven years who had a primary lymph endothelioma of the left femur with metastasis in the inguinal glands. No autopsy was obtainable. The authors express no positive opinion as to the etiology of these growths, although they say that in certain of their investigations they were impressed with the readiness with which the proliferation of the endothelium of the lymphatics would be explained by the assumption of the action of microorganisms or their toxins. In a general way the clinical history and aspects of these growths resemble the general type of osteosarcoma. They are apt to occur at the later periods of life, however, resembling in this respect the carcinomata. The long bones are most often involved. Pulsation in the growths may suggest aneurysm. From a clinical standpoint diagnosis cannot be definitely established.

**Malposition of the Appendix as a Cause of Functional Disturbances in the Intestine.**—Three cases are noted by J. A. Blake. The first was that of a woman of forty years, with attacks of pain in the right lower abdominal quadrant. Constipation, flatus, etc.; some tenderness over the appendix, but no palpable mass. The appendix was of the third (Treves) type, two and a half inches long. Mesoappendix was very short, suspending the appendix and cecum well up under the ileocecal junction, causing in its appendix attachment a sharp bend in that organ, narrowing its caliber. No signs of recent or old inflammation; mesoappendix divided, cecum straightened out; appendix removed; uneventful recovery; entire freedom from subsequent painful attacks. The second case was that of a man, aged forty-seven, with the same general symptoms, except that diarrhea has been present in several of the attacks; slight appendical tenderness. Operation showed the appendix implanted at the axial end of the cecum, four inches long, extremity slightly bulbous, no stricture or sign of inflammation. The mesoappendix was short and suspended the end of the cecum, as in the first case, up under the ileocolic junction. Appendectomy allowed the cecum to regain its normal relation, and was followed by complete relief. Case three was that of a nurse of thirty-six years, who had suffered for two years or more with constantly recurring pains in the right lower quadrant, but not of sufficient violence to keep her off duty. There had been no signs typical of inflammation. Operation revealed an appendix four inches in length of the third type of implantation and in the retrocecal position, the end of the cecum being rolled up under itself. Operation in this case was also followed by complete relief. This peculiar position of the appendix is explained by abnormal developmental sequences.

**Contusion and Laceration of the Mucous and Alar Ligaments and Synovial Fringes of the Knee-Joint.**—C. P. Flint gives the histories of four cases illustrating the fact that "chronic knee" cases often give no history or present no physical sign enabling a diagnosis to be made before the joint is opened. The operations in his cases revealed such lesions as are indicated in the title of his paper. The author takes up the question of the danger of opening the knee-joint, saying that one feels justified in abdominal section because of the improvement in method, and because one is supported by the knowledge that the peritoneum is well able to take care of a wide margin of error on the operator's part. This safety factor does not obtain in the case of the knee-joint, however, as most surgeons know to their sorrow. Moreover, says the author, "there is another reason, also, why we do not care to risk operating on the knee for exploratory purposes. An individual with an infected peritoneum does one of two things—he either gets well and does not show much evidence of what he has been through, or he dies. The man with an infected knee does the same—he recovers or he dies. The calamity of the fatal cases is equally great, but the recoveries differ; the man recovering from an infected knee is apt to have a stiff joint or have had an amputation—memoranda at all times connected in the individual's mind, throughout his life, with the unfortunate surgeon's name and skill." As to the results in the author's own cases, it is stated that all four patients had two apparent subjective symptoms, pain and limitation of function. In all, these two symptoms were for the time relieved.

# Society Reports.

## NEW YORK STATE MEDICAL ASSOCIATION.

*Twenty-second Annual Meeting, Held in New York City, October 16, 17, 18, and 19, 1905.*

(Special Report to the Medical Record.)

THE PRESIDENT, DR. J. RIDDLE GOFFE, IN THE CHAIR.

FIRST DAY—MONDAY, OCTOBER 16.

AFTER the meeting had been called to order by the President, the reports of various committees were presented.

**Bill Favoring One Medical Examining Board.**—Dr. E. ELIOT HARRIS, chairman of the Committee on Legislation, introduced the following resolution, which was unanimously carried:

*Whereas,* The number of bills introduced in the Legislature creating examining boards for some special department of medicine is increasing each year, and as the various bills provide a special examination which differs from the examination now required to obtain a license to practise medicine in this State, and in view of the fact that the medical profession is called upon to be active in Albany each year to protect the public health from such pernicious legislation, be it

*Resolved,* That the New York State Medical Association believes that the time has arrived to create a sentiment in the medical profession, as well as in the Legislature of this State, in favor of one medical examining board instead of the three separate examining boards now provided in the law, and to counteract the growing tendency in the State Legislature to create special examining boards for some of the popular medical fads;

*Resolved,* That the Committee on Legislation of the New York State Medical Association shall be empowered to confer with other medical bodies in preparing a bill to be introduced at the coming session of the Legislature embodying the recommendations contained in these resolutions.

**Bill to Abolish the Coroner System.**—The following resolutions were also adopted:

*Whereas,* The New York State Medical Association believes the coroners' system in this State, and especially in the City of New York, is antiquated and should be replaced by one more modern than the system which now prevails, therefore, be it,

*Resolved,* That the Committee on Legislation be instructed to investigate the question embodied in these resolutions, and embody the result of its work in the form of a bill to be introduced in the Legislature of 1906.

*Resolved,* That the Committees on Legislation of the District Branches and County Associations are requested to cooperate with the Committee on Legislation of this Association in carrying out the recommendations contained in these resolutions.

DR. WISNER R. TOWNSEND offered the following resolution, which was adopted:

*Resolved,* That the Secretary of the New York State Medical Association notify the treasurers of the various county medical associations that if dues are accepted for the year 1906 from members or candidates for membership such dues shall be returned in case the order for the amalgamation of the New York State Medical Association and the Medical Society of the State of New York shall be entered on or before January 1, 1906.

**President's Address.**—DR. J. RIDDLE GOFFE said that from every point of view the result of the year's work was a subject for congratulation and encouragement. It was a source of no little pride that in the face of the troublous times that had beset them they had not only been able to stand pat in their membership, but had actually increased it. Many of their members were also members of the County and State Medical Societies. This seemed to be a needless expense to have the payment of dues in both continued, and yet only a very few failed to pay their dues and continue their membership. At the last meeting a resolution was unanimously endorsed that it was the unalterable desire of the New York State Medical Association that harmony and good fellowship should prevail throughout the entire profession of the State, and to that end this association pledged itself to use its best endeavors to secure the union of the two State organizations until that much-desired end should have been accomplished. He said that the plan of campaign for the amalgamation of the two societies had been along two distinct and different lines. Knowing the generous and altruistic spirit that animated the association, and how thoroughly the members were endued with the conviction that in thorough and complete organization resided increased power for ennobling the profession, strengthening its dignity and influence, protecting it against its enemies, and advancing it to a higher plane of usefulness, he said he was convinced that any latent or active opposition lay in a misconception of the conditions of the amalgamation agreement and the practical working of the newly constituted society. To overcome these seeming misconceptions among the indifferent and actively opposed there was opened a wide and vigorous correspondence, with the hope of setting forth these apparently objectionable points in a more favorable light. This correspondence, supplemented by conferences at the district branch meetings, had, fortunately, been successful in allaying the apprehensions of many and arousing some to enthusiastic advocacy of amalgamation. A supreme effort was made to place all the acts of the association toward amalgamation on a strictly legal basis. To this end the council instructed the president to secure the best available legal talent in New York as associate counsel to their legal adviser, Mr. Lewis, and obtain from this combined talent a mode of procedure that would embrace all the requirements of the law and avoid any violence to vested rights. Dr. Goffe said that even at the last moment, although there had been some mutterings of opposition, he could not repress the hope that this vote in favor of amalgamation might be a unanimous one; that with flags joyfully flying at the masthead and themselves cheered with the thought that with whatever self-sacrifice might be necessary, they were keeping step with the march of progress and promoting the best interests of their beloved profession.

**Illness of Dr. Ferguson.**—DR. WISNER R. TOWNSEND said that members of the association would be pained to learn of the illness of Dr. Ferguson of Troy, and he moved that the association instruct the president to send a telegram to Dr. Ferguson, expressing the sympathy of the association and best wishes for his speedy recovery.

DR. JOSEPH D. BRYANT, in seconding the motion, with which he was in hearty sympathy, said that in a recent interview with Dr. Ferguson he had been assured of his intention of being present if possible and use what influence he could in bringing about the amalgamation of the two societies. The motion of Dr. Townsend was carried unanimously.

**Officers Elected.**—*President,* Dr. Allen A. Jones of Buffalo; *Vice-President,* Dr. H. Ernest Schmid of White Plains; *Treasurer,* Dr. Wm. G. LeBoutillier of New York; *Secretary,* Dr. Charles I. Redfield of Middletown; *Chairman Committee on Arrangements,* Dr. Frederic W. Loughran of New York; *Chairman Committee on Public Health,* Dr. A. A. Hubbell of Buffalo; *Chairman Committee on Legislation,* Dr. E. Eliot Harris of New York; *Chairman Committee on Publication,* Dr. Robert J. Carlisle of New York; *Chairman Committee on Library,* Dr. Alexander Lambert of New York; *Delegates to America Medical Association,* Drs. E. Eliot Harris of New York and J. W. Grosvenor of Buffalo; *Alternates,* Drs. Charles G. Stockton of Buffalo, George H. Reese of Cortland, John A. Fordyce of New York, and Wm. G. LeBoutillier of New York.

SECOND DAY—TUESDAY, OCTOBER 17.

The entire morning was taken up with the business of

the association with particular reference to the amendments to the By-Laws as a whole, which were unanimously adopted as read by Dr. Townsend.

**Amalgamation of the Medical Society of the State of New York and the New York State Medical Association.**—Dr. Wisner R. Townsend reviewed the work that had been done in furtherance of the object of amalgamation and moved that the resolution calling for it be adopted and that the balloting for it be proceeded with.

Dr. E. Eliot Harris, in seconding the motion, spoke warmly favoring the adoption of the resolution.

Dr. Joseph D. Bryant, as President of the Medical Society of the State of New York, said that he had worked hard for the amalgamation. Also that, at the suggestion of Dr. Ferguson, he had sent out 6,100 copies of the "Principles of Medical Ethics," so that every member in the State had received a copy. The result of the balloting showed, out of a total of 1,814 registered, 1,517 in favor of amalgamation, 2 opposed, and 295 not voting.

**Memorial to Dr. Baldwin.**—Dr. John Shrady read a memorial on the late Dr. Frederick A. Baldwin, treasurer of the association.

Dr. S. Suzuki, Surgeon-General of the Imperial Japanese Navy, was introduced by Dr. Goffe. Dr. Suzuki expressed his pleasure in being present, and for the honor they had bestowed upon him in asking him to sit with them during the proceedings.

**Reorganization of the Army Medical Department.**—Dr. Louis L. Seaman introduced a resolution, which was unanimously carried, that the New York State Medical Association respectfully petition Congress at its next session to reorganize the medical departments of the Army and Navy of the United States and place them upon the broad basis of that of the countries most advanced in military sanitation, to give the army medical department an independent transport system, to grant its officers power to enforce sanitary measures, and to create a personnel capable of caring for the ill and aged in the service; and also that Congress be petitioned to direct a graded course of study in sanitation and hygiene at both West Point and Annapolis.

**The Benefits of Organization.**—Dr. J. Riddle Goffe offered this as the President's Address and said that in every department of human endeavor the dominant note of the present day was organization. It was a basic principle of all progress and had its early inception in the idea of division of labor; in a wider sense it had its foundation in the very elements of nature itself and might be said to be the watchword of Creation. He spoke of what organization had done for countries and for the laboring classes; in all this great movement that had embraced every activity that had any vitality the medical profession had been a laggard; a new light had come and organization was the demand of the hour. In the words of William Morris, "To cease to fear our fellowmen and learn to depend upon them, to do away with competition and build up cooperation was our one necessity." In the old constitution making days of the colonial times medical societies were organized along the same lines as the national government; viz., county, district and state bodies, each dependent for its composition upon an assemblage for the next lower grade. Conspicuous in this movement were the medical societies of Connecticut, Massachusetts and Alabama. In these States the scheme worked successfully, but in obscurity. The New York State Medical Association had the distinction of having rediscovered this quiet little scheme, and in the reorganization of the New York State Medical Association at the time of its incorporation this plan was elaborated and adopted; it had not only been a lesson to our sister States, but also to the American Medical Association itself. The distinguishing features of this organization were that the County Association was the unit, that membership in it carried with it membership in the district and State associations, and through the latter to the national body. As society throughout the civilized world recognized the family as the unit and foundation upon which the whole structure rested, so the county organization was the unit upon which the whole superstructure rested. The intimate relations of the family circle cultivated forbearance, self-restraint, self-sacrifice, love and charity, as well as an intimate knowledge of each other's character, and these in turn beget unity, peace, and concord Members of the County Association were but children of a larger growth, where the same homely virtues need to be practised and cultivated. The County Association existed primarily for the dissemination of medical science and art, but the full benefit of this part of the work could not be obtained without eliminating the personal equation, and this could only be done when an intimate acquaintance existed. The program of a monthly meeting should always include a definite time for social intercourse. To know the pitfalls and errors that mar the successful making of a local society and prevent it from attaining the highest fulfillment of its mission was of inestimable value. Dr. Goffe quoted from Dr. Osler and from one of Conan Doyle's novels to illustrate the advantages of professional brethren living together in harmony and not allowing nonessentials and miserable trifles to mar the good fellowship and friendly intercourse that should exist between physicians. He spoke of the mutual benefits to be gained by the meeting together of old and young practitioners on a friendly basis. The scientific handling of disease was not the whole thing, by any means, and the young man would find much to learn from the old doctor in the sympathetic handling of the patient while at the same time he fought the disease. The scientific work fixed the intellectual status of the members. The discussions of the papers soon developed who had the observant eye, the keen ear, the delicate fingers and the educated touch. The well-conducted medical society represented a clearing house in which every physician in the district received his intellectual rating, and in which he found his professional assets and liabilities, as Dr. Osler had aptly expressed it. The aim of the society should be to see that every respectable physician was a member of the local society, and that every practitioner who was not respectable was bounced out of the profession. While the County Society might not make finished scholars of all its members, its influence was always for good. Through the Medical Directory and the State Medical Journal the association was made compact, the mutual interests and dependence of the constituent societies kept alive, and the organization as a whole made a ready instrument for defensive or aggressive action. He sincerely hoped that the newly constituted society would continue the directory. The reports of the various county meetings had stimulated commendable rivalry in the excellence of the programmes and the quality of their reports. The superiority of the Journal over the traditional volume of transactions would seem to need no argument. He referred to the effort being made to expose the evils of the so-called proprietary drugs. He thought he was not overstating the situation when he said that from the standpoint of the health of the community and the dignity and welfare of the profession the exploitation of quack nostrums was the greatest abuse of the present time. The running of a State medical journal required a properly selected editor with a reasonably remunerative salary. By combining the work of editor and secretary in the hands of a paid official, the work of both would be efficiently performed and no imposition practised upon anyone. There were now sixteen State medical societies which had journals. By these journals forming a combination against the advertisements of secret or proprietary medicines a great power for good could be exerted. Malpractice defense was a pertinent feature in their organization, and it had worked most satisfactorily. The work of the insurance companies along this line was worse than useless, because they were always working on a strictly business basis. A directory, a journal, and a malpractice defense were certainly tangible benefits and well worth the expense they

involved. He said that the principles of ethics needed no advocate; they stood as a masterpiece of diction, a model for every man in the profession to emulate.

**The Abrupt Onset of Typhoid Fever.**—Dr. Morris Manges read this paper. He said that especial stress had been laid upon the variations in the onset of typhoid fever recently, as if these irregular cases were a new feature. Greater improvements in the diagnostic methods, and especially the Widal reaction, had established the identity of a large number of cases which formerly escaped recognition, and for this reason were probably largely instrumental in spreading the disease. These irregular cases were far more frequent in children than in adults. The high mortality of these cases made their early recognition imperative. As regarded the frequency of this mode of onset, a careful study of the cases at Mount Sinai Hospital showed that it occurred in about ten per cent. of all cases. The recognition of the abrupt onset was not new, as it was described by Chomel in 1834. In studying these cases Widal noticed the very early occurrence of his reaction in this group, it being positive on the third to the sixth day, and he believed that the suddenness of the invasion was to be explained by the fact that the typhoid bacilli had "developed silently" in the organism. The bacilli might be unusually virulent or they might be associated with antecedent infections which had lessened the powers of resistance of the individual, or, on account of the presence of a mixed infection, had favored the rapid growth of the typhoid bacillus. He distinguished between those cases which were really abrupt and those which seemed to be abrupt but really were not so, as those cases of walking typhoid. Cases of abrupt onset might be ushered in, either with chill, single or repeated, severe pains in the abdomen, head, or other parts of the body, or virulent delirium; or they might act as cases of appendicitis, nephritis, pneumonia, pleurisy, grippe, etc. Some cases acted like diphtheria, or cases with marked hyperpyrexia, while another type were the hemorrhagic cases. He had seen a unique case in which the initial symptoms were a marked tachycardia and heart failure. Closely allied to the cases of abrupt onset were some of the cases of paratyphoid, the sudden onset of which brought this class of cases into close relationship with the group under discussion. Some abrupt meningeal typhoids resembled cerebrospinal meningitis. A simple leucocyte count usually served to make a differential diagnosis. A low count, from 3,000 to 5,000, is usually present in cases which developed as typhoid. The lumbar puncture gave additional diagnostic information. Clinically the cases might run an identical course for a number of days. The pneumotyphoid and pleurotyphoid cases were too well known to need further description. Another abrupt type was where the patient was able to give not alone the day upon which the disease began, but the exact hour. Another type of sudden onset was that marked by sudden high fever, which might or might not be associated with chills. In from twenty-four to thirty-six hours the temperature might reach 105 to 107° F., and the course reminded one of some severe poisoning rather than typhoid fever. Death usually occurred at the end of the first week, the patient seldom surviving beyond the second. These cases were rare. Dr. Manges had seen one case in which the temperature had risen to 111° F. shortly before death on the tenth day. The hemorrhagic form of typhoid was often ushered in with sudden onset, and ran a brief and rapidly fatal course. These cases were often mistaken for typhus fever. Malaria might be associated with the sudden onset of typhoid fever. As was brought out in the late Cuban war, malaria was apt to complicate the beginning or the end of the disease, but was not a factor of the disease in its fully developed stages. Chilliness or repeated small chills were extremely common, occurring in 23 per cent. of the cases at Mount Sinai Hospital. Repeated severe chills without any malarial affection might also occur. Sudden onset in the throat characterized a class of cases which was rather rare. Diphtheria might be associated with the sudden onset of the disease in some cases. Another type was characterized by high fever and nephritis. One case with these symptoms ran a continuous temperature for four weeks with delirium, and no explanation could be given beyond the nephritis and continuous fever. The Widal reaction was frequently sought, but did not appear until the temperature fell and the urine cleared up. The grippe type presented features of peculiar gravity as regarded diagnosis. He cited the case of a young man who apparently had a typical case of grippe from which he seemed to recover, when six days later he developed typhoid fever to which he succumbed from perforation. The general consensus of French opinion was that the antecedent attack of grippe had predisposed to typhoid. He could not absolutely agree with this view until further opportunity had been given to study the Widal reaction in the earlier attacks. The progress of the case, the roseola, the Widal reaction, etc., alone enabled one to differentiate these cases. The explanation of these cases as already given would not hold good in all cases. The explanation seemed to be in the rapid development of the organism within the body The rapid growth might be favored by a preexisting infection such as grippe, malaria, etc., or by other causes which have lessened the resisting power of the patient. In this class of cases a properly applied test for the Widal reaction should never be omitted, as the fact that the Widal reaction developed so early in cases of typhoid with abrupt onset lent particular value to this test in these cases.

Dr. Albert Kohn of New York said that any lesion beginning in the larynx, such as an ulceration, would have the symptoms referred there before referable to the abdomen; the so-called typhoidal appendicitis would have the symptoms referable to the appendix first. The site of the lesion had much to do with the suddenness of the onset. He said there were two predisposing factors. Many started with meningeal form with a previous history of headaches, and here the onset would be sudden. The presence of the roseola was uncertain, the enlargement of the spleen was uncertain, the tongue was not typical, but the pulse in the vast majority of the cases was slow. Any one symptom looked for was more or less doubtful. He believed the facial appearance of the patient would aid greatly in the diagnosis.

Dr. Charles G. Stockton of Buffalo said that the localization of these lesions was entirely conjectural, and that it was very difficult to say why in septicemia one occasionally found manifestations in a meningitis, again in the kidneys, again in the lungs. The same was true of influenza. But when typhoid selected deep organs one was apt to have a sudden onset, according to his observation.

Dr. Manges said that there certainly was something in the patient's look, and that they looked sicker than one would expect from a high temperature. He emphasized the value of the Widal reaction, and in an enormous experience with this reaction he had never been misled by the statement of the bacteriologist; a positive reaction meant a positive typhoid.

**Lumbago and Sciatica, Pseudorheumatism.**—Dr. James J. Walsh read this paper. He said there was probably no set of affections that were a source of more opprobrium and dissatisfaction to the modern practitioner than lumbago and sciatica. The chronic rheumatisms were extremely dissatisfying as regarded diagnosis and treatment. This was a field in which the quack had accomplished more than in any other field of practical medicine. This was a reason why it was increasingly difficult to prevent the osteopaths from obtaining legislative recognition. They had treated this class of patients more effectively than a number of general practitioners and specialists who had preceded them. One reason why the ordinary physician failed to benefit such cases was that the word rheumatism had become inextricably attached in his mind with the remedies that were usually applied, and was not directed

to other forms of treatment which might better serve the purpose of affording relief. Because lumbago and sciatica had been dubbed "rheumatic" it was taken for granted that the salicylates would surely do them good. The salicylates were excellent for the immediate relief of pain, but they should not be given to old people over long periods of time. They were inclined to affect the blood unfavorably, predisposing to anemia. Prof. Brouardell of Paris, in his experiments as to the effects of the salicylates on the organism at different ages, found that at the age of twenty years the salicylates began to be eliminated in the urine in about two hours, in a person of forty no trace of them could be found for almost twelve hours, and in a man of sixty-five they did not make their appearance until after twenty-four hours. At twenty years the elimination was complete in less than twenty-four hours; at forty, not until after forty-eight hours, and in old age there were traces of the salicylates after four days. This emphasized the necessity for care in the use of this drug, especially if there was renal insufficiency. As a matter of fact, lumbago and sciatica had, in most cases, very little of the aspect of rheumatic affections. They might be treated under two forms, the acute and chronic. Usually the acute occurred after exertion or when an uncomfortable position had been occupied for a long time. They might be described as sprain. Sometimes lumbago might result from chilling the lower portion of the back. This caused congestion in the muscles, disturbed the nutrition of the sheaths that must be kept smooth and healthy to perform their function; when the nutrition was lowered there was friction and consequently pain and hindrance to movement in these tissues. Such conditions were especially liable to occur if there were toxins in the blood likely to be irritant to delicate structures. Hence it was that persons suffering from tuberculosis were more likely to have neuralgia than others. Sir James Grant of Toronto had assured him that he sometimes succeeded in obtaining relief from very severe painful conditions in these parts by the insertion of ordinary steel needles. He attributed the pain to disturbed electrical conditions, and the small steel conductor provided an escape for the accumulated electricity. Acute puncture had proved to be a helpful remedy in many of these serious acute conditions. Affections in which toxic substances abounded in the blood were frequently complicated by affections of the nerves. The sciatic nerve was most likely to be affected. People who walked much might have their diabetic neuritis in their anterior tibial nerves, giving a characteristic toe drop that was almost typically alcoholic in origin. Alcoholic neuritis of the anterior tibial nerve might be accounted for by the fact that this, in persons of sedentary habits, was the most used nerve in the body, and consequently most subjected to the action of absorbed alcohol in the system. This same principle must be applied to all forms of sensory or motor disturbance. This was true in regard to sciatica and its connection with certain occupations. If the sciatic nerve was used more than others and a toxic condition was present, there would almost surely be disturbance of the muscles, causing reflex sensory disturbances. Where these troubles were due to overworked nerve, something could be accomplished by showing patients how to use their muscles with the least waste of nerve force. This had been accomplished very practically and on scientific principles by the Sloyd method of teaching workmen how to do their work hygienically. The main thing was not to consider these vague pains as rheumatic, but to recognize what was the trouble in each individual case and to try to correct it by means of direction, massage, change of occupation, hydrotherapy and other methods at our command. In not a few cases pains which seemed to be lumbago or sciatica were hysterical in character. In these cases the patients must be treated for their nervous condition.

**Some Experience with Apomorphine.**—Dr. George H. Peddle of Perry, N. Y., reported in detail two cases of alcoholism which he had treated with 1/20 grain doses of apomorphine with happy results. It was also of value in hysterical contortions or fits, in poisonings by strychnine, in insanities produced, for instance, by bromides, etc. Also in poisoning by the oil of tansy, delirium tremens, and poisoning of almost any nature accompanied by high arterial tension. A few cases were reported to show the wonderful effects he had obtained by the use of apomorphine.

**The Significance of Dysmenorrhea at Puberty, and Its Relation to Uterine Tumors.**—Dr. Frank DeWitt Reese of Cortland, N. Y., presented this communication, which was based partly on records of his cases kept over twenty years, from reading and from personal communication with certain well-known gynecologists. He said that all cases of uterine fibroids gave a history of severe pain, first manifesting itself at the menstrual period, and continued unless interrupted by pregnancy or some other agency. He said he had tried to discover the cause of uterine fibroids, but had failed. He had written to prominent gynecologists, asking them what they considered to be the cause of uterine fibroids. There seemed to be a paucity of statistics on this point, thus opening up a new field for investigation. The uterus, he said, must have something to do, and if pregnancy did not take place a fibroid was formed. He had two propositions to submit: First, was dysmenorrhea a symptom which indicated the presence of a fibroid at puberty? Second, can the exciting cause of dysmenorrhea be the exciting cause of the fibroids? His answers were based upon the histories occurring in his own practice and the statements of authorities. In his histories he learned that all his patients with fibroid tumors of the uterus had dysmenorrhea from puberty. He believed it was impossible for patients to have fibroid tumors of the uterus before puberty without having pain, and yet no actual symptoms would be produced prior to sexual activity. He was trying to establish his claim that the causes of dysmenorrhea were the exciting causes of fibroids. He believed the treatment of fibroid tumors of the uterus should be of a prophylactic nature, the treatment being primarily addressed to the preceding dysmenorrhea.

Dr. Mary Gage-Day of Kingston-on-Hudson said it was a serious thing for a girl to be partially or wholly disabled, from a few hours to days, in some cases each month; and only by getting a more thorough knowledge of the subject could we better present treatment. There were two classes of cases—first, those who had been great sufferers from the beginning of menstrual life, and, secondly, those who menstruated normally but once and, through ignorance, had committed some imprudence which had resulted in some inflammatory state of the pelvic viscera. The conditions interfering with the normal development of a girl were so numerous that it was a wonder that any developed into normal womanhood. Because girls did not die of dysmenorrhea there was no chance to make scientific study of this subject, and whether the relationship of dysmenorrhea at this period to uterine fibromata later in life was that of cause and effect, or whether the primary nodes of the neoplasm existed in the fetal structure, they were unable to tell. Most authorities stated that uterine fibromata did not exist prior to puberty, although Howard Kelly considered it probable that they did exist perhaps in microscopical size from fetal life. Cases were cited illustrating the strong heredity tendency there was in some families toward abnormal developments. Whatever our theories were concerning the etiology of these conditions, the practical question was, how were they going to treat these conditions who begin their menstrual life with such sufferings? Her remarks were then limited to the hygienic and medical management. There was no cure-all. The actual medical treatment she believed to be hot teas, hot applications, and rest in bed. If no relief followed this, then the necessity for a pelvic examination was explained and the conditions treated as found.

THIRD DAY—WEDNESDAY, OCTOBER 18.

**Test Feces; Their Value in the Recognition of Intestinal Disturbances Taking Their Origin in Other Parts of the Digestive Tract.**—Dr. HEINRICH STERN of New York said that not every disturbance of intestinal function originated in the intestines themselves, and that the stomach, liver, and pancreas were the organs which often caused intestinal disorder. After the administration of his test-regimen there always occurred some debris of connective tissue in the test feces. If the amount of such debris was large we might be convinced that gastric insufficiency was the root of the whole evil. Intestinal disorders of hepatic origin were of less frequent occurrence. Most intestinal affections caused by insufficient liver action were the direct consequence of disordered biliary secretion. When biliary difficulty stood at the bottom of the intestinal affection, the test feces presented a grayish color, and occurred in very large amounts. The sublimate test was negative, considerable masses of fat being excreted with them. Large amounts of fatty acids might be demonstrated in them, but no pathological amounts of other food residues. Intestinal disorders of pancreatic origin could only be recognized when the entire gland had degenerated. When there existed but a partial destruction of the pancreas, an eventual secondary intestinal disease could not be ascribed to it. The test feces, in case the entire pancreas was atrophied or otherwise degenerated, exhibited similar amounts of fat as the test feces of biliary obstruction. The test feces of both pathological states differed, however, in the following points: The feces in pancreatic disease was less copious than in biliary disturbance; they contained the biliary pigmentary substances; they exhibited large amounts of muscle debris and contained their fat very often in the form of neutral fat globules.

**What Organized Malpractice Defense Does for the Profession and the Public.**—Mr. JAMES TAYLOR LEWIS spoke of two directions in which the public was especially interested outside of the subject of scientific medicine and surgery, and these led directly to the improvement of the public health, and naturally were of interest to the profession itself. These two branches were the enforcement of medical laws prohibiting the illegal practice of medicine by quacks and charlatans, and the successful removal from the mind of the medical and surgical practitioner of the ever-present danger and threat of the dreaded malpractice suit, so called. From 1887 to 1905 there had been conducted in the State of New York, and especially in the County of New York, more or less continuous efforts against these non-medical persons with the hope of driving them from the State, and thus throwing about the public real medical protection against a class which was doing as much damage as disease or pestilence; but from his experience it had been proven beyond peradventure that to-day there existed in their midst as many, if not more, of this class of criminals as were found when the work was begun. This was due to two reasons; one was the support which this class of criminals received from the advertising columns of our daily papers, and the second was the inadequacy of the medical law with reference to the punishment of these law breakers. It had been thought that organized malpractice defense had originated in the minds of members of the State Medical Association. That might be so, but there had existed in the medical societies of England a similar defense proposition which had also been successfully carried on. At the time of the reorganization of the New York State Medical Association this subject was discussed by the speaker with Dr. E. Eliot Harris and Dr. Frederick Holme Wiggin. The question of means to carry on the same was of serious consideration, and it was thought that if one of the large insurance companies would undertake this defense, with their legal department fully equipped, it might prove a satisfactory plan; but after consultation with the attorneys and officers of these companies it was found that the expense would be too great, and that the policies issued by these companies would not be accepted by the entire membership of the association. At this time statistics showed that one doctor in 150, or every doctor once in 150 years, was sued for malpractice. Statistics, so far as they could be gathered at present, showed that in the past year one doctor in 275 was sued for malpractice. This showed something of the effect of persistent and organized defense of malpractice suits by a reputable medical organization. One of the most prominent surgeons in this city, who had given much time and study to the use of the *x*-ray, and who had furnished one of the hospitals in our city with the results of his labors and had purchased a full set of instruments and contributed them, was the first against whom an action was brought for burning with the *x*-ray. Even now protection from these rays was uncertain; yet the public was indebted to the medical profession for this great light; yet there were those who, under the advice of a shyster lawyer, were willing to prosecute, no matter how careful the surgeon might be. The reports showed that about 97 per cent. of so-called malpractice suits were brought for blackmail purely, and without any idea of whether there was a *bona fide* claim or not, and when reached for trial were abandoned. With the successful continuance of this work, this percentage would slowly increase, though there would, of course, remain a very small percentage of cases where there was a proper legal question to be decided by a court and facts to be decided by a jury. The legislation committee should consider the introduction of a bill in our State legislature compelling malpractice litigants to file security for costs when action was brought. This would cause the blackmailing variety to pause. The theory under which this defense was worked out was that if insurance companies could afford to pay counsel in various parts of the country, employ agents to secure defense insurance premiums, hire expensive offices, and pay large salaries to officers and then pay a large dividend to the stockholders when they would charge only $10 for the premium on a policy of defense, surely a great representative medical organization with all the conveniences of proper defense at hand should be able upon an economical basis to defend its members for a very small annual charge. The success of the defense and the enormous influence which it had exerted on the mind of the profession and of the public was due to the fact that it was purely a fighting defense. The public had come to know and shyster lawyers had been given to understand that no quarter was asked or given. It was understood that when the defense of a member was once undertaken by the association, it would be continued to the court of last resort, which was an extremely tiresome proceeding for the shyster lawyer to contemplate. The member, of course, understood that the association stood ready to uphold him if what he had done was proper and he had made the best use of an enlightened judgment. This was what the law required, and what the council of the State Medical Association had demanded. The success of this defense when the doctor felt that he had the support of his fraternity and of a great medical organization was bound not only to benefit the public, but with a few continuous years of this defense would stamp out once and for all one of the great stumbling blocks in the way of scientific medical and surgical experimentation, and would allow earnest study and practice within limits, to take the place of this ever-present fear in the mind of the medical practitioner of one of the greatest evils with which the medical profession had to deal. He referred to continuous effort, because occasional fits and starts in any movement did harm as well as good. People got the idea when a novelty was temporarily abandoned that it had been ill-advised or unfortunate. Now that amalgamation of the great medical organizations was assured, it was hoped that the final order of amalgamation would be entered speedily, and it was expected that the wisdom of malpractice defense by a medical organization had become sufficiently evident

and the benefits of such defense so forcibly settled in the minds of the medical profession of this State that the work would be continued without interruption under the auspices of the amalgamated society.

**Protection of the Water Supply.**—Dr. Thomas Darlington, Commissioner of Health of New York City, stated that a careful study of the conditions on the Croton Watershed and of the various other water supplies of the greater city, covering a period of many months, had convinced him of the necessity for the establishment of filtration plants. The watersheds of the city extended over a number of miles; those which supplied Manhattan and the Bronx covered over 360 square miles. Within such an area, where there were many inhabitants, the task of giving absolute protection from pollution was impossible. The problem was still further complicated because a part of the water supply came from the State of Connecticut, which was out of the jurisdiction of New York City and State. With the establishment of filtration plants it would be possible to guarantee pure water, even if the sources of the present supply were largely outside the jurisdiction of the City of New York. Filtration was no longer an experiment. A well-made sand filter would remove 99.5 per cent. of the bacteria from the water, besides most of the organic and inorganic materials suspended therein. It was an old but fallacious idea, Dr. Darlington said, that flowing water purified itself. Within a short distance of its source the impurities discoverable by chemical methods might be entirely lost; bacteriologically, or, rather, from a pathogenic standpoint, however, it did not change perceptibly. Where we had contamination from human excrement in the water, we might look for human diseases to follow. In connection with his remarks, Dr. Darlington showed a number of lantern slides of the Croton Watershed, with possible sources of contamination.

Ernst J. Lederle, Ph.D., said the death rate from typhoid fever in New York City was comparatively low—about 19 per 100,000—and had been steadily reduced from 1900 to 1905. Of 126 American cities, with a population of over 30,000, there were only twenty with a smaller death rate from typhoid fever than New York. The following were the typhoid death rates per 100,000 inhabitants of some of the principal cities in the United States: Pittsburg, 122; Philadelphia, 51; Cincinnati, 45; Baltimore, 35; St. Louis, 31; Boston, 26; New York, 19; Detroit, 18; Milwaukee, 18. The following sources of typhoid fever had to be taken into consideration in the study of the matter in New York: 1. Milk, which was at times infected at the dairy or in distribution to the consumer. 2. Shell fish, particularly oysters, which were freshened (fattened) in sewage polluted water. 3. Uncooked vegetables, such as lettuce, celery, etc., from farms fertilized with sewage or "night soil." 4. Imported cases. 5. Secondary infection. 6. Ice. 7. Infected food due to flies carrying infection from privy vaults to the kitchen or dining room. 8. Domestic water supply. 9 Public water supply. To a large extent, typhoid fever came from impure water. In the city of New York, a small percentage of typhoid cases had come from oysters that had been contaminated; other cases had been carried in from the outside; still others had come from milk contaminated by some local water supply. During the past five years, the number of deaths from typhoid fever in New York City were as follows: 1900, 718; 1901, 727; 1902, 765; 1903, 653; 1904, 661. Dr. Lederle said that while it did not appear from the above figures that the water supply of this city was in a serious condition, he thought all would agree that every precaution should be taken to insure its purity, and in order to secure this, the installation of an efficient filtration plant was essential.

**Typhoid; What Are We Going to Do About It?**—Mr. Samuel Hopkins Adams discussed this phase of the subject. He stated that within a few years a number of our American cities had awakened to the astonishing discovery that typhoid fever was expensive. Cleveland found that the prevalence of the disease was giving the city a bad name and hurting business. Chicago discovered that the daily boiling of germs occupied the kitchen range to the exclusion of more appetizing cookery. Pittsburg, every time a new wave of industrial prosperity swept over it, perceived with dismay its resultant influx of population, which had not been brought up on sewage, passing swiftly from the water faucet to the hospital to an extent that crippled the commercial output. Even Philadelphia decided that, on the whole, assorted germs were too dear a diet. These and other cities, each in its own way, had set about getting a better water supply, and all indications pointed to the fact that in a few years the principal cities of the United States would be furnishing to their citizens water that was fit to drink. Ithaca now had its filtration plant. The lesson was learned at a terrible price, yet that was the price which most cities must pay. In the cause of pure water, public opinion, excepting when incited by terror or an epidemic, had to be stimulated artificially, so to speak. Seeing was believing, to the general mind. Nothing looked so clean as water, and the bad was often as clean as the good. Disease-bearing organisms, unfortunately, were not impressive to the lay view, even through a powerful microscope. If physicians, whose noblest work was the education of the public in the science of right and clean living, could put in provable form what they knew to be true concerning the relation between bad water and disease, the problem would be half solved.

**Protection of the Milk Supply.**—Dr. Walter Bensel of New York read a paper on this subject. He stated that the statistics of New York City showed that children under five years of age constituted about one-third and infants under one year about one-sixth of all deaths, and that a large proportion of these infant deaths was due to intestinal diseases. When we considered that cows' milk in some form was used during a considerable part of almost every child's life, and that, owing to the ignorance or carelessness of the larger number of milk producers, milk was notoriously filthy, we at once realized the importance of the enforcement of most stringent regulations concerning its production, transportation, and sale. The city of New York was supplied with about a million and a half quarts of milk daily, of which about two hundred thousand quarts were produced from dairies within the city limits. Handling this enormous quantity of milk were some 450 creameries and about 9,000 dairies. To inspect those creameries and dairies, the Department of Health employed two inspectors, more being unavailable through a lack of appropriation. Nevertheless, an enormous amount of work had been done. A large proportion of the creameries had been visited once or twice, and most of the bad conditions therein had been corrected, but the dairies remained as yet practically untouched. According to the Sanitary Code, milk was adulterated when it contained more than 88 per cent. of water, when it contained less than 12 per cent. of solids, when it contained less than 3 per cent. of fats, when it was drawn from animals within fifteen days before or five days after parturition, when it was drawn from animals fed on distillery waste, or any substance in a state of fermentation or putrefaction, or any unwholesome food; when it was drawn from cows kept in a crowded or unhealthy condition, when any part of its cream had been removed, when any foreign substance whatever was added to it, and, finally, when it was at a higher temperature than 50 degrees Fahrenheit. In connection with his paper, Dr. Bensel showed a number of lantern slide views of unsanitary cow sheds and creameries in New York and vicinity.

**The Acid Toxemia of Pregnancy.**—Dr. Henry McMahon Painter of New York read a paper with this title, in which he discussed the various theories of the subject.

**The Pathology of Eclampsia.**—Dr. James Ewing made some remarks, which he illustrated by means of lantern slides, of liver sections. He stated that about a year ago he gave a presentation of this subject before the New York

Obstetrical Society, and his further investigations had only tended to strengthen his belief that the three clinical manifestations of pregnancy, namely, eclampsia, pernicious vomiting and acute yellow atrophy, were essentially one and the same disease, although he did not mean to imply by this that they were similar in all respects. During the past eighteen months, Dr. Ewing said, he had made a fairly extensive study of the features of the urine in the toxemias pregnancy, including those of the non-convulsive type; some 150 specimens of urine had been examined. The findings of such examinations, he said, were only significant when the entire twenty-four-hour specimen was secured, and when the diet of the patient was exactly known. His investigations had shown that the percentages of urea-nitrogen and ammonia-nitrogen were very variable, and that the presence of leucin and tyrosin in considerable quantity in the urine was a much more reliable clinical indication of toxemia and its severity.

**The Treatment of Hyperemesis Gravidarum.**—Dr. William S. Stone of New York City stated that the treatment presented in this paper was based upon the assumption that the essential etiological factor was a toxemia, manifested by more or less severe metabolic disturbances, in which the liver, in the severest cases, at least, showed pathological changes that were readily demonstrable and were known to be the lesions in other diseases of well-recognized toxemic origin. This assumption was applied to both the mild and the severe types. The treatment, considered specifically, should consist of: 1. Rest in bed, absolute in most instances, at least for a few days; 2. exclusion of all visitors, even members of the family in severe cases; 3. a milk or broth diet, or absolute withdrawal of all food by the stomach in severe cases, but a liberal allowance of water; 4. catharsis at the beginning of treatment with calomel and salines, the latter sometimes to be repeated; 5. colonic irrigations with normal saline solution, or rectal injections of the same; intravenous infusions in the severest types; 6. nutrient enemata; 7. the administration of a few doses of opium, either hypodermically or by rectum. The writer considered the opium a valuable adjunct, and did not think that the beneficial results following its use offered any more argument against the toxic origin of the disease than did the good results of its use in other toxic conditions. In the treatment of the severe cases, particularly those of the acute or fulminating type, the additional evidence furnished by the complete chemical examination of the urine would give the most accurate knowledge of the gravity of the condition, although as yet the appearance of no single pathological constituent could be said to furnish an infallible guide. The choice of method in terminating the pregnancy might also be of the greatest importance. Rapid dilatation and emptying the uterus under a general anesthetic was a serious operation in these cases, and should not always be attempted, because the shock might be the determining factor in a fatal result. If it seemed necessary to resort to anesthesia, the writer advised the use of ether instead of chloroform, because evidence was accumulating that chloroform was particularly dangerous in the presence of marked disturbances of metabolism.

**The Prevention and Treatment of Eclampsia.**—Dr. Bernard Cohen of Buffalo stated that every man whose practice was such that he might be called upon to attend obstetrical cases should have in mind a definite outline of the treatment he was to pursue should he meet a case of eclampsia, no matter what theory he might hold as to its causation. The clinical course of the treatment for eclampsia was now fairly well defined, and was governed by certain well-established principles which would prevail until a more exact knowledge of this obscure disease required their modification. The preventive treatment was by far the most important, as it was by close observation of the patient during pregnancy and the consequent recognition of early symptoms that, in the majority of cases, we were able to ward off the attack entirely. The speaker said his experience did not warrant his saying that eclampsia was a disease that came on without any warning, and that many times, seeing the premonitory symptoms, he had been able to anticipate the attack and prevent its occurrence. In every case of eclampsia the premonitory symptoms were usually recognizable in time to prevent the fits. Immediate treatment should be given upon their recognition, but should the too rapid formation of poison prevent that treatment, we could at least interfere early enough to save mother and child. The speaker, after emphasizing the importance of preventive measures, discussed the medical and operative treatment of eclampsia. In regard to the latter he said that if labor had not started and the cervix was hard and unyielding, and the woman in desperate condition, he would advise Cesarian section by the abdominal route. In all of his cases the women were at term, or nearly so, and he was able, by the use of the graduated steel dilators and manual dilatation, after the methods of Harris and Edgar, to dilate the cervix. As soon as it was effaced he was enabled to apply the forceps or do a version and extract the child. This he regarded as the best method. It took considerable time, but destruction of tissue and sepsis were avoided.

**The Present Status of Vaginal Cesarean Section.**—Dr. M. Stamm of Fremont, Ohio, read this paper. He said it was now about ten years since Dührssen, of Berlin, brought this operation before the medical profession, and theoretically laid down its rules and indications, which seemed to have suffered very little change by time and experience. At first a number of theoretical objections were raised against this operation, and the profession was slow in giving it a practical test, but with increased experience those objections had been gradually removed. The purpose of vaginal cesarean section was to empty a pregnant uterus at once through the vaginal route by an anterior or posterior incision, or both combined, into the cervix and lower segment of the uterus without opening the peritoneal cavity in cases where the cervix was totally or partially closed, or where there was absence of pain or any effort on the part of the uterus to expel the fetus in due time. Dührssen, in his earlier publications, laid down the following indications: (1) Abnormal conditions of the cervix and lower segment of the uterus—carcinoma, myoma, rigidity or stenosis of the cervix, and partial pouchlike distension of the lower uterine portion. (2) Dangerous conditions of the mother which might be removed or relieved by promptly emptying the uterus—affections of the heart, lungs, or kidneys. (3) Conditions of the mother where death was imminent and could be foreseen. The speaker said that since his first publication on this subject (*American Journal of Obstetrics*, November, 1903) the operation had been done about eighteen times in this country, in most cases for eclampsia, which furnished the chief indication for it.

The subject of the toxemias of pregnancy was further discussed by Drs. J. Whitridge Williams of Baltimore, J. Clifton Edgar, Joseph Brown Cooke, David P. Austin, and James J. Walsh of New York.

**Resections of the Bladder in Rebellious Cystitis.**—Dr. Howard A. Kelly of Baltimore read this paper, and reported in detail a number of such cases coming under his care. He urged that many cases of advanced vesical inflammation, even of a tubercular character, which had heretofore been counted hopeless, were amenable to surgical treatment, even when it was necessary to go to the extent of excising one-half or two-thirds of the bladder. When the kidney was involved, that organ had to be attended to first, if the disease was extensive, and afterwards if the bladder infection was mild. A large percentage of these cases, probably eighty or ninety per cent., were associated with tuberculosis of the upper urinary tract. That should be relieved first. If there was a large, thickened tubercular ureter, it had to come out; and the time of its removal was also a good time for the excision of any periorificial or periureteral tubercular cystitis. This could be

done by the extraperitoneal route above in either man or woman. When the kidney was affected he thought it best to do the renal and ureteral operations alone at the first sitting, and then, if the vesical disease was at all extensive, to drain the bladder and excise the diseased areas later. If, however, the patient was not too stout, and was in good condition, all the operations might be done at one sitting. The fact should not be lost sight of, Dr. Kelly said, that in many instances bladders which had seemed to be badly affected at the time a nephrotomy or a nephrectomy was done had recovered spontaneously after the operation.

Dr. Kelly's paper was discussed by Drs. Hiram N. Vineberg, Hermann J. Boldt, and A. Ernest Gallant.

*(To be continued.)*

## MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

*Fifty-fifth Annual Meeting, Held at Scranton, September 26, 27, and 28, 1905.*

(Special Report to the MEDICAL RECORD.)

*(Continued from page 644.)*

Dr. RANDALL of Philadelphia said that while it was easy to think that mastoiditis was more easily diagnosed than formerly, it must be remembered that increased population and epidemics of influenza were factors in the increased number of cases recorded.

Dr. KATE W. BALDWIN of Philadelphia said that in all cases of septic conditions of the nose and throat the teeth should be examined, and she cited a case of a person of thirty-eight years with an unerupted wisdom tooth which had caused mastoid abscess.

Dr. J. H. MCKEE of Philadelphia, referring to the importance of examining the ear when cerebral symptoms were suspected, thought it far better to adopt the plan of Dr. Morse in the Boston City Hospital of making the examination of the ear a part of the routine examination of the child. Many obscure cases were cleared up in this manner. The subject of adenoids he thought an important consideration, and said he had yet to see a case of pneumonia, middle-ear disease, or typhoid fever in a child with middle-ear disease in which there was not sufficient adenoid tissue to be considered pathological. The importance of lumbar puncture in the presence of cerebellar complications of middle-ear disease he thought also should be remembered.

**A Plea for the Early Recognition and Immediate Treatment in Disease of the Accessory Sinuses of the Nose.**—Dr. W. G. B. HARLAND of Philadelphia read this paper. He said that the sinuses in the bone surrounding the nasal fossæ might be divided into (1) those emptying into the nose under the middle turbinated bodies, and (2) those emptying above the middle turbinated bodies. Cases were given illusetrative of sinusitis as ordinarily met with. The diagnosis of sinus disease was founded upon discharge, pain, and tenderness, condition of the teeth; disturbances of olfaction, appearance of the middle turbinate and of the outer wall of the nasal fossæ, transillumination, and skiagraphs. Treatment was best carried out by having the patient in bed, unloading the bowel, giving phenacetin, quinine, and atropine in acute cases. Free drainage should be promoted by the use of cocaine, adrenalin, and alkaline wash

Dr. PYFER of Norristown said the general practitioner did not realize that in every case of cold the sinuses were involved, and that the degree of headache confirmed the amount of sinus involvement. If sinus involvement was suspected, in addition to the internal medication he would prescribe the use of a spray of adrenalin and cocaine followed by an alkaline solution.

Dr. RANDALL of Philadelphia spoke in strong terms against the use of cocaine. While he acknowledged its value in the hands of a careful surgeon, he used it sparingly, and prescribed it never. In the antrum cases the pain being so habitually about the first and second molar, he thought the nasal and sinus involvement was apt to be overlooked.

**Teaching the Deaf Child to Hear.**—Dr. G. HUDSON MAKUEN of Philadelphia read this paper and referred to cases reported in the beginning of the last century by Itard and Toynbee of marked improvement in the hearing of deaf persons as a result of so-called aural gymnastics. Urbantschitsch found the use of musical instruments to be of value in diagnosis, and in one of Dr. Makuen's cases the piano furnished the only sound to which any response was given. His own practice was to begin the exercises with sounds similar to those of which the patient had shown some appreciation, and then gradually take up the sounds of the human voice. The following were the author's conclusions: (1) The hearing of the deaf child might be greatly improved by the systematic use of aural gymnastics; (2) the speaking voice used in close approximation to the ear was the most effective form of aural gymnastics for children; (3) the training of speech should be carried on simultaneously with the hearing exercises; (4) the degree of success attained would depend largely upon the patience and skill of the teacher.

Dr. EDWARD B. DENCH of New York said that Dr. Makuen's conclusions were the same as his own, observed in a limited number of cases. He had carried out the system of instruction by the use of the voice, and had been gratified at the results. In chronic nonsuppurating cases with progressive loss of hearing he had also found the results to be good.

Dr. Makuen in closing said that the results obtained in teaching children were better than in teaching adults, because in the case of children the hearing power had never been developed and there was simply the task of developing the child's appreciation of hearing. A child with a considerable amount of hearing power would appear oftentimes to be quite deaf.

**Address in Hygiene and State Medicine.**—Dr. G. W. WAGONER of Johnstown delivered this address. He said that sanitary work to be effective must be backed up by an authority, either assumed or delegated, that is absolute as to the work to be accomplished; the people must believe that it is necessary and have faith in the competency of those who undertake the work. The work of the State Board of Health following the Johnstown flood was referred to as an illustration of the enormous value of sanitary knowledge to a community when intelligently applied. He questioned whether the law "Creating a Department of Health, and Defining Its Powers and Duties," recently passed by the Pennsylvania Legislature was consistent in all its features. By this law the office of the Commissioner of Health was created with unlimited powers, and though the Act also created an Advisory Board, this Board was required to meet only "on the call of the Commissioner of Health," and was empowered only "to advise the Commissioner on such matters as he may bring before it."

**Protective Inoculations Against Typhoid Fever.**—Dr. D. H. BERGEY of Philadelphia said that the value of protective inoculations could be determined only by carefully comparing the health of the inoculated as compared with the health of uninoculated persons living under the same conditions. It was observed that the reduction in the incidence of typhoid fever among those inoculated by the Wright method varied greatly in different bodies of troops and also in regard to the number of injections made. In some instances the incidence was reduced one-half, while in others there was a six-fold to a twenty-eight-fold reduction. The case mortality among the inoculated as compared with the uninoculated has been reduced more than 50 per cent. While the method was of value, Dr. Bergey maintained that there should be no less energy used in eradicating all known sources of infection by the well-established means known to sanitarians

**Pain of Obscure Origin Simulating Neuritis, Neuralgia, or Organic Lesions.**—Dr. JOHN H. MUSSER described sev-

eral cases illustrative of the title of his paper, and further stated that in the elucidation of such cases thorough study must be made of the nerve itself, especially of the spinal cord, of the sensory and motor phenomena, and of reflexes of all kinds. In the cases described the usual phenomena of neuralgia were absent. After an exclusion of all central lesions there must be considered all possible lesions that may occur along the course of the nerve trunk, and in this connection the anatomical conditions must be recognized. Bony, vascular, and muscular lesions must be excluded or considered before a definite diagnosis could be established. Even with the study of such possible lesions conclusions could often not be reached as to the nature of the pain without a more careful consideration of the general phenomena attendant upon the case. From Dr. Musser's observation of cases he concluded that the physician should not at once decide that pain was of neuralgic or neuritic origin alone and be satisfied with the diagnosis, that he must look very carefully into the cause of pain and general phenomena, and that he must not rely too much upon sedative drugs.

**Report of a Case of Malignant Lymphoma with Autopsy, and a Brief Consideration of Splenic Anemia.**—Dr. J. A. Lichty of Pittsburg, reported the case of a patient, aged sixty-seven, who had been sick two years. There was primary enlargement of the spleen, absence of leucocytosis, gradual decrease of leucocytes, anemia, comparatively large number of erythrocytes, presence of pigmentation and of subcutaneous hemorrhages, absence of enlargement of lymphatic glands, no history of malaria, leukemia, syphilis, or cirrhosis of the liver. In the course of the disease there occurred enlargement of the liver and ascites. A diagnosis of splenic anemia was made. At autopsy there was found a great infiltration of lymphoid cells in the liver and the spleen, and the lymph glands about the celiac axis were enlarged. He concluded that the diagnosis of splenic anemia should be made with great reservation, and that it was more than likely that at present it was made too often.

Dr. P. Y. Eisenberg of Norristown regarded the case as one of those of blood disease whose etiology is not understood, whose prognosis is well understood to proceed progressively to a fatal termination, and whose treatment is very uncertain.

**Chronic Rheumatism.**—Dr. Charles W. Painter of Boston said that the basis of classification of the chronic rheumatisms used in the paper was to be found in a study of the etiology, the clinical course and phenomena, and the pathology of the disease. A plea was made for the clinician and the pathologist to work together, and it was urged that the pathology of the dissecting room and the autopsy table should seldom be allowed to color one's opinions of the diseases in question. Studied in this way he divided chronic rheumatism into three groups: In the first which seemed to be associated with some infective organism, the joint manifestations were more or less rapid in their development and acute in their character, and were accompanied by constitutional symptoms characteristic of an infection. The external lesions were quite significant of an inflammatory process. The second group, called atrophic because of its physical characteristics, was not inflammatory, either in its onset or progress, and seemed to be associated with some disturbance in the metabolism of the body. It was a disease more common in women and in young adult life and was very frequently associated with nervous shocks and mental worries of one sort and another Pathologically, the lesions were in the cartilage and bone as well as in the soft parts, thus differing from lesions in the infectious type, where they were very rarely situated in bone and cartilage unless the infection was very severe. The third group was called the hypertrophic because of the physical characteristics To this group belonged Heberden's nodes, morbus coxæ senilis, and other lesions of the same character occurring in the spine, the knee, the elbow, etc., for which there were no specific names. These lesions were characterized by an hypertrophy of cartilage about the joint lines and subsequently a true bone formation, which was permanent and gave rise to mechanical disturbance more than to any constitutional disability, though there was doubtless something of the latter somewhere concerned. Dr. Painter did not claim that this was an entirely satisfying method of classification, but it was a working hypothesis which would be found useful in solving some of the troublesome problems of the general practitioner, and would help lift from the profession the necessity for indiscriminately prescribing the salicylates for the interior and the oil of wintergreen for the exterior, and for telling the patient and his friends that his symptoms were the result of chronic rheumatism and there was nothing more to do.

Dr. James J. Walsh of New York City thought it particularly important to emphasize the necessity for individualization of patients, and to recognize the fact that under this group of chronic rheumatism there were a number of diseases which only when separated could be benefited by medicine. "Rheumatism," he said, "is a beautifully large word, and may include almost everything under the sun." Automatically with the thought of "rheumatism" to the physician come the salicylates. Referring to occupation neuroses Dr. Walsh asserted that there was not a single occupation in which a person did an habitual motion which would not cause pain around the joints associated with that motion. A change in the barometer would cause a pain in a tooth if it happened to be bad, and a pain in the arm if it was overworked, and this pain, he said, was not so different from that which was called rheumatism. All of these cases he said could be aided by ascertaining and dealing with the cause.

Dr. DeForest Willard thought it the bane of the medical profession to call pains rheumatism without making any diagnosis whatsoever as to the cause of the symptoms. He had seen cases which had been allowed to go on to bone destruction still treated for rheumatism.

**The Diagnostic Value of Blood Cultures.**—Dr. D. L. Edsall of Philadelphia, from the standpoint of the clinician, pointed out certain groups of cases in which blood cultures were of value, and referred to a series of cases of his own in which they were of value. The kind of cases in which the cultures were likely to be of value was that of bacterial infection in which bacteria got freely into the blood, and bacteria of the kind easily cultivated upon ordinary media. Dr. Edsall cited a mastoid case in which the ear specialist did not think there was sufficient evidence of mastoid disease, in which there was obtained a positive culture of a colon-like bacillus. In a series of gynecological and obstetrical cases mentioned by courtesy of Drs. Hirst and Evans, a local source of infection could not be found, but blood cultures were obtained and operation revealed abscess in the walls of the uterus. Dr. Edsall believed the method one of the most important means of investigation open to the profession

**Some Color Comparisons in Medicine.**—Dr. Henry F. Wetherill of Philadelphia read this paper, which was based upon the results of researches made on color scales for practically determining the percentage of hemoglobin. He showed an improved hemoglobin scale called the antemortem blood color scale. This was a practical improvement upon other hemoglobinometers, because it gave the true percentage of hemoglobin. Judgments of any color might be made between the 10 per cent. colors of the scale.

THIRD DAY—THURSDAY, SEPTEMBER 28.

**The Trend in Psychiatry.**—Dr. F. E. Mayer of Pittsburg delivered the Address in Neurology, in which he discussed the limitations of psychology and biology in relation to clinical psychiatry. Mental diseases, he said, should be regarded as a part of general medicine.

**Insanity in the Aged.**—Dr. Charles W. Burr of Philadelphia read this paper, speaking of the difficulty of determining the mental condition of the aged, because there was no dividing line between normal and pathological

senility. The best rule to follow, he said, was to discover whether the man knew what he wished to do, was competent to recognize the duty he owed toward his relatives, and was not swayed by momentary passion or delusions. Reference was made also to the frequency of acute mania and melancholia in old age, in which the outlook as to cure was almost as good as in early life. While it was true that physical and mental old age ran along together, yet the saying that a man was as old as his arteries, he believed was not true in every case. He said there were a certain number of people who became prematurely senile while the physical organism remained in fairly good condition. In the consideration of postparalytic insanity he thought it was perfectly possible for an old man after an ordinary hemiplegia to remain in fit mental condition to take care of himself; but that if there were also sensory aphasia or diffuse arterial disease, there would surely be more or less dementia. Apoplexies in old people, he said, were occasionally ushered in with a period of excitement.

Dr. Hugh Meredith of Danville thought Dr. Burr's paper of value to the whole medical profession, particularly because the insane patient came first under the observation of the general physician long before he was seen by the alienist.

**The Recognition of Hysterical Symptoms from Organic Symptoms.**—Dr. Theodore H. Weisenburg of Philadelphia in this paper reported cases showing the similarity of symptoms in hysterical and in organic disease, and pointed out the difficulties in diagnosis.

**Brain Abscess with Exophthalmos and Blindness.**—Dr. Edward B. Heckel of Pittsburg read this paper. He said that an interrogation point should be placed after the word "abscess" in the title of his paper, because the autopsy proved that it was not an abscess. The condition was one suddenly developed in a young married woman twenty-two years of age, whose previous history had been negative, except that upon close examination she admitted that she had suspected herself to be pregnant and had been persuaded to take some patent preparation, with the object of producing an abortion. The condition which attracted most attention was the sudden exophthalmos and blindness, which was complete within a few hours. Curettage showed no signs of a previous pregnancy. A typical septic temperature zigzagged between 105° and 99°. In addition to the exophthalmos, hemorrhages appeared in both anterior chambers. Death occurred eight days after the appearance of the exophthalmos. At no time had the patient complained of headache until the day previous to death. Streptococci were found, but no abscess formation in any part of the body. In the left frontal lobe there was a cavity about the size of a hen's egg, apparently filled with purulent fluid, but which was demonstrated to be a clot. There was no limiting membrane, but the cavity was studded with small millet seed granulations, so that even after the thorough autopsy a positive diagnosis was doubtful.

**The Clinical Examination of the Feces.**—Dr. J. Dutton Steele of Philadelphia said the method employed was that of Adolph Schmidt with a few modifications. This so-called functional examination of the stool had its limitations when used as a method of diagnosis; but it was of very great value in studying the digestibility of various food stuffs, in order to determine the proper diet in any given case. This was shown in a case from Dr. Musser's wards in the University Hospital, when a young farmer, aged twenty-three, was admitted with a history of chronic diarrhea, loss of weight, and abdominal pain. A test diet revealed almost no power to digest muscle fiber. His gastric function was normal, and the diarrhea was apparently due to an enteritis secondary to undigested muscle proteid. Upon stopping the meat diet the diarrhea promptly ceased. The starches and fats of his diet were then increased until the examination of the stools showed that the limit of each had been reached. Under this treatment the symptoms of enteritis subsided, and the patient gained twenty-eight pounds in a month. Dr. Steele stated that the method was simple and easy to carry out, and that it bade fair to be an accurate means of watching the power of the gastrointestinal tract to digest certain food, and hence would be of great use therapeutically, and, in a general way, of considerable value diagnostically.

Dr. Lichty inquired whether, in determining the length of time required for the food to pass through the gastrointestinal tract, there was any necessity for taking into consideration a dilated or prolapsed stomach, and, if so, how the figures would be modified. The point which most impressed him was the finding of mucus in the stools; and he thought the method should be put upon the same basis as that of gastric analysis.

Dr. Steele replied that he could not give any data relative to the question of Dr. Lichty.

**Scopolamine Hydrobromide.**—Dr. John V. Shoemaker of Philadelphia read a paper upon this drug which, he said, although it had recently attained much vogue, was not really a new remedy, as it was described in his book on therapeutics ten years ago. It was, however, introduced into the United States Pharmacopeia only in the last revision, in which it was stated to be identical with hyoscine hydrobromide. The drug was very powerful, and caution was urged in its use, the speaker having seen marked toxic effects from the one-hundredth of a grain.

**Diaphragmatic Hernia with Complete Extrusion of Stomach and Spleen.**—Dr. J. Bruce McCreary of Shippensburg presented this paper, detailing the history of the case: that of a man of twenty-two years, who fell in collapse after having run a foot race. His usual health was not recovered until the end of two years, when he still, however, experienced a feeling of pressure in the spleen, and chronic diarrhea was present in varying degrees for six years. Eight years after the first injury he was thrown from a carriage and had a return of the same symptoms. Three months later he had enormous internal hemorrhage. For three years the hemorrhages continued at intervals. A diagnosis of diaphragmatic hernia with partial extrusion of stomach, dislocation of heart, and pneumogastric fistula was made by Dr. McCreary and verified at the autopsy. During the illness of the patient relief from the extreme pain was given for a year by stomach lavage. By keeping the stomach clean the generation of gases had been prevented.

*(To be continued.)*

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, Held October 5, 1905.*

The President, Charles L. Dana, M.D., in the Chair.

**Is Paralysis Agitans Caused by Defective Secretion or Atrophy of the Parathyroid Glandules?**—Dr. William N. Berkely read this paper. He said that the glandules were generally four in number, and in man they were in close proximity to the thyroid, two being normally present on each side, one above the other, behind the rear border of each lateral thyroid lobe. They varied in size from that of a grain of wheat to that of a grain of maize. They were soft, yellowish brown, and were covered with a thin fibrous capsule. They were hard to find. The precise physiology of the gland was unknown. Did disorder or atrophy of the parathyroid glands cause a recognizable disease as Addison's or myxedema? If so, could the disease be relieved or cured by the administration of a properly prepared gland or gland extract? His own contribution to the question, obviously a difficult one, was that atrophy or insufficiency of the parathyroid glands was perhaps the cause of paralysis agitans. The following considerations were offered: 1. In studying slowly dying parathyroidectomized rabbits he was struck with the fact that the symptoms might be viewed as much more suggestive of paralysis agitans than of any other at that time commonly considered in the same connection. 2. Dana as long ago as 1893 suggested paralysis

agitans as being due to a "microbic or hemoral toxin" circulating in the blood, and having an especial affinity for certain areas in the spinal cord and medulla. The same opinion—that the disease was an endogenous toxemia—had been expressed by others, and some of the writers had suggested the thyroid gland as being the organ at fault. 3. During the past year he had found opportunity to administer a physiologically tested gland to eleven cases of shaking palsy in all grades of advancement, and he summarized the results. A case of Dr. Hunt's was some six weeks later reported negative. One of Dr. Dana's was much benefited. Of three cases of Dr. Smith's two reported considerably improved. A very advanced case of Dr. Taylor's was distinctly benefited. A case of long standing in Dr. Grinnen's care was improved. Dr. Peterson's and Dr. Janeway's cases, two in number, were improved. Dr. Kingman's and two of his own were greatly improved. All the patients remarked upon the curious increase in courage, comfort, and mental energy while taking the remedy. In summing up his therapeutic results he said that the remedy had been more or less fairly tried in eleven cases, and of these nine were greatly helped. 4. He said it had been noted in the recent medical literature that in autopsies on exophthalmic goiter the parathyroids had been several times reported unaltered. These and other facts, so far as they went, seemed to indicate that the parathyroids had no causal relation to either myxedema or Graves' disease. At the same time, there had been lately reported cases of concurrent Parkinson's disease and myxedema, and concurrent Parkinson's disease and Graves' disease, the symptoms being characteristic and the diagnosis unquestioned. Unfortunately at several autopsies the parathyroids were not examined. 5. The final disposal of his proposition he said hung upon autopsy findings.

Dr. J. Ramsey Hunt said that the case of the man referred to in the paper should be excluded from any serious consideration. It was one of moderate advancement, and he had been seen but once or twice after the administration of the capsules. There was no amelioration of the symptoms. With regard to parathyroids and Basedow's disease he said he had examined one such a case, a very severe one; the patient died suddenly with all the symptoms of Basedow's disease. The gland was removed by Dr. Rogers and examined by Dr. Ferguson, but the examination was negative in its results.

Dr. Jeremiah Sweetser Ferguson said that he had been studying the parathyroids with Dr. Rogers for some months now, and they had practically come to the same conclusions, *i.e.* that the glands were so extremely variable in their location, number, and appearances, that it was almost impossible to base any definite physiological or pathological deductions upon any findings which might be made unless those findings were verified by a careful microscopical examination. He presented a little résumé that he had made showing the number of times the parathyroids had been found in the pieces of tissue that had been removed by Dr Rogers for examination with the idea that they might prove to be parathyroids. The dissections had been carefully carried out. The observations so far made had been chiefly upon man, but glands from the dog, horse, and rabbit had been examined as well. Dr. Rogers dissected 189 pieces of tissue at various autopsies, four or five pieces being the average taken at each. Of this number, 189, 61 proved to be one or more parathyroids. In other words, about one-third of the pieces that were supposed to be, from their anatomical appearances, relations, positions, etc. to be parathyroids were parathyroids. It was interesting to note what the other two-thirds were. There were 82 pieces of thyroid tissue; this included little globular masses on the surface of the thyroid; also a number of accessory thyroids, small lobules of thyroid tissue not attached to the organ but independent and of wide distribution. There were 36 lymphatic glands which were not to be distinguished from parathyroids. There were 10 remnants of thymus in adult men; they were surrounded by vascular connective tissue. Three masses contained nothing but fat. Three showed nothing but dense connective tissue containing a number of blood vessels. There was one mucous gland, the nature of which could not be definitely determined; it lay in contact with the larynx, with its lateral wall, and it was afterwards thought that it might possibly be a salivary gland, although it did not correspond to the histological structure of the salivary glands. Out of 189 pieces there were 61 parathyroids, 82 thyroids, 36 lymphatic glands, 10 thymus remnants, 3 fat, 3 connective tissue and 1 mucous—a total of 196. In addition to these adult autopsies, 28 pieces were taken from infants, and of these 11 were parathyroids, giving the same percentage as in the adult. Nine were thyroids. Six were thymus remnants. The difficulty in recognizing parathyroids was due to several things, such as: (1) The size of the organ. The textbooks state that they vary from 3 to 5 millimeters, but he said it should be remembered that these glands vary from a maximum size of 5 millimeters down to a microscopical size, in some not being more than 15 micromillimeters in diameter. (2) Position. Some are found where one least expected to find them. When first described by Cohen it was stated that the typical tissue consisted of four parathyroids, two on the inner and two on the outer side, but they had found that only once. (3) Shape. This was variable, but they were usually small ovoid bodies. He believed that it would take a very heroic surgeon to cut down upon the gland with any idea of removing all the parathyroids from one individual. He might find one or two, but often he would not know whether he had left one or two behind. Little was as yet known regarding the pathology of the parathyroids, but the most frequent condition found was an increase in the connective tissue; this might be interstitial, invading the entire parenchyma of the gland and passing into the individual cells. Or it might follow along the course of the blood vessels and result in a perivascular increase of tissue. The increase of connective tissue was often replaced by fat.

Dr. Rogers said he began to study parathyroids after a death from Grave's disease following operation; in this case he believed the removal of the parathyroids might have been the cause of death. In man as well as in animals he said it was impossible to say that one had removed all the parathyroids; only those who had tried realized how difficult it was to get these out. In some animals, as the dog, they were about the size of the head of a pin. In every operation upon dogs the removal of the parathyroids resulted in convulsive seizures. He said he had seen a pup with parathyroids removed go into convulsive attacks.

Dr. James J. Walsh said that two years ago he began to study the influence of parathyroids in Basedow's disease, and was quite discouraged with his results. The cases numbered four, two being quite mild. One woman practically claimed that she was cured. In two severe cases there was practically no effect, and at the end of three or four weeks after increasing doses, the symptoms were worse. MacCallum had given his opinion that there was no connection between parathyroids and Grave's disease. Dr. Walsh said there was a great deal of speculation regarding the parathyroids, but the results of actual investigation was expected to yield light upon the subject.

Dr. Charles L. Dana said he had used the parathyroids in one patient with a remarkable change in the tremors, and under the influence of but one bottle of the gland. The next bottle used produced no such effect. His results in this and other cases were not at all satisfactory, because he was not sure whether or not he was really using the gland.

**The Röntgen Ray as a Factor in Medicine.**—Dr Arthur Holding of Albany read this paper, calling attention to general facts encountered while doing special work in this line. Röntgen's discovery ten years ago was not only of diagnostic but also of therapeutic value, having certain physiological action, with indications and contraindications.

Operators suffered the most, and he knew of three who had departed this life as the result of *x*-ray injuries. In his own experience he had encountered thirty operators who had been troubled with chronic ulcerations, some requiring amputations of fingers and arms. The problem of using the *x*-ray with safety could only be solved by the operators themselves. Screens had been devised for protecting the operator, and various protectors had been suggested, some being worn by the operators, others being placed about the tube, etc. Metal of high specific gravity should be utilized, and yet should not be too cumbersome. A description of such a device here followed. He referred briefly to the use of radium in cavities, and places where the *x*-ray could not reach. Slides were shown demonstrating various kinds and grades of *x*-ray burns. He also presented rubber tissue in which bismuth was incorporated, which was to be worn by the operator, protecting large portions of the body.

Dr. Hermann Grad said that a consideration of the dangers in using the *x*-rays was very important, and no operator should use the rays without protecting himself from injury as much as was possible. The use of the Röntgen ray in medicine he believed had come to stay. Instances of its diagnostic value were numerous. It was important, too, that the medicolegal aspect be considered, and he cited an instance which illustrated the necessity of having *x*-ray pictures in court. The court had not recognized the necessity of *x*-ray diagnosis, but seems to be favoring it more and more. Difficulty, too, was encountered in the interpretation of the pictures; the trained eye even would make mistakes. One should be extremely careful to guard himself against *x*-ray burns, especially when the rays were being used for diagnostic purposes.

Dr. Lewis Gregory Cole believed that all should be very thankful for any form of protection against the action of the rays. During the past two years he had been experimenting with the rays, and, in an article published last spring, he proved three distinct varieties of rays to exist, one of which was direct and traveled in a straight line, was neither diverted nor deflected. Another variety was from the walls of the tube, passing in all directions from the surface of the glass, and these rays he believed to be just as dangerous as the direct rays. They formed from 30 to 75 per cent. of the energy of the tube. When they struck the body they caused secondary rays to be generated in the body. He believed the only safe plan was to have the tube in one room and the operator in another with sufficient protection between, *i.e.* thick brick walls, or lead-lined doors with peep-holes of glass. Dr. Cole said that last spring he began to lose all his finger nails, and then lost the hairs on his arm. During the summer he was not exposed to the influence of the rays, and he was exposed to fresh air and sunlight. When he left the city there was not a hair on his arm, while to-day there were two hairs where originally there was but one. He asked why this happened—was it the sunlight, or what?

Dr. Henry G. Piffard said that in 1895, when Röntgen announced his discovery, he verified the fact and photographed the unknown rays. He used a four-inch coil and experimented off and on. But prior to Röntgen's announcement of his discovery Dr. Piffard did not dream of the unknown forces he brought to notice. Dr. Piffard said that he knew that he was dealing with something with bad effects about which he knew nothing, and he experimented no further with these rays for several years. He waited for somebody else to find out about them. He thought it was too dangerous a thing for him to be experimenting with. After four or five years' use of the *x*-rays he learned that they could be relied upon with a reasonable expectation to cure in certain cases, but other and better ways should be adopted if possible. There seemed to be a fascination in *x*-ray work that was difficult to eliminate. They did not know exactly what came from the tube. Rays penetrated different distances, some simply burning the skin and sterilizing the sexual organs. Why did they burn the skin? Because the rays were absorbed by the skin. If they penetrated through the skin such an effect would not happen. Only when the rays were absorbed by the skin was the skin burned. Therefore, to prevent this burning something should be placed in front to absorb these rays. The Germans had found pieces of leather would do this; leather cut off the burning rays, but allowed the other and useful rays to penetrate. Dr. Piffard had gone even further in this line. Glass was absolutely protective, and he was now endeavoring to have made for him a glass for such protection.

Dr. Margaret A. Cleaves said that the rays should be handled with care; they certainly constituted an agent capable of harm, although she had never seen any untoward effects from their use. With regard to the question as to whether it was the fresh air or sunlight that caused a return of the hair in Dr. Cole's case, she unhesitatingly believed it to be the effect of the sunlight. She had never had a patient suffer an *x*-ray burn or any untoward effect upon the skin. The skin of her own hands had remained smooth and as perfect as it ever had been, because she was careful in the handling of this agent. She never gave the *x*-ray without exposing all to the arc light.

Dr. Arthur Holding, in closing, said that there was a great deal of trouble encountered in getting the kind of tube one wanted for diagnostic work. There were not a great many enthusiasts about the therapeutic value of the *x*-ray. A great difficulty was in obtaining proper pictures for diagnosis, particularly if the condition was situated in the deeper parts.

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**Intestinal Antisepsis: Its Theory and Application.**—W. C. Abbot claims for intestinal asepsis the reduction of the number and potency of the pathogenic bacteria in the intestine by the use of appropriate remedies, not the rendering of the canal entirely aseptic, a thing that is manifestly impossible. The débris of ingested food becomes, in deranged conditions of health, a nidus for the growth of germs. In most acute diseases food is not assimilated, the body chemistry is deranged, and the intestine becomes full of fermenting material ready for the growth of germs. Poisons are absorbed along the course of the intestine, and produce their toxic effects. Constipation causes this fermenting mass to remain in the bowels, or a part is rejected, leaving plenty behind in the folds and pockets of the intestine. The first thing to be done to render the intestine less septic is to remove as much as possible of the contained material, by the use of moderate doses of calomel. This at the same time stimulates the intestine and the liver, and causes the peristaltic action of the bowel to be encouraged. A saline is then given, causing an excess of serum to be poured out, and the stomach and intestine are made clean for the action of the sulphocarbolates, which are inimical to all germs, while at the same time not harmful to the most delicate membranes. Those used are the sulphocarbolates of zinc, lime, and soda, separately, or in combination. Under their use hyperpyrexia lessens, tympanites and foul tongue pass away. Digestive and febrile diseases of all kinds should be treated in this way. The sulphocarbolate of zinc may be given one grain, repeated every half hour to two hours, gradually increasing to 5 grains at each dose. Even two drachms in 24 hours may be taken without harm. When they have had the desired effect the stools are no longer black from bismuth combined with the sulphocarbolate, but take on a gray and then a normal brown color. The zinc is more astringent and antiseptic, the soda more antacid, while chronic cases with cachexia find the lime salt act as a tonic nutrient. The sulphocarbolates are very soluble, and hence are most useful. Assimilation soon begins to improve, and the microscope fails to find bacteria in the stools. Absorption occurs, not of poisons, but of properly digested foods. Opiates and anodynes in such cases only lessen the pain and do not do away with the poisoning.—*Alkaloidal Clinic.*

## Books Received.

*While the* Medical Record *is pleased to receive all new publications which may be sent to it, and on acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

A Text-Book of Clinical Diagnosis of Laboratory Methods. By L. Napoleon Boston, A.M., M.D. Second Edition. 8vo, 563 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price $4.00 net.

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## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 14, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 81 | 5 |
| Diphtheria and Croup | 219 | 19 |
| Scarlet Fever | 69 | 4 |
| Smallpox | . . | . . |
| Chickenpox | 55 | . . |
| Tuberculosis | 302 | 141 |
| Typhoid Fever | 124 | 20 |
| Cerebrospinal Meningitis | 4 | 9 |
| Typhus Fever | . . | . . |
| Yellow Fever | . . | . . |
| Cholera | . . | . . |
| Totals | 854 | 198 |

**Bradycardia.**—G. A. Gibson says that the term bradycardia has been employed to denote reduction of the pulse rate below the limits of health. It is purely a symptom. The causes can be divided into extrinsic and intrinsic. The condition may be the result of personal peculiarity or family tendency. Here the nervous system is the dominant factor, and the bradycardia is not pronounced. Tumor and abscess of the brain, sinus thrombosis and meningitis, diseases and injuries of the upper spinal column, and pressure on the vagus may all be causes. Reflexes from various organs, connected with pain or stress; pleural or pneumonic diseases, inflammation of the ducts of the liver, or calculus; stomach disturbances, intestines, kidneys, and pelvic viscera may all affect the heart. Melancholia, hysteria, and hypochondria, faulty body chemistry, and even the influence of the will may produce it. Toxic agents—lead, digitalis, and microbic poisons affect it. Also sclerosis of arteries and cardiac degenerations. In nervous and toxic cases generally the whole heart acts slowly. It may depend on the loss of conduction of pulsation from auricles to ventricles—that is, lessened ventricular action. Such is the condition in arterial degeneration and myocarditis. There may be no other symptoms present, or there may be breathlessness and sensation of palpitation or tremor. Pallor is frequent; arterial tension varies; generally the heart is enlarged; the impulse varies as to strength, and the sounds may be clear, or murmurs may be present. There are also symptoms of whatever condition acts as the cause. Paroxysmal forms are usually accompanied by nervous diseases. The condition may be paroxysmal, or persistent, or, with a slow heart, there may be periods of still slower beat. When there are frequent jugular pulsations without radial pulse of an equal frequency, the auricles beat more often than the ventricles, or some of the ventricular pulsations are feeble and abortive. A heart block may be produced by a lesion of the ventricles, a disturbance of the vagus, or damage to the conducting fibers. In cases where there are nervous diseases present the symptom is due to sclerosis of cerebral vessels When there is stress of circulation the blood supply to the brain is insufficient. There is a condition of irritable weakness of the inhibitory mechanism; impulses are sent to the heart; it is inhibited, and we have an attack of bradycardia. The condition is always of serious import, but the outlook is not necessarily fatal. When there are toxic influences the treatment is eliminative; if microbic, supportive treatment is in order. Strychnine is an antidote to most of these poisons. When there is an arterial spasm the nitrites must be used. When there is cardiac degeneration the iodides are useful, with strophanthus or digitalis.—*Edinburgh Medical Journal.*

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 18.
Whole No. 1825.

New York, October 28, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### OBSERVATIONS UPON THE CAUSE AND TREATMENT OF PERINEAL ABSCESS AND OF PERIURETHRAL SUPPURATIONS ABOVE THE TRIANGULAR LIGAMENT.*

By SAMUEL ALEXANDER, A.M., M.D.,

NEW YORK.

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The term "perineal abscess" has not an exact significance. It is used to describe any suppuration that involves the tissues of the perineum without regard to the extent, or cause. This term includes, therefore, the conditions described as periurethral abscess, urinary abscess, infiltration and extravasation of urine, suppurative cowperitis, periprostatic abscess. The clinical phenomena of these conditions are not the same, but the essential cause is the same in each, viz., microbic infection extending from the urethra, as the result of either disease or injury.

Perineal abscess may be associated with infiltration of urine; but infiltration of urine is not an essential causative factor. Perineal abscess may be associated with stricture of the urethra, but it occurs quite frequently when stricture is not present.

Perineal suppuration occurs either as a circumscribed abscess limited to the perineum, and often to one side of the perineum, or as a rapidly spreading diffuse phlegmon which extends outside the limits of the perineum into the scrotum, the penis, and the abdominal wall. A circumscribed abscess becomes diffuse, under conditions which provoke and favor the spread of infection in the tissues; this is often the result of urine leakage.

It is to the infections of the perineum which result in circumscribed abscess, that I wish to call attention in order to define their cause, and to describe a method of operative treatment which I have used for a number of years, which differs in principle and technique from that usually followed.

The opinion is held very generally that circumscribed abscess of the perineum is not in many cases of urethral origin. It is claimed that it can be efficiently treated by simple incision and drainage, without opening the urethra except in cases in which there are distinct signs of urinary infiltration. This view of perineal abscess and its treatment is erroneous; but because it is so generally accepted, it is necessary to discuss the questions which underlie it.

Cases of circumbscribed perineal suppuration may be divided into two groups, viz., 1. Those in which abscess occurs associated with pronounced urinary obstruction, caused by urethral stricture. 2. Those in which there is no urethral stricture. This is not simply a clinical distinction, but is in accord with the pathology of these infections. It will appear later, however, that the line between these two varieties cannot be too sharply drawn, and that there are many phenomena common to both.

Perineal abscess, when it is treated simply by incision and drainage without opening the urethra, is followed very often by a recurrence of the abscess at the original seat of the infection. Of this fact I became convinced many years ago. The cause of the recurrence I was led at first to believe was urinary infiltration; to prevent this I began to treat these cases by opening the urethra in the perineum, and draining the bladder for a few days, in addition to evacuating the pus from the abscess. In many of the cases treated, it was impossible to discover at the operation any communication between the urethra and the abscess, nor did the abscess in these cases contain any urine. In cases in which there was communication between the abscess and the urethra, the signs of infiltration of urine often were slight.

As in some of the cases in which the membranous urethra was opened, but in which there was no urinary infiltration, the abscess recurred, I began an anatomical investigation of all cases of perineal suppuration admitted into my service at Bellevue Hospital, in order to find out, if possible, the exact source of the infection, and the cause of the recurrence. I discovered that in a large number of cases of abscess of the perineum, in which the pus seemed to be altogether below the triangular ligament, and to be limited to the perineum, there were also foci of suppuration situated above the triangular ligament. These latter were found in the prostate, and alongside of the membranous urethra posteriorly. They seemed to have originated in the glands of the prostate, the glands of Littré, or the glands of Cowper.

These collections of pus did not always communicate with the perineal abscess, or at least there was apparently no communication. They were discovered only after the urethra had been opened and the posterior urethra explored by the finger. In other cases the suppuration in the perineum was unmistakably due to an extension of the infection from an abscess which began above the triangular ligament. In some of these cases the abscess had opened spontaneously into the urethra before the operation, and the pus was draining imperfectly into the canal. Unless the urethra had been opened, the presence of these abscesses would not have been suspected or discovered at the time of operation.

The recurrence of a perineal abscess in cases of urethral obstruction from stricture, might be explained by a recontraction of the stricture after operation, and subsequent urinary infiltration above the obstruction; but in a great number of cases in which the abscess recurred after an operation by simple incision, I could find no stricture, and no urinary infiltration, nor any direct anatomical communication between the abscess and the urethra. At that time it was not clear to me how pathogenic microorganisms could invade the perineum and produce suppuration, when the urethra was apparently unin-

*Read before the American Association of Genitourinary Surgeons at the annual meeting at Montreal, June 13, 1905.

jured; nor could I explain cases of rapidly spreading diffuse phlegmon, seemingly the result of urinary extravasation, in which no opening in the urethral wall was discoverable.

I was engaged in the study of these questions, when in 1892 Delbet published his observations upon the dilatability and distensibility of the urethra, and his theory of urinary infection of the tissues about the urethra.

By a series of carefully conducted experiments upon fresh post-mortem subjects, Delbet claimed that every urethra has a physiological capacity for distention. If this is exceeded, leakage of urine into the tissues occurs through minute fissures in the mucous membrane. A comparatively feeble pressure may effect this, and he found that the most common situation of these fissures was in the perineal urethra. He explained the occurrence of periurethral abscess and perineal abscess by a microbic infection and urine leakage through these very minute fissures in the urethral mucous membrane.

This theory might explain the cases in which the suppuration is below the triangular ligament; especially those cases of abscess which occur in the course of acute inflammations of the urethra treated by forced injections or irrigations, and those which occur from narrow urethral stricture. In the latter the fissures are caused by the pressure of the urine above the stricture where the urethra is dilated and thinned. It does not explain, however, the occurrence of perineal abscess when there is no urethral stricture, nor those cases of abscess occurring in acute gonorrhea, in which no local treatment has been used in the urethra.

In confirming the results of Delbet, I made a number of dissections of pathological specimens of perineal suppurations, and was convinced by these that in some cases at least the perineal suppuration was an extension of an infection from the urethral glands above the triangular ligament. It was not, however, until 1903 that the truth of this view was demonstrated fully by the investigations of Motz and Bartrina.

These observers undertook to investigate the cases of cowperitis preserved in the Museé Necker; and they were led to extend their study to all cases of perineal suppuration in which the preservation of the specimens made it possible to form a conclusion as to the origin of the infection.

These authors call attention to the situation of the glandular appendages of the urethra; and more especially to the great number of the glands of Littré in the membranous portion, and to the inconstant masses of glands resembling in structure the glands of Cowper situated in the bulb of the corpus spongiosum—"the glands of the bulb." They conclude that perineal abscess when not caused by mechanical tears or rupture of the urethra, is the result of an infection which begins in these glands, or in the glands of Cowper or in the prostate, and extends into the perineal tissues. But they state that in the specimens examined the infection was not confined to the glands in one situation, and that the primary source of the perineal abscess could not always be determined definitely. For example, a perineal abscess may begin almost simultaneously as either a cowperitis, a littritis, a bulbitis, or a prostatitis—and clinically it is impossible often to distinguish between a littritis and a cowperitis.*

* In eighteen specimens of stricture complicated by perineal suppuration examined, in which the source of infection could be definitely made out: In three specimens it was due to a cowperitis, a bulbitis, and a littritis; in two to cowperitis and bulbitis; in five to cowperitis and littritis; in one to cowperitis and periprostatis. In the eighteen specimens examined there were: Four with urinary abscess; six with simple perineal suppuration; eight with infiltration of urine; but in three of these eight cases there was no opening into the urethra. Of these eight cases: In five there was a cowperitis; in one a bulbitis; in one a littritis; in one a periprostatitis.

A perineal abscess may be associated with infiltration of urine or there may be no urine leakage. When the infection from the glands extends alongside of the urethra, the abscess may open spontaneously through the mucous membrane, and urine escape into its cavity. When this occurs a simple circumscribed perineal abscess, suddenly becomes diffuse. The escape of foul and infected urine, especially of urine which undergoes rapid ammoniacal fermentation, into a simple perineal abscess, increases the virulence of the infection, and causes the very grave symptoms which are observed in the course of diffuse perineal phlegmon.

But an acute diffuse perineal phlegmon may occur with all the signs of rapid urinary extravasation, suppuration, and rapidly spreading gangrene, without any opening into the urethra, and without urinary infiltration. In this type of cases the fluid found in the tissues is not urine, but a septic edema. The intensity and extent of the phlegmon does not depend upon urine leakage, but upon the presence of a specific pathogenic microorganism.

In certain cases of circumscribed abscess, the evolution of the infection is slow, and the urine infiltration is slight. In these the tissues of the perineum are gradually transformed into hard masses of inflammatory tissue, called "urinary tumors." These often open upon the surface of the skin of the perineum and scrotum, and fistulous tracts are formed from which urine escapes. This condition usually occurs in cases of narrow stricture which have been neglected.

The observations of Motz and Bartrina and those of Delbet, I have confirmed in many particulars. They correspond with my clinical experience, and are in accord with the general principles of the operative treatment which I have employed with increasing success for more than ten years, in all cases of perineal suppuration. I call attention to this operation, since I can recommend it now not only as justified by the clinical results obtained, but as being in accord with our present anatomical and pathological knowledge of perineal suppurations.

The view that perineal abscess in cases of narrow stricture is due to ulceration of the urethra above the point of stricture, cannot be accepted. It is only necessary to study these cases post-mortem to find that the ulcerations are usually very small and superficial, and confined to the mucous membrane; they rest upon an indurated base, the result of a protective inflammation, which is impervious to liquids. An ulceration sufficiently rapid in its evolution to permit the escape of urine from the urethra into the surrounding tissues is the result of periurethral suppuration or of mechanical injury.

The source of the infection in a perineal abscess I believe is always from the urethra. The infection may occur in three ways: (1) Through the glands connected with the bulbous or membranous portion, *i.e.* the glands of the bulb, the glands of Cowper, or Littré's glands, or the prostate; and from these extends into the perineal tissues; (2) it may occur through small fissures in the mucous membrane of the urethra (Delbet); (3) it may be the result of a more or less extensive mechanical rupture of the urethra from external or internal violence. Infiltration of urine occurs and plays a prominent part in the infection of some cases, but often it is absent. It is not an essential causative factor in all cases. Stricture of the urethra may or may not be present.

Delbet's views as to the ease with which the mucous membrane of the urethra may become fissured by slight overdistention, makes it evident that forced irrigations and injections favor periurethral infection. This has been my experience clinically. Irrigation of the entire urethra from the external meatus without using a catheter is, I believe, bad; both in principle and practice. The deep urethra should not be irrigated except through a catheter. Injections should never be used forcibly, and in quantity should not exceed the normal capacity of the urethra. There are some cases of perineal abscess which occur during the course of an urethral inflammation, in which the immediate exciting cause of the suppuration is not apparent. Abscess occurring in acute urethritis in which no local treatment has been used, is an example of these.

Periurethral suppuration beginning in the urethral glands may continue for a long time before the infection extends into the perineum; this is especially true in cases of narrow urethral stricture and in cases in which there has been repeated attacks of urethritis.

An early diagnosis of periurethral suppuration is of great importance. In all cases in which perineal infection may occur, the prostate, and the membranous urethra, should be examined by rectal touch, in order to detect the first signs of suppuration; and the perineum should be carefully examined by rectal and external touch combined.

When there is periurethral suppuration above the triangular ligament, originating either in Cowper's or Littré's glands, there is a fullness and often fluctuation found in front of the apex of the prostate, either on one or on both sides of the membranous urethra. There is also an edematous condition of the tissues of the anterior wall of the rectum. The edema sometimes extends up over the posterior surface of the prostate. When the prostate is the seat of an abscess, there is an increase in its size and changes in its outline which can be detected by rectal touch even in cases in which the abscess has opened spontaneously into the urethra, or in those in which fluctuation is absent.

When a perineal abscess originates in Littré's or Cowper's glands, and subsequently invades the perineum, the course which the pus takes is along the wall of the membranous urethra, and it invades the perineum close to the opening in the triangular ligament. The communication between the suppuration above the triangular ligament, and the perineal abscess, is usually by a sinus which is found above and on one side of the bulb and close to the opening through which the urethra passes.

When a littritis and a bulbitis occur simultaneously, the suppurating focus above the triangular ligament may open spontaneously into the urethra and not communicate with the perineal abscess; the latter being due to extension of infection from a bulbitis. Suppuration about the membranous portion of the urethra, arising from a littritis, or a cowperitis cannot be efficiently drained without opening the membranous portion of the urethra.

When suppuration begins above the triangular ligament, it may extend into the ischiorectal fossa, as well as into the perineum. This occurs in one or two ways: The pus burrows either beneath the posterior border of the triangular ligament, a little to one side of the middle line and passes directly into the ischiorectal space; or it invades the perineum first and later on passes the limits of the deep layer of the superficial fascia, as the result of necrosis of this membrane.

Ischiorectal abscess associated with perineal abscess occurs with or without urinary infiltration: its occurrence seems to be frequently associated with the latter. I have met, however, with rapidly spreading infections from Littré's glands and Cowper's glands, which destroyed the deep layer of the superficial fascia, and extended into the ischiorectal fossa, without finding any communication between the perineal abscess and the urethra. In one of these, Case VII, this layer of the perineal fascia was found perforated by irregular necrotic areas, the tissues were gangrenous, but there was no evidence of urinary infiltration.

Perineal abscess is often associated with suppurating foci in the prostate, and these are found only after opening the urethra. The abscess may have opened spontaneously before operation into the urethra. The exact relation between prostatic abscess and perineal abscess was for a long time difficult to explain; recent observation has convinced me that the latter is caused usually by the extension of infection from Littré's or Cowper's glands, or the glands of the bulb, coexisting with the prostatic suppuration.

It is only within the last three years that I have discovered that the cases of perineal abscess which formerly I thought were caused by prostatic or periprostatic suppuration, are due to infection extending from the urethral glands, which are involved coincidently with the prostatic abscess.

The symptoms and physical signs of perineal abscess can be gathered from the histories of the cases appended to this paper, and it is unnecessary to consider them at length. I wish, however, to call attention to the necessity of making a thorough examination for the beginning of periurethral suppuration, even before the infection has invaded the perineum. In cases of difficult and painful urination, when there is deep seated pain, or tenderness in the perineum; or when there is a perineal swelling, an examination by rectal and external palpation combined should be made to detect suppuration. It is not necessary to wait until an abscess is fully formed in the perineum, and fluctuation is present to decide the diagnosis. As soon as periurethral infection occurs, an operation is indicated, to prevent further extension, and to hasten the patient's recovery.

There are many at the present time who believe that infection of the urethral glands and of the prostate can be treated successfully without operation. It is a waste of time to employ rectal irrigation or massage or any of the numerous local measures so often employed in the treatment of these conditions. The cases which seem to get relief from these measures usually later on develop abscess; or, if they are relieved, it is by the spontaneous opening of the abscess into the urethra; the opening in many cases is insufficient to drain the abscess, and so these cases remain with an incurable urethral discharge, and in addition are exposed to the danger of recurrence of the abscess.

**The Operative Treatment of Perineal Abscess.**—This should be in accord with the anatomy and pathology of these suppurations. The treatment of these cases generally is defective, because the necessity of opening the membranous urethra and of draining the pus foci which exist above the triangular ligament is not understood or is disregarded.

It does not seem to be understood that perineal abscess is either directly the result of periurethral suppuration above the triangular ligament, or is in nearly all cases associated with suppuration in this situation as the result of coincident infection of the urethral or prostatic glands. It is necessary therefore to open and drain the perineal abscess, and also to open the membranous urethra, and to drain the

foci of suppuration above the triangular ligament.

A perineal abscess is opened by a free median incision extending from the scrotum to three-fourths of an inch in front of the anus. The deep layer of the superficial fascia is divided for the entire extent of the incision, and the pus of the abscess is evacuated. The abscess cavity is cleansed of all necrotic tissue, and any sinuses or pockets are opened. The membranous urethra is opened upon a staff with a wide median groove; this incision should divide the floor of the canal and the lower border of the triangular ligament, and should extend from the bulb of the urethra to the apex of the prostate. The forefinger of one hand is passed into the urethra through the perineal incision as the staff is withdrawn. A careful and systematic exploration is then made for any foci of suppuration; and it is sometimes useful to make counter-pressure with the finger of the other hand upon the anterior wall of the rectum, during the examination.

When there is suppuration in or about Cowper's glands or the glands of Littré, a soft, sometimes fluctuating, spot is felt at the side of and below the membranous urethra. If these pus foci have opened spontaneously into the urethra the opening or openings can be felt as round or oval holes on the side, and sometimes near the roof of the canal. If the mucous membrane of the membranous urethra is still intact over the abscess at the time of operation, it is to be gently torn through by the fingernail. If the abscess has opened spontaneously before operation, the openings in the urethra are united by tearing through the bands of diseased mucous membrane which separate them. The tip of the finger is passed into the abscess cavity, which can be explored. This should be made level with the floor of the membranous urethra by gently tearing with the fingernail the mucous membrane toward the perineal wound; the pus can then drain into the incision made in the urethral floor. Abscess in the prostate is similarly treated when present. The bladder and wound are washed out, and the former is drained by a large catheter, No. 28 to 30 F. The perineal abscess cavity should be drained with a few strips of iodoform gauze.

The drainage tube is retained for two, sometimes for three days, and after its removal the case is treated as any perineal section. A steel sound as large as the external meatus will admit without pain is passed at the end of one week and once a week afterwards until the perineal wound has closed. In cases of narrow stricture, the urethra at the time of operation, is rapidly dilated by tunneled sounds passed over a whalebone guide until it can admit an Otis urethrotome; then after opening the membranous urethra the stricture is cut by internal urethrotomy upon the roof of the urethra. In cases of diffuse perineal phlegmon, the same method of treatment is followed, but in addition, free incisions through infected areas of the skin and cellular tissues should be made wherever there are signs of "infiltration of urine."

In cases of traumatic rupture of the urethra from external violence, an early operation is imperative, even before there is any perineal infiltration; but I am opposed to the plan of attempting to unite by suture the divided ends of the urethra.

Objections which can be raised to the method of treatment just described on theoretical grounds, are answered by the results which have followed its use in my service at Bellevue Hospital. An abstract is appended of the histories of a few cases which have been taken from a very large number treated in this service, to illustrate the points which I have endeavored to make clear in this paper. The success of treatment depends upon the surgeon's knowledge of the anatomy of these conditions, which cannot be learned from a written description, but must be acquired by personal clinical experience and observation.

Case I. *Relapsing Perineal Abscess Due to Cowperitis; Slow Urinary Infiltration; Stricture; Operation; Recovery.*—H. G., age 26, U. S. Admitted November 12, 1901. Three years before admission he had a gonorrhea; he was treated by injections. An abscess formed in the perineum; this was opened in a hospital at Sheffield, England. The wound healed in three weeks. Two years later he contracted a second gonorrhea, which was treated by injections; in the seventh week of the disease a swelling appeared at the site of the old abscess in the perineum; this subsided without operation. Three weeks before his admission he contracted a gonorrhea for the third time. Two weeks later a swelling appeared in the perineum, which became very painful, and two days before admission to the hospital it broke through the skin and discharged pus.

He had noticed that for some time his stream was diminished in size, and he had some frequency in urination. There was present a swelling in the perineum on the left side of the urethra, which was quite hard, but there was deep fluctuation; leading into this swelling was a sinus, which did not discharge urine.

Operation on November 13. An abscess was found beneath the deep layer of the superficial fascia on the left side. A sinus was found leading into the urethra at the bulbomembranous junction. The membranous urethra was opened and a cavity was found on its left side, due to pericowperitis; this was opened into the urethra and the bladder was drained. A stricture at the bulb was cut internally to No. 30F. He was discharged cured on February 22, 1902.

Case II. *Abscess of Perineum, Due to Cowperitis and Littritis; Two Previous Attacks, one of Which Resolved; in the Other the Abscess Opened Spontaneously in the Perineum; no Stricture; no Urinary Infiltration; Operation; Cure.*—E. R. age 31, U. S. Admitted December 12, 1901. He had gonorrhea thirteen years before admission and again ten years later; the latter was rebellious to treatment, and at the end of the fifth month a swelling appeared in the perineum, which was painful; this subsided after a few days without operation. A year later he still had a urethral discharge, and a swelling reappeared in the perineum; this became hot and painful, and finally ruptured externally, discharging a large amount of pus, and he thinks that for a week some urine passed through the wound, but the sinus healed spontaneously.

One week before admission he contracted gonorrhea; the urethral discharge was profuse, and three days before admission a swelling appeared in the perineum. In the perineum there was a swelling about the size of a pigeon's egg, beneath the deep layer of the superficial fascia. Rectal examination showed the prostate normal in size; there was fluctuation about the membranous urethra and in the perineum. He had pain on urination; no obstruction to urination; no increased frequency.

Operation December 13. Perineal section: An abscess was found beneath the deep layer of the superficial fascia, in the lower portion of the abscess cavity; close to the bulb a sinus was found leading up to situation of Cowper's glands. The membranous urethra was opened and the abscess drained. No communication could be found between the urethra and the perineal abscess. The patient remained in the hospital for some weeks after his

recovery, and was discharged February 22, 1901, cured.

Case III. *Perineal and Ischiorectal Abscess Originating in Either Cowper's or Littré's Glands; Urethral Stricture; no Infiltration of Urine; Operation; Cure.*—D. McK., age 31, U. S. Admitted April 9, 1902. He had had four attacks of urethritis. One and one-half years before admission he noticed that his stream was becoming smaller; three months later he had retention of urine and was operated upon for stricture at Hudson Street Hospital, New York, by perineal section. Sounds were passed twice a week for two months after the operation. Ten days before admission he developed a urethritis; a week later a left epididymitis. He passed urine four times a day, twice at night; he had no chill and no retention. The day before admission he noticed swelling in the perineum, with pain on walking and pain on defecation. The swelling was confined beneath the deep layer of the superficial fascia. Rectal examination showed the prostate of normal size; there was marked edema of the anterior rectal wall; on the left side of the membranous urethra there was a swelling which extended out to the left. There was fullness and sense of fluctuation in the perineum on the left side, which extended down into the left ischiorectal fossa.

Operation on April 10; Median perineal section; about one-half ounce of pus was evacuated from beneath the deep layer of the superficial fascia. The membranous urethra was opened; no communication was found between the perineal abscess and the urethra, but an abscess was found on the left side of the membranous urethra and another in the ischiorectal fossa; these were drained, and the patient was discharged, cured on April 20.

Case IV. *Acute Perineal Abscess from External Violence; Retention of Urine; Urinary Infiltration Without Apparent Opening into Urethra; Operation; Cure.*—A. W., 37, Swede. Admitted the night of October 18, 1904. He had gonorrhea seventeen years before; nine days before admission he fell astride an iron rail, striking upon his perineum. He had severe pain in perineum at the time, and the next urine which he passed was bloody. During the following night he had to urinate every two hours, and passed blood at each urination. Pain in the perineum increased; his desire to urinate became more frequent. He noticed swelling in the perineum, and on the day of admission to the hospital he had retention of urine.

Examination showed a swelling of the perineum, extending up into the scrotum; the skin was red and edematous. A soft rubber catheter was passed and the retention was relieved. The operation was delayed until the following morning, October 19. External urethrotomy. An abscess was found beneath the deep layer of the superficial fascia; it was more on the right side than on the left side of the urethra. A communication between the abscess cavity and the urethra could not be found. The membranous urethra was opened. The bladder was drained. The patient made a good recovery and was practically well a month later, but had a small fistula, which persisted for nearly two months and then healed.

Case V. *Perineal Abscess; Bulbitis; Urinary Infiltration; Urethral Stricture; Operation; Cure.*—T. B., age 23, U. S. Admitted November 16, 1904. He had a gonorrhea fourteen years before; and symptoms of stricture with difficult urination for the past nine years, for which he had been treated by dilation with sounds. On November 10 he noticed pain in the perineum; this increased from day to day and was most severe during urination; he had no pain on defecation. On November 14 he noticed for the first time, a swelling in the perineum. The pain became so severe that he came to hospital for relief.

On admission he had almost complete retention of urine. There was a marked swelling beneath the deep layer of the superficial fascia with edema of the scrotum. A narrow stricture of the urethra admitting a filiform guide was found just in front of bulb.

Operation on November 17. Perineal section: Stricture was cut internally to No. 30 F. after first being rapidly dilated to No. 20 F. The perineal abscess communicated with urethra at bulb by rather large opening; source of infection probably in accessory glands of the bulb. Discharged, cured, December 17, 1904.

Case VI. *Case of Perineal Abscess, Due to Cowperitis Associated with Prostatic Abscess; no Urinary Infiltration; Operation; Cure.*—W. J. M., age 28; U. S. Admitted April 5, 1905. He had a gonorrhea when twenty years of age, and again two years later. He was treated by irrigations almost continuously for a year and sounds were passed at intervals. Four days before his admission he began to have pain in perineum, increased by walking and by sitting down. He had no pain or difficulty at urination. On the next day he noticed a swelling in the perineum.

On admission he had a swelling in the perineum more marked on the left side, but which extended somewhat beyond the median line. This was tender; the skin over it was red; it was about one and one-half inches long by three-fourths inches wide.

Operation April 5. Perineal section. The patient's urethra easily admitted No. 30 F. sound. There was no stricture. Beneath the deep layer of the superficial fascia an abscess was opened containing about two ounces of pus. The membranous urethra was opened, and on passing the finger into the urethra an abscess cavity was found on the left side, extending below and alongside of the membranous urethra. Another abscess was found in the left lobe of the prostate; this had opened into the prostatic urethra. These abscesses were drained into the urethra. The bladder was drained for twenty-four hours. The patient was discharged at his own request, on the tenth day, passing all urine through the urethra, and at the end of the third week was entirely well.

Case VII. *Perineal and Ischiorectal Abscess; Cowperitis and Littritis; no Infiltration of Urine; Operation; Cure.*—F. S., age 27. Admitted May 14, 1905. He had a gonorrhea twice, the first attack eight years before, and the second three months before admission. He was treated for the latter by injections for about five weeks. Three weeks before admission he began to have pain, and a swelling appeared in the perineum. He had no frequency or pain on urination and no difficulty in passing water. He had a moderate discharge from the urethra; the urine contained free pus and shreds. Examination showed a swelling on the left side of the perineum; this extended a little to the right of middle line. There was swelling over the ischiorectal fossa. Rectal examination showed tenderness and fluctuation about the membranous urethra.

Operation on May 15; Perineal section. On cutting through the skin down to the deep layer of the superficial fascia, this was found to be necrotic; there was a large abscess cavity on the left side of the urethra, which had burrowed also into the ischiorectal fossa. There was no communication between the perineal abscess and the urethra. After

opening the membranous urethra an abscess was found on left side which apparently began in Cowper's gland. The perineal abscess was cleaned, disinfected, and a counter-opening made to drain the ischiorectal fossa. On June 10 all urine was passed through the urethra.

Case VIII. *Perineal Abscess Caused by Double Cowperitis and Prostatic Abscess; Probably Tuberculous; Operation.*—E. Q., age 28. Admitted May 14, 1905. He denied all previous venereal disease. Three weeks before admission he contracted a gonorrhea. He was treated with injections by a physician and from the first had pain in the perineum and along the urethra; he had frequency of urination, but had never passed blood; he had pain on defecation. Six days before admission he noticed a swelling in the perineum; this was painful and was growing progressively larger. He had no difficulty in passing water. He had a profuse discharge from the urethra.

Examination showed a swelling in the perineum situated beneath the deep layer of the superficial fascia with fluctuation. Rectal examination showed the prostate enlarged on the left side; tender; the membranous urethra and the tissues surrounding it were soft and edematous. The urethra was not strictured.

Operation on May 15. Perineal section. On cutting through the deep layer of the superficial fascia an abscess cavity was opened; on exploring the deep urethra a large cavity was found on the side of the membranous urethra; this communicated with the abscess in the perineum; there was also an abscess in the prostate. The suppuration seemed to have begun in Cowper's glands and this was associated with prostatic abscess. A tube was introduced and the bladder drained for forty-eight hours. The perineum healed without complications. All urine was passed through the urethra after May 26th.

Case IX. *Mechanical Rupture of Urethra; Slow Infiltration of Urine; Circumscribed Perineal Abscess; Traumatic Stricture; Operation; Cure.*—J. E., age 26. Admitted May 15, 1905. He had gonorrhea seven years before admission and a second attack three years later complicated by an epididymitis. Three months before admission he fell from a height of thirty feet, striking on the perineum and inner side of thigh. He had difficulty in passing urine, and passed bloody urine. He did not have complete retention of urine, but noticed that his stream was for some time becoming progressively smaller. One month before admission he noticed a painful swelling on the right side of the perineum; the pain was increased by walking and by sitting down and by defecation.

Examination showed a deep-seated swelling on the right side of the perineum; this was painful upon pressure. It was hard, and there was no sense of fluctuation. There was no enlargement of the prostate. A narrow stricture, admitting only a filiform whalebone guide was found at the bulb of the urethra.

Operation on May 16. Perineal section. The stricture was cut internally to No. 30 F. with an Otis urethrotome, after rapidly dilating the urethra to No. 18 F. A small circumscribed abscess was found just above the bulb on the right side; this was opened; no communication could be found with the urethra; the infection seemed to have extended from the glands of the bulb. The bladder was drained by perineal tube. The tube was retained for forty-eight hours. The patient passed all urine through the urethra on May 27. Discharged May 31, and was entirely well on June 5.

## THE INDICATIONS FOR OPERATING IN ACUTE MASTOIDITIS.*

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In determining the relation of surgery to disease, one should deduce one's facts from the cases which have recovered without operation as well as from those operated upon. Particularly does this seem to be true with regard to the indications for operating in acute mastoiditis. Competent surgeons, usually at one theoretically, often differ materially in practice. Whoever, therefore, feels called upon to dissent, even in the smallest particular, from the popular conception of what should constitute an indication for opening the mastoid, should have the courage to state his views, and give his reasons therefor. It is the relative surgical value of what are commonly considered the two cardinal physical signs of acute mastoiditis, that the writer wishes to discuss.

To review briefly the symptoms of acute mastoiditis, they may be stated somewhat as follows: The patient, during the course of, or convalescence from, an attack of acute purulent otitis media, may suddenly experience deep-seated pain in the region of the mastoid process. The aural discharge, which has perhaps been gradually decreasing in quantity, may follow one of several courses in order to show that recovery has been interrupted; *e.g.* it may (*a*) suddenly cease, this abrupt cessation being accompanied by no amelioration of the patient's condition, and being followed within a few hours or a few days by a still more copious flow of pus; or (*b*) the discharge may gradually increase in volume until it becomes necessary upon purely physical grounds to assume the involvement of accessory sinuses in order to explain the quantity of pus excreted during the twenty-four hours; or (*c*) the long continuance of the discharge may of itself be sufficient to warrant the inference of a necrotic focus more deeply seated than within the small tympanic cavity. With the appearance of mastoid pain, sleep is disturbed, insomnia becoming a more or less prominent symptom; and the temperature, which has run a normal course, or has returned to normal, may become elevated. As corroborating the above symptoms, the following two physical signs have come to be regarded as pathognomonic, viz., (1) Tenderness on pressure over the mastoid; and (2) bulging of that portion of the posterosuperior canal wall which immediately adjoins the drum-membrane.

The symptoms to be looked for, then, are *mastoid pain*, with consequent insomnia; *elevation of the temperature; certain quantitative changes in the character of the discharge; mastoid tenderness*, and *bulging of the posterosuperior canal wall.* The above rather meager clinical picture may be said to comprise practically all the symptoms that are characteristic of an uncomplicated case of acute mastoiditis.

Unfortunately, many cases of acute mastoiditis run their course with complete absence of one or more of the above symptoms. That extension necrosis of the mastoid cells may occur with absolutely no elevation of temperature, is a fact now fortunately recognized. Mastoid pain may also be absent or at least not sufficiently marked to be complained of by the patient. Where fever is absent, and pain inconsiderable, the subjective and constitutional phenomena are naturally not very characteristic. Fortunately, there is one physical sign which is never

*Read in Boston, on June 6, 1905, before the American Laryngological, Rhinological, and Otological Society.

wholly absent. Sensitiveness to pressure is probably at the onset always present over some point on the mastoid cortex.

In discussing the surgical value of the two physical signs above mentioned, it will be necessary to refer very briefly to certain points in the anatomy of the bone which bear more or less directly upon the pathology of the disease.

*Pain on Pressure over the Mastoid Antrum.*—If we were taught to regard the antrum, not as one of the mastoid cells, but simply as the posterior end of the tympanic vault, our conception of its true surgical significance would be more exact. In the fetus at term, the mastoid process, as such, does not exist, it being represented by a thin cartilaginous plate; yet the antrum is already an easily demonstrable cavity. In the seventh month of fetal life, also, the antrum can be demonstrated to exist, and at this period of its development, its walls are formed chiefly by the squamous portion of the future bone. While these facts are now fairly generally recognized by students of tympanic anatomy, their surgical significance is still somewhat obscured by statements in some of the older textbooks, which refer to the antrum as one of the mastoid cells, and describe the aditus ad antrum as a narrow passage by which it communicates with the tympanic vault.

The aditus is not a narrow passage connecting two bony cavities. It is distinctly a constricted portion of one and the same cavity. Careful examination of a large number of bone sections shows the aditus to consist of a comparitively large triangular space, the vertical diameter of which—*i.e.* measured from the center of its base above, to its inferior angle below—will average not less than 4 to 5 mm. Considered as one osseous space, the antrotympanic cavity may be described as one having a central constriction, and so bent upon itself that while its roof lies throughout in the same horizontal plane, its floor is lower anteriorly and posteriorly than at the center where encroached upon by the lower margin of the aditus.

The antrum, then, should not be thought of as a distinct bony cavity; nor is it an accessory sinus in the sense that the frontal, ethmoidal, sphenoidal, and maxillary cavities are accessory nasal sinuses. For, whereas hypersecretion may occur, and frequently does occur, within the nose without flooding these accessory cavities, it is difficult to conceive of any considerable accumulation of fluid within the tympanic vault which will not flow backward into the antrum.

This rather tedious statement of facts prepares the way for the following propositions, viz., (1) That acute purulent otitis media is probably always attended by an escape of pus into the antrum; and (2) the presence of pus within the antrum is not necessarily an indication of mastoid inflammation.

These conclusions seem fairly deducible from the mechanical relations of the various parts of the antrotympanic cavity; and from certain clinical facts now generally recognized. In the living subject the vault is more or less completely separated from the lower portion of the tympanic cavity by the following structures, viz., the neck and processus foliamus of the malleus; the lower angle of the body of the incus; the anterior, posterior, and external ligaments of the malleus, and the folds of mucous membrane covering them. With these structures *in situ*, it would seem more reasonable to assume the mechanical separation of the atrium and vault, than to recognize the vault and antrum as two distinct cavities. Pus in the vault, therefore, must, under pressure, pass in the direction of least resistance to the antrum.

Now, experience has shown that, in the majority of cases of severe tympanic infection, the suppurative process originates within the vault, rather than the atrium; in which case it seems obvious that pus accumulating within the vault must quickly invade the antrum. The fact, therefore, that many cases of severe suppurative otitis media recover without having produced any symptoms of mastoid involvement, would seem sufficient evidence that pus within the antrum may be reabsorbed without having produced any of the bone changes characteristic of a true mastoiditis.

To epitomize: *Acute purulent otitis media is commonly accompanied by the passage of pus to the antrum; and its presence there on opening the antrum is not necessarily an evidence of mastoid inflammation.*

Admitting the above as a working hypothesis, it is not surprising that marked sensitiveness to pressure over the antrum is present in many cases of acute purulent otitis media. With an acute inflammatory process involving the mucous membrane not only of the attic, but also of the aditus and antrum, and with the whole antrotympanic cavity subjected to the pressure of an accumulation of pus for which there is no adequate orifice of escape, absence of pressure tenderness over the antrum would mean a difference between this and all other regions of the body under like conditions. In other words, antrum tenderness may in such cases denote simply the presence of confined pus. Viewed in this way, this important danger signal is as much a logical outcome of the tympanic lesion as is its rapid subsidence a result of free incision of Shrapnel's membrane and other rational measures for the relief of an acute purulent otitis media.

Where antrum tenderness persists in spite of such abortion measures, its significance must of necessity be regarded as more grave.

*Pressure Tenderness Over the Mastoid Cells Proper.*—In the foregoing remarks, the writer refers only to that stage of the disease in which the inflammatory process is confined within the limits of the antrotympanic cavity. When the pus has found the way into the mastoid cells proper, the disease is by no means so likely to yield to the simpler surgical and therapeutic measures. The lining membrane of the cells in the lower portion of the mastoid process seems to possess but little power of resistance to the action of infective organisms, and the intercellular bone substance is exceedingly prone to undergo necrosis. The significance of mastoid tenderness must, therefore, vary somewhat with its location upon the mastoid cortex, its gravity becoming relatively greater as it extends downward below the level of the floor of the antrum.

*Sagging of the Posterior Canal Wall.*—A question which it may be permissible to reopen, is the surgical significance of sagging, or, better stated, of bulging downward and forward of the posterosuperior canal wall. Are we to continue to regard this as one of the cardinal signs of mastoid inflammation? Is the periostitis upon which this bulging depends, due to an extension of mastoid inflammation through that portion of the thick anterior wall of the mastoid process which enters into the formation of the posterior canal wall? Or is it rather an extension of inflammation by continuity of structure along the soft parts of the posterior canal wall from the tympanic vault? The writer believes that in the vast majority of cases this bulging of the posterosuperior canal wall is due to an extension of inflammation from the vault, and is not an indication of mastoid inflammation, which may or may not be present. This belief is based upon the following anatomical, surgical, and clinical facts:

1. *Anatomical.*—(*a*) A section of the temporal bone, more or less horizontal in direction, and passing through the posterosuperior canal wall, shows this to consist of a dense, and often thick plate of bone which should act as a natural barrier to the rapid extension of an inflammatory process from the mastoid cells to the membranous lining of the bony canal. (*b*) The intimate structural relation to Shrapnel's membrane to the membranous lining of the posterior canal wall provides a natural pathway for the extension of inflammation by continuity of structure.

2. *Surgical.*—While complete removal of all diseased bone is the first aim of mastoid surgery, this indication never in acute mastoiditis requires the removal of any portion of the bony plate which separates the mastoid cells from the membranous canal. In other words, the posterior bony wall is rarely, if ever, diseased. Why, then, if this bony partition is not involved in acute mastoiditis, should swelling of the membranous lining of the posterior canal wall be regarded as an evidence of mastoid inflammation?

3. *Clinical.*—(*a*) In cases of *chronic suppurative otitis media* in which extensive destruction of the membrana tympani has occurred, characteristic bulging of the posterior canal wall is never present; yet in such cases the posterior wall of the bony canal, as well as the mastoid cells, is often diseased. How is the absence of this physical sign to be explained except by the loss of continuity between the structures of the vault and those of the membranous canal?*

(*b*) There have been many cases of *acute purulent otitis media*, which, in spite of marked bulging of the posterosuperior canal wall, have recovered completely and permanently without operation and without having produced any marked signs of mastoid inflammation. Such cases have been repeatedly observed by others as well as by the writer.

Two facts, then, should be borne in mind, viz., (1) that this "sagging of the posterosuperior canal wall," whatever the exciting cause, is the result of inflammatory changes in its periosteal lining; *i.e.* is dependent upon a true periostitis; and (2) that in no structure of the body is swelling due to acute inflammation more likely to be prolonged than in the periostea. This is a recognized surgical fact. If, therefore, a somewhat protracted inflammatory thickening of the posterosuperior canal wall be regarded as an evidence *per se* of an acute mastoiditis, many cases may be operated upon in which mastoid inflammation has either never existed, or, having been present, has undergone resolution.

The writer wishes to emphasize the fact that not every case of acute purulent otitis media which develops antrum tenderness and bulging of the posterior canal wall is necessarily one of true mastoiditis; and that between the milder grades of tympanic infection and inflammation of the mastoid cells proper there is an intermediate condition—an empyema of the antrotympanic cavity—which yields quite happily to free incision of the drum-membrane and appropriate after measures. Antrum tenderness may mean, therefore, either a collection of pus in the antrotympanic cavity, or the early stages of a suppurative process within the mastoid cells. Which of these two conditions exists can be determined only by the manner in which the symptoms respond to treatment; *i.e.* their persistence or rapid disappearance after free incision of the drum-membrane and inflamed posterior wall. It is to be noted, however, that even in those cases which go on to rapid and complete recovery, the "sagging of the posterior canal wall" is one of the last symptoms to disappear.

*The indications for operating in acute mastoiditis* may be summed up somewhat as follows:

(1) Sudden cessation of the aural discharge, other symptoms persisting; deep-seated pain in the mastoid region; marked sensitiveness to pressure upon the mastoid *over an area extending well beyond the limits of the antrum.* These symptoms in the presence of a sudden or considerable rise in temperature would justify an immediate operation.

(2) In the absence of fever, the above symptoms, unless yielding promptly, *i.e.* in twenty-four to forty-eight hours, to abortive measures, would constitute a sufficient reason for operating upon the mastoid.

(3) Marked tenderness over the antrum, persisting four to five days after free incision of Shrapnel's membrane, would point to necrotic changes within the antrum calling for operative intervention.

(4) Marked variations in the quantity of pus discharged; its maximum flow being, apparently, too great to be explained by the tympanic lesion; its periods of diminution being coincident with the development of mastoid pain or tenderness (or both). Such a combination of symptoms constitutes one of the most positive indications for opening the mastoid.

(5) Mastoid tenderness having been present and having disappeared, a discharge from the tympanic vault, which resists all rational non-operative measures, may, by reason of its persistence, justify the hypothesis of a necrotic area in the aditus or antrum. In such cases an operation is often the only means of saving the integrity of the organ, and preventing serious impairment of function.

(6) Finally, evidences of mastoid involvement having been present, the development at any time during convalescence of symptoms of septic absorption—*e.g.* septic temperature, constitutional exhaustion, etc.—would, in the absence of other concurrent disease, constitute a positive indication for immediate operation.

It will be seen from the above that the writer recognizes a number of conditions as calling more or less imperatively for operative intervention. He is convinced, however, that a careful observance of the rule implied in the third clause will reduce very materially the number of cases requiring operation. That is to say, where tenderness is confined to the antrum and free drainage through the drum-membrane has been established, a delay of four to five days will, in many cases, demonstrate clearly the absence of mastoid disease.

Among the "indications for operating" the writer has not included bulging of the posterosuperior canal wall, because he believes this to be a physical sign of acute suppurative otitis media. It is of undoubted surgical value in pointing to a type, or perhaps stage, of tympanic infection, which must receive prompt and vigorous treatment in order to prevent an extension of the disease to the mastoid cells. Its persistence, however, after mastoid tenderness and other signs of mastoid involvement have disappeared, is no indication of mastoid disease, and should not be regarded as an indication for operative intervention.

The writer has purposely avoided any allusion to the bacterial character of the discharge, as influencing prognosis and treatment. Cases of streptococcus infection often yield quite readily to minor surgical measures, whereas others, in which only the milder pus germs are found, often prove most severe clinically. Until we can explain, therefore, the varying

* In cases of chronic suppuration otitis media in which the upper half of the drum membrane remains intact, exacerbations of acute inflammation not infrequently give rise to characteristic bulging of the posterior wall.

degrees of virulence exhibited in different cases by apparently the same germ, it would seem safer that the question of operation should be decided in each case chiefly by reference to the symptoms and physical signs.

In conclusion, the writer would like to cite two cases from his own practice:

Case I.—A. D., a girl eight years of age, was referred to the writer on January 15, 1904, by Dr. Howard Gillespie Myers.

*Previous History.*—Measles two years ago; no aural sequelæ. Has been subject during the past two years to somewhat frequent attacks of acute tonsilitis. Breathes normally.

*Present Attack.*—On January 5 developed acute tonsilitis. On the following day complained of pain in left ear, which persisted more or less constantly until January 10, when relieved by spontaneous rupture of drum-membrane. Five days later, symptoms recurring, I was called in.

At this time the child complained of earache. Temperature 10.6°. The whole drum-membrane is red, with pronounced bulging of Shrapnel's membrane; the bulging here is continuous, with marked swelling of the soft parts of the posterosuperior wall of the bony canal. Small perforation in posteroinferior quadrant of drum-membrane. Marked tenderness over mastoid antrum.

*Treatment.*—Under nitrous oxide anesthesia, the drum-membrane was freely incised—the incision being carried through the posterior segment of the tense membrane, through Shrapnel's membrane into the vault, and thence outward through the inflamed posterior wall. Leiter's coil applied to mastoid. Irrigation of canal with bichloride of mercury, 1 in 5,000 solution, every three hours. Leiter's coil removed at the end of twenty-four hours, and not replaced, in spite of the fact that antrum tenderness was still present. From this time the tenderness over the antrum became daily less marked, and had entirely disappeared on January 19, the fourth day after the myringotomy. Other symptoms were more persistent. The discharge showed but little tendency to diminution. On January 23, the incision in the drum-membrane having partially closed, and drainage being obviously insufficient, the original incision was repeated. Shortly after this, in spite of a rather free discharge, it was thought wise to discontinue irrigation and substitute the use of dry wicks of sterile gauze carried into the canal and against the opening in the drum-membrane, both of which had been previously cleansed and dried. The wicks were changed at first twice, and then once, daily. From this time the symptoms showed gradual, but satisfactory, improvement. The persistent sagging of the posterosuperior canal wall, however, was a cause of doubt and anxiety to the writer. Even after the opening in the drum-membrane was closed, and the tense membrane had regained a fairly normal appearance, the swelling of the posterior wall was marked. All other symptoms having disappeared, the writer felt justified in discharging the patient on February 11, the parents being instructed to report promptly any symptoms of relapse.

Three weeks later the patient was brought to the office for examination. There had been no recurrence of aural symptoms. The tense membrane was normal in appearance. Function, tested by acumeter and whisper, seemed perfect. The posterosuperior wall, however, still showed some thickening. The writer has heard, indirectly, that there has been no return of symptoms referable to the ear.

Case II.—Mrs. D. was referred to the writer on February 17, 1904, by Dr. S. A. Brown.

Previous history negative.

One week ago, as a sequela of acute rhinitis, patient experienced severe pain in right ear, which was relieved in a few hours by spontaneous rupture of drum-membrane. The patient is referred to me on account of continued discharge and return of pain. Temperature 102°.

*Examination of Right Ear.*—Small perforation in posteroinferior quadrant of drum-membrane. Shrapnel's membrane bulging, there being no line of demarkation between this and the swollen posterosuperior canal wall. Marked tenderness on pressure over antrum.

*Treatment.*—Under nitrous oxide anesthesia the posterior segment of the drum-membrane and the inflamed posterior wall were freely incised. The usual measures, *i.e.* rest in bed, catharsis, irrigation of canal q.3.h., with bichloride of mercury, 1 in 5,000 solution, were ordered. Patient advised that mastoid operation might be necessary. She was seen daily. Discharge, at first free, diminishing daily. On February 22 antrum tenderness was barely appreciable on firm pressure. One week later the incision in the drum-membrane had completely healed. The swelling of the posterior canal wall, however, had not subsided, and was again a cause of anxiety to the writer, who still shared the popular belief as to its grave surgical significance. This anxiety the patient did not share. She was free from pain, and to all intents in her general health, and but for a slight impairment of hearing would probably have regarded her cure as complete. The correctness of this view was demonstrated by the complete subsidence of all symptoms, the inflammatory changes in the posterior canal wall being among the last to disappear.

These histories might be reinforced by others in which the disease ran a similar course. They suffice, however, to illustrate clinical phenomena, which the writer has observed in a large number of cases. They were selected chiefly because, having occurred considerably over a year ago, sufficient time has elapsed to justify the conclusion that recovery was complete.

58 West Fifty-sixth Street.

## CONVALESCENTS; THEIR CARE FROM THE MEDICAL STANDPOINT.*

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Probably no more significant or valuable statement on the treatment of the tuberculous sick has been made in recent years, than the one uttered by Dr. John H. Pryor at the second meeting of the New York State Conference of Charities and Corrections held in New York in November, 1901. At this meeting Dr. Pryor laid down the dictum that it was the best public policy to take care of the consumptive at the right time, at the right place, and in the right way until he was well, and not at the wrong time, at the wrong place, and in the wrong way until he was dead. The thesis thus expounded has since that time become the basis of enlightened treatment of those who are afflicted with the "white plague," in all parts of the United States. It is not to our discredit to remark that in this sane procedure we have followed the practice of intelligent government in the old world; it is to our credit that we have early recognized the validity and sanity of the belief thus crystallized in Dr. Pryor's statement, and have also acted upon it with wisdom and intelligence. To-day in all parts of the United States we have special

*Read at the National Conference of Charities and Corrections, held in Portland, Ore., July, 1905.

hospitals and sanatoria for the treatment of tuberculosis, not only of the pulmonary type, but of the manifold forms in which this disease manifests itself. Only within the past year we have added to the list of these special institutions the Camp for tuberculous children, founded by the Association for the Improvement of the Condition of the Poor, at their sanatorium at Sea Breeze, N. Y. The splendid results that have been obtained indicate that the experiment was warranted and that similar enterprises will be established in other sections of the country in the near future.

It is probably due to the prevalence of tuberculosis and the ravages which it has made through the centuries, that it has gained such prominence and that as a result of the investigations of the best medical minds, we seem to be on the threshold of the day when the death rate from tuberculosis will be on a par with other diseases.

Generally speaking, it may be said that the cures which have been effected depend upon an early recognition of the disease, and the subsequent application of natural therapeutic measures, such as fresh air, good food, freedom from care and anxiety, and the subordination of the patient to the treatment, irrespective of time limits or the patient's economic condition. Both from the medical and the social standpoint it has been conceded as the essence of the subject that the victim of tuberculosis who desires to recover his health, must subject himself to a prescribed program, and regardless of any economic considerations, must undergo treatment, not until he begins to feel well, not until he again begins to feel strong enough to return to work, if he belongs to the working classes, but until the time, when, in the opinion of the medical practitioner, the last vestige of the disease producer, the tubercle bacilli, has been eradicated. It is true that even to-day this is not the case in many instances. Many patients return to their homes from sanatoria before they are discharged, and against the advice of the attending physicians. Others, under the impulse of economic necessity, sacrifice their restoration to health at the altar of their families, and become victims of paternal or filial duty, and of society's inability to make proper provisions for such contingencies. It is becoming more and more recognized by the medical as well as the social worker, that if we wish to effect a cure in a tuberculous patient the best medicine we can give him is to provide for his family in his absence. It is needless to say that we are dealing here only with the poor, and in particular with the respectable wage-earning element with whom sickness has exhausted the savings of years, and to whom the absence of the wage-earner for an indefinite period in a sanatorium spells ruin. This, however, is not the point which I wish to bring out at this junction. It is sufficient to demonstrate that in the treatment of the tuberculous patient it is universally recognized that the time factor is an important one, and that after the acute period of the disease has been passed, the upbuilding of the patient through proper food, pure air, freedom from worry, and through medical supervision is essential, and that this must be accomplished without regard to the length of time such treatment may require.

The same cannot be said of the treatment of diseases other than tuberculosis, which, while the death rate may not be as high, are still exceedingly common, in fact so common that they are accepted as inevitable and as a part of the lives of most individuals. Many a good, old-fashioned mother still entertains the notion that her children must pass through a recurring series of diseases, such as scarlet fever, diphtheria, chickenpox, measles, etc. It does not strike the average adult as unusual that he should suffer from typhoid fever, pneumonia, or Bright's disease. These have been accepted as diseases incidental to life, and must be taken with philosophic equanimity as they come in the category of ills to which flesh is heir. It does not strike the average human intellect that these common, everyday ailments can be classified equally with tuberculosis, with smallpox and other malignant diseases in the class of preventable diseases, and that if the death rate from them increases or decreases, such increase or decrease can be attributed to distinct underlying causes, either apparent or remote. As a matter of fact, some of these causes lie so close to the surface that they have been ignored. We shall endeavor to indicate how one of these causes has had a material influence in affecting the percentage of deaths from the diseases mentioned.

A study of the vital statistics of the United States throws some light on this interesting subject. Notwithstanding the strides that have been made within the past two decades, in sanitary science, in the practice of medicine and surgery, in the betterment of living conditions, and in the general improvement in the physical status of all classes of the population, it is nevertheless the fact that in only a few diseases has the death rate been lowered.

It was to be expected that with the prominence given to the study of tuberculosis, the means would have been found to reduce the annual number of deaths from that disease. The census of 1900 shows a gratifying decrease to 10,688 deaths from consumption, as compared with 12,146 deaths in 1890. Similarly, the valuable work done by the Straus' milk depots and kindred enterprises, the careful study that has been made of infant dietectics, together with the discovery of the diphtheria serum has materially reduced infant mortality throughout the country.

But if we study some of the other so-called common diseases, we shall find another condition of affairs. Not only has there been no decrease in the death rate, but, in spite of splendidly equipped hospitals, in spite of the development of medicine in every direction, in spite of the improvement of general conditions as cited above, the death rate of diseases which are most common, and from which the larger number of deaths result, has actually increased.

The following figures tell the story more plainly than words:

PROPORTION OF DEATHS FROM CERTAIN CAUSES PER 100,000 FROM ALL CAUSES.

| | 1900 | 1890 |
|---|---|---|
| Diseases with decreased death rate: | | |
| Cholera infantum | 2,401 | 3,260 |
| Diphtheria | 1,586 | 3,306 |
| Consumption | 10,688 | 12,146 |
| Diseases with increased death rate: | | |
| Pneumonia | 10,108 | 9,091 |
| Heart disease | 6,671 | 5,343 |
| Diseases of the kidney | 3,534 | 2,312 |
| Typhoid fever | 3,405 | 3,216 |
| Cancer | 2,837 | 2,203 |
| Apoplexy | 2,580 | 1,783 |
| Inflammation of brain | 2,470 | 2,113 |
| brain | 2,470 | 2,113 |
| Paralysis | 2,207 | 1,969 |
| Diseases of the stomach | 1,208 | 960 |
| Diabetes | 450 | 286 |

While some doubt may be thrown upon the accuracy of these figures, even with the errors that may arise from the lack of a uniform system of recording

deaths in all sections and communities, they are probably sufficiently correct to indicate a somewhat anomalous condition. It is difficult to realize our vaunted boast of progress in the last quarter of the nineteenth century; it is difficult to understand how we can claim for the 20th century a continuation of enlightened progress if the page of our vital statistics is to be marked and marred by a record of an increase of deaths from typhoid fever, a disease whose history and etiology are definitely understood; if we are to see pneumonia and heart disease gaining in virulence and in fatal power. If improved medical science, more healthful living conditions, more wholesome food, better sanitary regulations and a more tolerant industrial environment cannot explain the seeming inconsistency of an increased death rate, must we not look for another cause to explain this anomaly?

In our large cities to-day, and possibly in the smaller ones as well, certain difficulties arise in the medical treatment of all but the well-to-do classes, which are patent to the average practitioner. The demands which are made upon the majority of hospitals in large cities by so-called acute cases, are so great, that they must perforce discharge patients at the earliest moment that is consistent with safety, and with the prevention of a relapse. Again, physycians in private practice cannot reconcile their theories with the physical needs of their patients, who, by force of circumstances, must depend upon their daily wage for their daily bread. The average dispensary does not go into the highways and byways seeking whom it may cure; its connection with its patient ceases with the latter's failure to return for treatment.

The report of the Post-Graduate Hospital for the year 1904 shows that the average length of stay in the hospital was 17.2 days. In Roosevelt Hospital, in the same city, it was 19 days in 1903. In Beth Israel Hospital, 23.2 days. In Mt. Sinai Hospital, 20.79 days. On the other hand, the report of the German Imperial Insurance Department shows that the average stay of patients in sanatoria, suffering from diseases other than tuberculosis was 52 days for men and 56 days for women. It is interesting to note at this point, that under the German invalidity law, treatment in sanatoria is not a privilege but a right which even the lowliest workman has, and one which is freely granted to him when ill, in the hope of preventing subsequent invalidity, with all that it entails.

Irrespective of the form of medical practice, whether in hospital, dispensary, or private practice, it is obvious that as a result of the difficulties which confront the practitioner, we are developing a class of people in the community who may aptly be called the "half cured." They comprise the men and women whom the hospital discharges at the very beginning of convalescence because of lack of room, the men whom the private practitioner can no longer influence for their best good, for the reason that an impelling need drives them to the shop or to the factory at a time when nature is just beginning to let her handmaids, rest and sleep, exert their magic influence; the women who leave the maternity ward at the expiration of two weeks, because their children and their households require their urgent attention. All these and more make up the little army, not of incurable, but of uncured men and women who complain that their strength does not come back; who are always tired; who still have the pain in the back, or in the head, or in some other organ; who tell you that they are listless and indifferent, that they no longer have the same capacity for the daily task; these are the ones that tell you that they easily take cold, that they have trouble with the heart, that work has become distasteful, or that they cannot work. These are the ones that eventually drift to the relief agencies as permanent dependents, or who in time help to swell the mortality lists, and to increase the death rate from pneumonia and heart disease, and the long, ghastly list of ills which could be prevented if we but read the signs aright.

For let it be remembered that to-day we are beginning to recognize that diseases that were supposed to be the common heritage of all are in fact not so. It is the weak who succumb to disease, and not the strong. If pneumonia conquers, it is because an already weakened frame cannot resist the attack. The tubercle bacilli cannot live in a healthy organism, and the same will probably be found true of the cancer germ when it is once isolated. That a man is as old as his arteries, is an axiom of the earliest medical practice, and the heart that has been debilitated by acute illness will break if the time and the opportunity is not given it to restore itself to normal conditions. And so through the whole gamut of diseases, which so frequently result in death, and in which there has been an increase in the death rate during the last census decade, we will find that previous acute illness in the individual afflicted has left ineradicable weakness in the organism, by reason of the fact that insufficient time was allowed for a thorough and complete convalescence.

If we study the census statistics somewhat further we shall find another interesting series of figures, which, if they are not convincing, are at least indicative of the truth of the foregoing premises. The death rate from certain principal diseases in 1900 shows a remarkable dissimilarity in the number of deaths from pneumonia and nervous diseases in the large cities when compared with smaller cities and towns.

The following table will give some idea of what is meant:

DEATH RATE FROM CERTAIN PRINCIPAL DISEASES IN 1900 PER 100,000 OF WHITE POPULATION.

| | Pneumonia. | Diseases of the Nervous System. |
|---|---|---|
| New York | 320.2 | 175.6 |
| Chicago | 210.4 | 170.8 |
| Manhattan | 358.2 | 173.0 |
| Boston | 248 | 194.7 |
| Philadelphia | 231.7 | 254.6 |
| Buffalo | 151.7 | 162.9 |
| Johnstown | 308.9 | 244.3 |
| Hoboken | 287.2 | 282.1 |
| Albany | 175.3 | 281.8 |
| Allentown | 181.2 | 257.6 |
| Atlantic City | 136.4 | 282.1 |
| Davenport | 100.7 | 253.1 |
| Covington, Ky. | 126.1 | 311.6 |
| Portland, Me. | 210.8 | 387.4 |

Why is it that in large cities, and especially in Manhattan, the percentage of deaths from pneumonia should be so alarmingly high, and from nervous diseases so remarkably small? Surely it cannot be due to improper or insufficient treatment, since the local New York hospitals and medical practitioners are renowned above others for their skill and thoroughness. Nor can it be attributed to special climatic conditions producing diseases of the respiratory tract. If this were the case we should expect to find Portland, Me., vying with New York in the number of deaths from pneumonia, while the census figures show that Portland has the maximum number of deaths from diseases of the

nervous system. We should expect that deaths from diseases of this character would be found in the greatest number in a city like New York, where the daily struggle for existence on the part of all classes of people is at the greatest tension, and where nervous break-down is a common everyday occurrence. How can we explain the somewhat paradoxical occurrence that New York, of all cities, should have such a low death rate from nervous diseases?

I venture to give the following explanation, which, while it has no basis of statistical proof, will at least commend itself to thinking minds as rational and logical. In large cities neurasthenia and other nervous disorders are as common even among the classes of population who earn their livelihood by manual labor as in smaller cities. The daily grind of existence, the worry of finding sustenance for the morrow, the hand-to-hand struggle for the necessities of life set up changes in the nervous system which make the individual susceptible to minor ailments and which fill the clinics and dispensaries and hospitals. If these patients could be given the opportunity which is afforded their more fortunate brethren of a thorough convalescence, with all that this word conveys, there is no doubt that the majority would be restored to a condition of physical fitness which would enable them to withstand for long periods of time, future onslaughts of disease. Instead of such a happy state of affairs, we find conditions such as were stated above. Patients are discharged from hospitals as soon as they are able to walk. Practically no general hospital will receive so-called ambulant cases. It is a common experience to the social worker that admission is refused to sick people for the reason that they do not belong to the so-called "hospital cases." In other words, they do not require surgical intervention, or are not so acutely ill as to be bed-ridden. Again, to repeat for the purpose of emphasis what was said above, the number of men and women who return to work or resume daily occupations requiring hard manual labor and mental worry is legion. It is this class, unfit for work, physically incapacitated, and bodily weakened, who become the prey of diseases like pneumonia, consumption, heart disease, and Bright's disease. The man of wealth, or the man whose means are only moderately ample pursues a different course. Under the advice of his physician he travels to Europe, spends weeks in a sanatorium, hies himself to the country or to the mountains to spend weeks, and if necessary months, until his convalescence is assured, and his complete recovery an established fact. Can there be any doubt that if the wage-earner, less fortunate from the standpoint of wealth, could obtain similar treatment; if the honest, industrious workman, whose slender purse has been exhausted by his illness, could obtain the recreation, change, nourishment, and rest which are so essential for a thorough convalescence, that our census figures would show a startling diminution in the death rate from pneumonia and tuberculosis, and similar diseases?

The remedy is a simple one, and can be stated in few words. If our hospitals and dispensaries are unable to provide properly for the sick from the standpoint of time, if they must be discharged when they are technically cured, but still weak and impotent, additional institutions must be created to meet their needs. Whether they be called sanatoria, convalescent homes, or by any other euphonious title is immaterial. What is desirable is that they should approximate to the least extent the regulation hospital and to the greatest extent the normal home. If such institutions which will give opportunity for rest, change of environment, pure air, and the small amount of medical attendance, which may be necessary, can be built in cities, there is no valid reason why they should not be established there. It goes without saying, however, that for the purposes intended, the country adapts itself admirably.

Away from the city where land is cheap, a convalescent home should be built on the cottage plan, and should be conducted to approximate as closely as possible normal family life. Of equal importance, however, in effecting a complete cure of our patient, is provision for his family in his absence. We have heard much of the dangers of material relief and of the possibility of pauperizing families who may receive it. But there comes a time when we must cut the Gordian knot. It is better public policy, viewed from the standpoint of economy or any other, to make adequate provision for the man's family who is incapacitated by illness, and whose savings are exhausted, than by permitting him to return to work in an enfeebled condition, to sow the seeds of more serious illness, and probably bring into the world offspring puny and undersized.

Another plan which will command itself to many because of its simplicity, is the subsidizing of the patient himself by giving him the wherewithal to regain strength and health after a period of debilitating illness. If this is supplemented by relief for his family, we have almost an ideal method of caring for the convalescent. Its one disadvantage may be summed up in the fact that the average individual might remain in his original home environment during the time of convalescence. From the medical standpoint, change of surroundings is a valuable therapeutic aid, and one that should be taken advantage of by the poor as well as the well-to-do. In fact, for the former, unaccustomed to change of any kind, a different environment in many instances produces remarkable improvement in condition.

The value of the two forms of treatment has already been recognized by private individuals. The Winifred Masterson Burke Relief Foundation, instituted in 1902 by John M. Burke will, when it becomes fully operative, provide for establishing convalescent hospitals, and a fund for the relief of persons who have been self-supporting, but have temporarily become incapacitated by illness, and will furthermore provide temporary assistance for the families of individuals thus afflicted. I quote from the deed of trust, as it gives valuable information for similar enterprises which may be contemplated in the future. "The benefits of the foundation shall be reserved for intelligent and respectable men and women, who in consequence of sickness or discharge from hospitals, before they have regained strength sufficient to earn their livelihood, may be in need of temporary assistance." Under the deed of trust ample latitude is given to the trustees to administer the trust at their discretion, and the interest of the four millions of dollars, the principal of the trust fund, will unquestionably be a novel and important factor in the cure of disease.

Within the past year, the Loeb Memorial Home for Convalescents has been created in New York City, for the purpose of providing an opportunity for the enjoyment of wholesome surroundings in the country to recent sufferers from acute diseases, who have not yet recovered their strength sufficiently to attend to their daily duties. The trustees have purchased a farm in Westchester County, N. Y., on which it is intended to erect a cottage which shall approximate the home as nearly as possible. While there will be medical supervision, such oversight will be kept in the background as far as possible, so as to avoid to the greatest extent any suggestion of a hospital.

I have given these two illustrations to indicate what has been done by private benevolence. There is no doubt that they will act as an incentive to others to endow similar homes and funds. It is a question, however, in view of the prevalence of acute diseases, whether it is not the function of the State to consider the possibility of organizing some system of convalescent treatment for the sick among its citizens.

As a matter of public policy, most States in the Union have recognized the need of making provision for the insane, and in most communities there are general municipal hospitals for the treatment of acute and chronic diseases. More recently, States such as Massachusetts have recognized the needs of the tuberculous sick, and have established State sanatoria for their treatment. It is extending this theory a step further if provision is made for the convalescent either in State camps or in State homes, or by subsidy from the State treasury. Under present conditions there is probably no form in which public out-door relief would be less objectionable and less subject to abuse than if it was applied to the temporary care of the sick and of their families.

Sickness is a condition easily determinable by medical examination, and in the granting of relief to those who have passed the necessary examination, greater allowance could be made with less danger of pauperization than would be possible under a general out-door relief system.

Here, too, we would be applying a system already recognized in Germany, and one that has been in use for a number of years. The invalidity law of Germany, under which a fund has been established to which both the employer and employee contribute, practically guarantees to the latter, adequate treatment in case of illness, and relief of his family in the interval.

Such a compulsory law is probably impossible in the United States, but there is no reason why individual State government should not make similar provision for the sick, particularly as the compulsory tax which is demanded in Germany, is indirectly assessed under our system of government.

If it is true that the average human life is valued at $1,500, it is only logical to assume that an initial outlay that will preserve this asset to the community will be economic and justifiable. Surely it is wise for the State, for private philanthropy, or even for organized benefit societies, labor unions, etc., to institute a carefully regulated system of convalescent treatment, whether in specially adapted homes or not.

Such preventive medicine will in time eradicate the constantly growing need for homes for incurables, for hospitals and sanatoria for consumptives, for special institutions caring for the many forms of chronic diseases, and will accomplish what has not yet been accomplished, notwithstanding our undeniable progress in medical science. I need hardly repeat that I refer to the lowering of the death rate from diseases which are altogether too common, and which result from disease attacking a too weakened frame.

Let us give all classes of our population the opportunity of convalescing after acute illness, and we shall shortly find that we have developed a class of individuals better fitted for work and more competent to labor physically and mentally. And what is more important, physically, mentally, and morally fit to bring into the world children of sound and healthy minds, who will carry forward successfully the ideals for which this country stands.

## TREATMENT OF TYPHOID FEVER.

By D. E. ENGLISH, M.D.,

MILLBURN, N.J.

Having received more letters in regard to my treatment of typhoid fever* than it is convenient to answer, it has seemed to me better to republish a brief synopsis of that treatment.

When called to see a patient whose symptoms and history seem to indicate typhoid, although a positive diagnosis may not be possible at first, he is at once sent to bed, if not already there, and explicit directions are given to keep him absolutely at rest. He should not be allowed to raise himself up in bed to take food or drink, and the use of a bed-pan should be insisted on. It is just as well at this first visit to have him put in the sunniest, quietest, and best ventilated room available, and on a firm, smooth mattress. As to diet, he is to have nothing whatever until the next visit, except sterile water, or a little weak tea without milk. He is given ten to twenty, or possibly thirty, grains of calomel if he is still in the first week of the disease. This is to be followed in eight hours by half an ounce of magnesium sulphate. Where there is no reliable nurse the salt is often not given on the excuse that the bowels had already moved freely, so when the nurse is not reliable, it is well to give two compound cathartic tablets with the calomel, and not order the salts. A dose of a bromide may be ordered to be given after the bowels have moved, and the stomach has become quiet, in nervous or anxious patients. A blood culture is taken for purposes of comparison later on.

In cases where the patient is seven or more days from the initial chill when first seen, the large dose of calomel should not be given. Instead give calomel gr. ss., bicarbonate of sodium gr. iii, aloin gr. ⅛ and podophyllin gr. ⅛, at one dose, to be followed by calomel gr. ss. and bicarbonate of sodium gr. iii every half hour until eight doses have been taken.

At the next visit, twenty-four hours later, the diagnosis being now fairly clear, the patient is put on the special diet and treatment. If, however, the blood culture shows a malarial infection, the special typhoid treatment is deferred for three days while quinine is being given.

If a double infection is suspected the special diet is begun at once. The diet is as follows: Two ounces of Weir Mitchell's dissolved beef at 6, 8, 10, and 12 A. M., and 3, 5, 7, and 9 P. M. The white of one egg, acidulated, at 7, 9, and 11 A. M. and 4, 6, 8, and 10 P. M., allowing the stomach to rest between 12 and 3 P. M. and between 10 P. M. and 6 A. M. The patient is urged to take large quantities of sterile water at all times, either plain or slightly acidulated with lemon juice. The egg is prepared by stirring (not beating) the white of one egg in two and one-half ounces of sterile water, and adding five drops of dilute hydrochloric acid, or half a teaspoonful of lemon juice, preferably the acid. If the patient distinctly desires it, a litle sugar may be added. The beef is prepared as follows:

℞ Acidi Hydrochlorici (U. S. P.) ʒi.
Aquæ Destillatæ, ʒvii.

M. S. A teaspoonful to one pint of water for dissolving beef. Put one pound of finely-chopped beef into a one-quart glass fruit jar, add a pinch of salt and one pint of sterile water, shake well; then add one teaspoonful of the above prescription and shake again. Put the sealed jar in a cool place, like a cellar floor (not on ice) for

*Camphorated Carbolic Acid, Medical Record, Vol. 44, p. 426; Treatment of Typhoid Fever, ibid., Vol. 57, p. 1120; Diet, Drugs, and Diagnosis in Typhoid Fever, ibid., Vol. 62, p. 302; Typhoid Infection, ibid., Vol. 62, p. 1026.

twelve hours. Then set the jar into water, as in making ordinary beef tea, and keep it hot without boiling (about 110° to 120° F.) for four hours. Strain through two layers of cheese-cloth, wringing through all the juice. Flavor with salt and pepper, and serve agreeably warm.

No other food should be given before the end of the third week of the disease, when whole eggs, soft boiled or poached, or a little finely-minced meat, and later thoroughly cooked corn-starch and other starches may be cautiously added. No milk or toast should be allowed until after the patient is entirely well. These two things I believe to be the most harmful foods ever given in typhoid, and responsible for many deaths.

The most scrupulous cleanliness of the patient, and his bed, must be enforced. Cases of relapse are probably instances of reinfection either by the patient himself or by the nurse.

The special medicinal treatment is by the administration of a preparation, which for want of a better name, is known as "carbolated camphor," and is made as follows: To three parts of gum camphor add one part of crystallized carbolic acid, which has been liquefied by heat only. Let them stand, tightly covered, for forty-eight hours, then filter through absorbent cotton, and add a little more clean camphor gum. The object of this is always to keep the resulting liquid supersaturated with camphor, thus rendering it comparatively bland and unirritating to mucous membranes. While this mixture may be used with success when newly made, it is better to let it stand, tightly sealed, for two weeks before using. It is given by dropping the dose into a capsule at the time of administering. The dose is ten to twelve drops every two hours at first, skipping perhaps one, possibly two, doses in the night if patient is getting needed sleep. This dosage is kept up for from three to five days, according to circumstances, when the intervals between doses are lengthened or the amount given at each dose lessened. The indications for lessening the dose are the lowering of temperature and the altering of its regularity of curvature; the absence of exhausting diarrhea or tympanites; and evidences of cardiac depression. A bad effect on the kidneys need not be feared; sometimes an albuminuria will disappear under its use. Overdosing will manifest itself first by cardiac depression. This preparation will keep down the fever, prevent diarrhea, tympanites, and pain, and hasten the recovery of the patient.

Throughout the course of the disease the bowels should be kept freely open. This may be comfortably accomplished by giving every night, or second, or third night, a tablet triturate containing aloin gr. ⅛ and podophyllin gr. ⅛, with the addition from time to time of a little calomel and soda. How the carbolated camphor acts is a mooted question, but it probably serves to disinfect, to a certain extent, both the intestine and the blood, while the camphor tones up, or stimulates, the abdominal system of sympathetic nerves. Its use does not preclude the employment of nux vomica, strychnine, digitalis, alcohol, or other symptomatic treatment when indicated. It may be given close to the dissolved beef, but it is better not to give it within fifteen minutes but it is better not to give it within fifteen minutes of the acidulated egg. I believe, having tried both, that a patient will get well quicker, and with much less emaciation and exhaustion, under this treatment than under the expectant, or purely symptomatic treatment, with milk feeding.

A working man will be back at his work one week sooner on the average, and the mortality will not be over two per cent. in cases seen before the end of the second week.

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**Some Surgical Observations on Referred and Reflected Pain.**—James Sherren states that by the term "referred" pain he means the result of stimulation of a nerve in its course, or, in some cases, to stimulation of one of the branches of the nerve, the pain being felt in the former, in the area distal to the point stimulated; while in the latter, it is felt in the whole cutaneous distribution of the nerve. The familiar injury of the ulnar nerve at the elbow giving rise to pain in the hand is an example of the former. The pain felt over the distribution of the trigeminal nerve when one of its branches is irritated is an illustration of the latter. By "reflected" pain the writer means pain localized to the surface of the body occurring in association with visceral disease, and perhaps with joint disease. An example of this is the pain felt in the right side of the abdomen in certain cases of appendicitis. He refers especially to referred pain which is the result of injury to a peripheral nerve, produced by an accident or during the course of a surgical operation. He declares that in cases of primary suture of an accidentally inflicted nerve wound, silk should never be used in suturing, on account of the difficulty of making these wounds aseptic and the ease with which silk becomes infected. In all cases of referred pain and cutaneous hyperalgesia following injury of a nerve in continuity, the treatment is the same. Operation should be performed and the injured part of the nerve removed. The ends should then be brought together and sutured. Referred pain may result from a surgical operation, and it may also arise from pressure, or from involvement of a nerve in disease, and lead to difficulty or error in diagnosis. These cases demand very careful examination, and undue attention should not be given to any one symptom.—*The Clinical Journal.*

**The Occasional Clinical Resemblance Between Caries of the Vertebræ and Lumbothoracic Syringomyelia, and the Location Within the Spinal Cord of the Fibers for the Sensations of Pain and Temperature.**—William G. Spiller describes a case of caries of the vertebræ recently under his care which presented the symptoms of lumbothoracic syringomyelia in so striking a manner as to make a diagnosis uncertain. The patient, a man twenty-three years old, began to have pain in the lumbar region and abdomen four months before he came under the writer's observation. The resemblance in this case to lumbothoracic syringomyelia consists of several features. In the first instance, there were scars on the abdomen which were the result of painless burns in childhood. Tactile sensation was preserved with almost complete loss of pain and temperature sensations in the lower limbs, although the degree of this dissociation of sensation varied when the patient was forced to rest in bed. When standing, the patient had extreme genu valgum which had existed about five years, and which closely resembled arthropathies. The patellar reflexes were slightly exaggerated and voluntary power in the lower limbs was slightly diminished. Careful examination revealed a very slight kyphoscoliosis. The patient fell down a flight of steps four months before death, after which he became completely paralyzed in the lower limbs. There was absence of signs of psoas abscess and of pulmonary tuberculosis before the accident, as well as absence of a pronounced kyphosis. The writer states, however, that this is not the only case of caries of the vertebræ without distinct kyphosis that he has seen. After the patient's death, microscopic examination of the spinal cord showed a tubercle in the right lateral column at the extreme lower end of the thoracic cord and involving the area of Gowers' tract. A little higher another tubercle was found in the left Gowers' tract. The writer thinks that this case seems to afford proof that Gowers' tract contains fibers of temperature and pain. He believes that tactile fibers—at least, in part—are in the posterior columns. The writer declares that he does not believe that tuberculous myelitis is a common complication of caries of the vertebræ, but this case and another previously described by him prove that it may occasionally occur.—*University of Pennsylvania Medical Bulletin*

MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, October 28, 1905.

## IS PNEUMONIA INCURABLE?

"PNEUMONIA is a self-limited disease, which can neither be aborted nor cut short by any known means at our command," is the sentence which opens the section on the treatment of lobar pneumonia in one of the most popular of American textbooks of medicine. Reading this, one need not be surprised to learn from an article in the *American Journal of the Medical Sciences* for June of the present year that 533 cases of pneumonia out of a total of 991 treated in the hospitals of Philadelphia, terminated fatally. Whether this mortality of over 50 per cent. is regarded as a justification for the pessimistic belief of the medical authority quoted, or as the result of a do-nothing policy born of the acceptance of his despairing utterance, will depend upon the therapeutic faith or lack of it of the reader. Of course, these figures do not fairly express the real mortality of pneumonia, for the hospitals receive the most desperate cases—the old, the social wrecks, those broken down by excesses of all kinds, by exhausting labor, and by privations, and the actually moribund—but even the commonly accepted mortality of 15 per cent. is one that brings reproach to the therapeutic art. Consumption is called "the great white plague," but pneumonia in its season is the champion killer. From October 1, 1904, to March 4, 1905, the mortality from consumption in Chicago was 11.4 per cent. of the total mortality, while that from pneumonia was 18 per cent., an excess of 49 per cent. of pneumonia over consumption. Is this dreadful waste of human life inevitable? or is it a direct result of the nihilistic teaching of authorities who are grounded in the doctrine of "self-limited" diseases, and doggedly refuse to listen to the assertions of others, as acute in observation and as honest in purpose as themselves, who claim that medicine is not powerless in the face of this devastating disease, and that pneumonia has been and often can be cured without waiting for the crisis on the seventh or ninth day? Let us hear the testimony of some of these competent observers that Osler and others so incontinently throw out of court.

The pathogenic organism of lobar pneumonia is admitted to be the pneumococcus or *Micrococcus lanceolatus*. It is possible, and probable, that other microorganisms, such as the influenza bacillus and various streptococci, may cause a disease indistinguishable from that excited by the pneumococcus, but such cases are exceptional and may be ignored in the present review. The pneumococcus is omnipresent and is found, we might say almost constantly, in the secretions of the mouth and throat of seemingly healthy persons. What endows it with special virulence in certain cases—whether a temporary depression of the resisting power of the individual or the stimulus supplied by the synergetic action of some other microbe—we do not know. This is a matter which it is to be hoped competent investigators, perhaps the Pneumonia Commission of the Health Department of New York, will take up and elucidate. However tenacious of life this microbe may be under favorable conditions, we know that it is exceedingly vulnerable. In sputum, moist or dry, it preserves its vitality for a long time, nineteen to fifty-five days in different experiments, but in cultures it soon dies. Its long life in sputum may be attributed to the protection afforded by the albuminous envelope, for F. C. Wood has shown that when the dried sputum is pulverized the contained pneumococci perish in from one to four hours, even when kept in the dark, and in about one hour when exposed to the sunlight. Given a microbe, which perishes so quickly under adverse conditions, growing in culture in the accessible alveoli of the lungs, it ought to be a comparatively easy matter to arrest its growth. And so it would appear to be, if we are willing to accept the testimony of those who have to deal with the disease in actual practice. It is commonly said the mere fact that many remedies are vaunted as being of service in the treatment of any disease affords sufficient evidence that a real remedy does not exist. This is doubtless true in some cases, but it may also indicate that the disease is so easily curable that it yields to various methods of treatment. Pneumonia is one of these diseases, and into which category one would place it—whether of the incurable or the easily curable—must depend upon the character of the evidence presented.

In the olden days—in the first half of the last century—bleeding was the accepted treatment for pneumonia. This has gone out of fashion, in the treatment not only of pneumonia but of all other diseases, and it is unlikely that it will be adopted again, although not a few of the present generation of practitioners regret its disuse. According to the imperfect statistics accessible to us, the mortality of pneumonia at the present day is greater than it was when venesection was in vogue, but whether this is because, as is asserted, the type of pneumonia has changed, or because bleeding was really curative must be left to conjecture. Another remedy for the disease, now equally out of fashion, but the beneficial effect of which many men still living in this city have witnessed, was the exhibition of a single large dose, 20 to 30 grains or more, of calomel. This was the routine practice of the late Dr. George P. Cammann and of his pupil Dr. James R. Leaming. Very many country practitioners, who do not lose many of their patients from pneumonia, rely almost as a routine measure upon diaphoresis in the management of their cases of this disease. The patient is put to bed surrounded by hot bottles, and is frankly sweated day and night, until the disease subsides, which it does often without waiting for the classical crisis. The details of this method were given by Dr. MacArtney of Fort Covington, N. Y., in the MEDICAL RECORD of September 19, 1896. Another mode of treatment for which its advocates—Dr. Simon Baruch and others

whose authority cannot be questioned—claim ideal results, is the cold pack. In a recent communication (Medical Record, September 23, 1905) Dr. Baruch states that he has lost but two patients, both practically hopeless from the beginning, in over 100 cases treated by this method. Dr. Andrew H. Smith a few years ago reported the successful employment of chloroform inhalations in the treatment of pneumonia, and commenting upon this article and a letter on the same subject by E. J. Whitehead, Dr. E. F. Wells of Chicago, recalled a report by Baumgartner (Lungenentzündung, Stuttgart, 1850) of 201 cases treated by himself and others with but 7 deaths, a mortality of 3.5 per cent. Chloroform inhalations were also commended by the late Dr. Roberts Bartholow.

The use of sodium salicylate has been warmly advocated by A. H. Smith, and the efficacy of this remedy was further insisted upon by Sebring in an article in this journal for April 22, 1899. The value of creosote, by inhalation in vapor or internally in the form of the carbonate, has been asserted so many times and so positively by trustworthy observers that it can hardly be disputed—yet it is ignored by most of the authors of textbooks on medicine. In the Medical Record there have been articles dealing with this method of treatment by Beverley Robinson, Leonard Weber, W. H. Thomson, I. L. Van Zandt, and others, the force of which can be denied only by impugning the credibility or the powers of observation of the writers. Another remedy which has been strongly advocated by Dr. H. Altshul is iodide of potassium in large doses. Dr. Altshul's article in the Medical Record for March 26, 1904, was in the nature of a preliminary report, and we have not seen any notice of further experiences with the remedy, but the account of its action then given would seem to warrant further trial. Quinine in enormous doses has also been given with apparently beneficial effect. Galbraith reports (*Journal of the American Medical Association*, January 28, 1905) fifty cases of pneumonia treated by quinine without a single death, and commenting upon this in the same journal for March 11, 1905, Solomon Solis-Cohen instances a case in his own practice in which a man with all the signs of pneumonia took by mistake 60 or 80 grains of quinine in the course of six or eight hours and promptly recovered. In what way these and other agents, such as digitalis and veratrum viride, exert their beneficial, if not curative, action in pneumonia, is beyond our purpose to discuss here. Some are doubtless microbicidal, others may be antitoxic, while still others probably have an opsonic action, but the essential fact is that they are regarded as curative by many acute and careful observers.

This review of some of the methods employed with a greater or lesser measure of success in the treatment of pneumonia is necessarily very imperfect. We have referred to only a few papers appearing in this journal, and one or two others, and have not drawn upon the immense literature of the subject as presented in other medical periodicals. But the testimony, such as it is, is all in support of the contention that something can be done in the way of aborting or curing pneumonia. It is true, men are not so ready to report their failures as their successes, yet that is no reason for rejecting positive testimony such as has been presented time and again in medical periodicals. There may be a fallacy underlying all these claims, but it behooves those who would dispute them to discover the fallacy and disprove the claims before giving utterance to ex cathedra statements regarding the absolute refractoriness of pneumonia to therapeutic endeavor. It is possible that all these presumably competent observers are wrong, and that they have happened upon a series of favorable cases in which the result would have been equally felicitous if they had followed a purely expectant treatment—but it is not probable. Those of our readers who have had the patience to follow us must, we believe, admit that there is at least some ground to hope that those are right who content that pneumonia is sometimes amenable to treatment. If they are right, then the dictum quoted at the beginning of this article is wrong, and a blind acquiesence in its hopeless teaching can but result in a deplorable sacrifice of human life.

## SCIENTIFIC RESEARCH.

In all the civilized countries of the world, scientific research has taken a foremost place as a means of increasing medical knowledge. Germany is undoubtedly the country in which patient and laborious investigation into the mysteries of medicine is carried on most successfully. France, however, has produced many men who have contributed largely to the elucidation of scientific problems, especially of those in which chemistry has played the chief part. Great Britain, on the whole, has lagged behind in this branch of medicine, although so far as research work in tropical medicine is concerned, she has more than held her own. The United States has, perhaps, more than any country, progressed in scientific research, and judging from the vast sums which have been provided for this purpose, and from the wealth of material and the quality of the men engaged, her advance should be yet more rapid in the future.

At the inaugural address of the winter session of the London School of Tropical Medicine, delivered on October 11, by Professor G. H. Nuttall, F. R. S., in the theater of the school, Royal Albert Dock, the subject of scientific research was ably dealt with. Professor Nuttall, a distinguished alumnus of Johns Hopkins University, and now of Cambridge University, England, pointed out that experimental medicine was responsible for the greatest advance which had been made in our knowledge of the cause, prevention, and cure of disease. The speaker laid especial stress upon the necessity of endowing research, and said that "all who were engaged in teaching and research had met with men capable of research and often had been forced to see them drift away into other fields of activity, too often from mere lack of means to offer them encouragement." He went on to show that laboratories alone do not constitute research, the investigators themselves must be men of capacity and well trained, and able to give their whole time to the work, and not be men "deep versed in books and shallow in themselves." The best teachers were those who were also investigators, but this combination required so much time that it was almost impossible to perform any other duties.

Professor Nuttall severely criticised the inadequacy of research and hygienic laboratories in Great Britain, and stated that at Oxford and Cambridge no provision existed for research or even for proper teaching in hygiene. The speaker concluded an instructive address by an eulogy of the London School of Tropical Medicine and by advice as to the need of patience in research emphasized by the undue haste in publication which had characterized certain investigators, both in England and in other countries.

### The Alleged Protozoön of Scarlatina.

Considerable interest was aroused not long since by Mallory's description of certain protozoön-like bodies which he had observed in the epithelial cells and the lymph spaces of the skin taken from patients who had died of scarlet fever. He had been unable to find these in the living patient. This discovery was hailed as a possible contribution to the etiology of the disease, and a number of investigators have since then busied themselves with the question along the lines indicated by Mallory. Duval obtained similar bodies from the blisters of scarlatina cases, and now C. W. Field (*Journal of Experimental Medicine*, Vol. VII, No. 4), has published the results of his investigations dealing with a similar condition not only in scarlet fever, but also in measles and other skin rashes. Field comes to the conclusion, based on an extensive series of observations, that the bodies described by Mallory are part of the protoplasm of the epithelial cells, which has been so changed in its chemical nature that its staining reaction differs from that of the surrounding protoplasm. The small round extra-cellular bodies found in the living patient may arise from degenerating cells, but this origin the author does not assert without reserve. In sections of control and normal skin, the nuclei of the epithelial cells were often seen to be indented by the cell protoplasm, giving them an appearance similar to those indented by Mallory's bodies. It would seem that if these bodies were protozoa, they would have been found in the sections from both the living and the dead skin of scarlatina and measles patients, as they were present in the blister fluid. Their occasional absence seems more suggestive of a degeneration than of a living organism. This view is also borne out by the fact that in one instance they were not found immediately after death, but were present in another specimen from the same case removed 24 hours later. Another circumstance of interest that apparently supports the idea that bodies found in the blister fluid are the products of degeneration and cytolytic activity, is the fact that these were found in the antitoxin rashes as well as in those of scarlatina and measles. Field's observations demonstrate quite clearly that a great majority of these protozoön-like bodies arise from degenerating cells and the differentiation between one of the latter and a true protozoön by the morphology and the staining reaction alone will remain a difficult matter. Although it would seem from these facts that the bodies described by Mallory may be what Field claims them to be, nevertheless they may be specific accompaniments of these diseases, and even if we cannot ascribe to them any pathogenic characters, it may yet be possible that their demonstration will prove of some asistance in the diagnosis of these cases.

**Phthisiophobia.**—The *Pall Mall Gazette* says that a great epidemic of imaginary consumption has prevailed in Paris since the close of the recent Tuberculosis Congress in that city.

## News of the Week.

**Medical Society of the County of New York.**—At the one hundreth annual meeting of this society, held October 23 in Hosack Hall of the New York Academy of Medicine, the following officers were elected: *President*, Floyd M. Crandall; *First Vice-President*, Walter Lester Carr; *Second Vice-President*, William H. Park; *Secretary*, John Van Doren Young; *Assistant Secretary*, J. Milton Mabbott; *Treasurer*, Charles H. Richardson; *Censors*, Henry S. Stearns, C. G. Coakley, James E. Newcomb, H. Seymour Houghton, and Egbert Le Fevre.

**Reciprocity Between New York and New Jersey.**—At a meeting of the committees of the two State Licensing Boards held at Trenton, N. J., on October 16, an agreement was adopted to the effect that after January 1, 1906, each State should recognize the certificates of medical examinations of the other.

**Alvarenga Prize of the College of Physicians of Philadelphia.**—The Alvarenga prize for 1905 has been awarded to Dr. Chalmers Watson of Edinburgh for his essay entitled: "The Importance of Diet; an Experimental Study from a New Standpoint." The next award of the Alvarenga prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about One Hundred and Eighty Dollars, will be made on July 14, 1906, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award. Essays intended for competition may be upon any subject in Medicine, but cannot have been published. They must be typewritten, and must be received by the Secretary of the College on or before May 1, 1906. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its ouside the motto of the paper and within the name and address of the author.

**Award of King Humbert's Prize.**—The international prize of 2500 lire offered by King Humbert I, of Italy, for the most valuable work on discovery in the domain of orthopedic surgery has been awarded for the first time to Dr. Oskar Vulpius, Professor of Orthopedics in the University of Heidelberg. The award was made in recognition of Professor Vulpius' achievement in the treatment of paralysis, and especially for his book entitled "Tendon Transplantation and Its Applications in the Treatment of Paralysis." Prof. Vulpius has presented the sum to a Bavarian home for cripples.

**Another Consumption Cure.**—A curious story comes from Williamsport, Pa., to the effect that a young woman of a neighboring town has been rescued from apparently inevitable death from pulmonary tuberculosis by swallowing the hearts of two rattlesnakes. The remedy is a traditional one in the family, and half a dozen cures effected in this way in different members, beginning fifty years ago, are recounted with much circumstantiality. It is essential that the hearts be still pulsating when swallowed.

**Catskins as a Remedy.**—The father of an eight-months infant in a little California town recently had to be threatened with arrest before he would consent to abandon his own peculiar form of treatment and allow a physician to be called.

The infant, dying of meningitis, was found wrapped in catskins, which the parents explained they had applied in order to give it the benefit of the electricity. Over fifty catskins were discovered about the house, the father having depleted the entire neighborhood of felines in his efforts to procure the necessary amount of electrical energy.

**Harlem Hospital Ground Sold.**—Property on the north side of East 120th street, used by the Harlem Hospital and by the city as a pier for the Randall's Island ferry, has been sold by the estates, which have owned it for many years. Large frame buildings, formerly private residences, occupy most of the plot and are tenanted by the Harlem Hospital. The lease by the city of the land used for the pier expires next February.

**Vermont State Medical Society.**—At the closing session, of the 92d annual meeting of this association held at Burlington on October 12, 13, and 14, the following officers were elected: *President*, Dr. M. L. Chandler of Barre; *Vice-President*, Dr. E. S. Albee of Bellows Falls; *Secretary*, Dr. George H. Gorham of Bellows Falls; *Treasurer*, Dr. B. H. Stone of Burlington; *Auditor*, Dr. J. H. Blodgett of Saxtons River.

**Colorado State Medical Society.**—The annual meeting of this society was held at Colorado Springs on October 3, 4, and 5. The following officers were elected: *President*, Dr. H. G. Wetherill of Denver; *First Vice-President*, Dr. E. T. Boyd of Leadville; *Second Vice-President*, Dr. Perry Jaffa of Trinidad; *Third Vice-President*, Dr. C. A. Ringle of Greeley; *Secretary*, Dr. Melville Black of Denver; *Treasurer*, Dr. S. E. Solly of Colorado Springs. The next convention will be held in Denver, beginning the first Tuesday in October, 1906.

**Chesire County (N. H.) Medical Association.**—At the annual meeting of this society held at Keene, N. H., on October 10, the following were elected as officers: *President*, C. W. Harrington of Peterboro; *Vice-President*, Dr. J. D. Proctor of Keene; *Secretary* and *Treasurer*, Dr. C. S. Walker of Keene.

**Thurber Medical Association.**—The fifty-second annual meeting of this society was held in Milford, Mass., on October 12. The following officers were elected: *President*, N. W. Sanborn of Bellingham; *Vice-President*, Dr. O. C. B. Nason of Medway; *Secretary*, Dr. A. J. Gallison of Franklin; *Treasurer*, Dr. C. B. Hussey; *Librarian*, Dr. C. D. Albro of Milford.

**Norfolk and Portsmouth Medical Society.**—The annual meeting of this society was held at Norfolk, Va., on October 10, and the following officers were elected: *President*, Dr. L Lankford; *Vice-Presidents*, Dr. B. R. Kennon and Dr. C. T. Parrish; *Secretary*, Dr. C. J. Andrews; *Treasurer*, Dr. E. T. Hargreaves.

**Mississippi Valley Homeopathic Medical Association.**—At the meeting of this organization, recently held at Watertown, Ia., the election of officers resulted as follows: *President*, Dr. H. E. Hoefle of Davenport; *Vice-President*, Dr. H. W. Wilson of Rock Island; *Secretary and Treasurer*, Dr. R. E. Peck of Davenport.

**Yellow Fever.**—At New Orleans the epidemic is apparently in its last stages, and in several days lately no deaths at all from yellow fever have been reported. Dr. White, October 17, ordered that no more patients be taken to the emergency hospital, and it was closed on October 22. At Panama also the disease is entirely under control, and the official reports state that the entire Isthmus is now free from the disease.

**Vital Statistics of Philadelphia.**—For the week ended October 21 the number of deaths reported to the Philadelphia Bureau of Health was 398, an increase of 30 over the number reported for the previous week, and 18 more than the number reported for the corresponding week of the preceding year. The largest number of deaths was due to pulmonary tuberculosis—42; the next largest to heart disease, 40; the next to nephritis, 39.

**"The Transvaal Medical Journal."**—Under this title the second medical journal of the Cape Colony makes its initial appearance. The object of the new publication is stated to be to supplement its older contemporary especially in providing each month an extensive résumé of current European and American work, and in fostering observation of the rich clinical and pathological material afforded by the colony.

**Site for New Missouri Sanatorium.**—A site of 190 acres in the Ozarks in the southwestern county of Lawrence has been selected for the new Missouri State Sanatorium for Tuberculosis.

**Dr. George B. Johnston** of Richmond, Va., has accepted the chair of surgery in the University of Virginia.

**Naval Inspector Frank Anderson**, for several years in charge of the U. S. Naval Hospital at Yokohama, has reported for duty at Mare Island, San Francisco, where he will have charge of the medical supplies.

**A Garden of Medicinal Plants.**—About a year ago, Dr. Rodney H. True, in charge of the medical plant investigation of the U. S. Department of Agriculture, had assigned to him ten acres of land in the Golden Gate Park, San Francisco, to use for the cultivation of medicinal plants. The result is an exceedingly creditable garden not only for the study of these plants, but for demonstration that these useful weeds can be profitably cultivated along the Pacific Coast.

**A Tuberculosis Hospital at San Francisco.**—San Francisco is to have a new hospital for tuberculous patients at the alms house, and an isolation hospital, or pest house, at Thirty-seventh and E streets.

**The Western Surgical and Gynecological Association** will hold its next meeting at Kansas City, Mo., December 28 and 29, 1905.

**Generous Gift to Hospital.**—The Lancaster (Pa.) General Hospital has received a gift of $10.000 from Mrs. Mary L. Baer, to endow a free bed in memory of her husband.

**Gifts to the Sydenham Hospital.**—At the last meeting of the Board of Directors of the Sydenham Hospital, Mr. Wm. I. Spiegelberg, the president, announced the following donations: Meyer Guggenheim's sons presented $5,000 to endow a bed in memory of their late father; Mr. Isaac Guggenheim personally presented $2,800, and in addition Mrs. Isaac Guggenheim obtained $700 for the Maternity division; Mr. Samuel Lee Schubert donated the use of the Lyric Theater and arranged a benefit performance for November 26, 1905.

**Construction of a New Hospital.**—The contract for building the proposed Catholic hospital at Taylorville, Ill., has been let for $18,058. It is believed that the hospital will be finished on or before February 1, 1906.

**Vacancies for Physicians at Indian Agencies.**—The United States Civil Service Commission announces an examination on November 22, 1905, to secure eligibles from which to make certification to fill a vacancy in the position of physician (male) at $1,000 per annum, San Juan Indian Agency, N. Mex.; another, at $900 per annum, at Fort Bidwell, Cal., and similar vacancies

as they may occur in the Indian Service. Applicants must be between the ages of 25 and 55 years. The examination is open to all male citizens of the United States who comply with the requirements. Applicants should at once apply to the United States Civil Service Commission, Washington, D. C.

**Biographs of Epileptic Seizures.**—Dr. W. P. Spratling, of the Craig Colony for Epileptics at Sonyea, has been trying for several years to secure a series of living pictures of various types of epileptic seizures. Dr. W. G. Chase, of Boston, spent a month at the Craig Colony recently, and, at his own expense, made living pictures of a large number of epileptic seizures from start to finish. The results are so satisfactory that the seizure is pictured on the screen in the minutest detail, the patient's breathing and the movements of the eyeball being easily distinguished. Pictures of other pathological conditions, such as hemiplegic gaits, nystagmus, etc., were made as well. The pictures will be shown at the next meeting of the National Association for the Study of Epilepsy, etc., in the Academy of Medicine, New York City, on the evening of November 29 next.

**Opening Exercises of the Wisconsin College of Physicians and Surgeons.**—This college opened its thirteenth year September 19, when the introductory lecture was delivered by Dr. Albert W. Myers. Dr. G. H. Bassett has been appointed Professor of Histology and Pathology, with Dr. Newton Wason as his assistant. Drs. G. Frederick Shimonek and Arthur Ritman have also been added to the faculty.

**American Academy of Medicine.**—The thirtieth annual meeting of this organization will be held in Chicago November 9 and 10, 1905. Committees will report on medicinal practice act, taching of hygiene in the public schools, and the collegiate degree. Ten papers have been promised for this meeting, exclusive of reports of committees and the President's address.

**Chicago Medical College an Integral Part of Northwestern University.**—It is said that steps are being taken for the purpose of making this medical school an integral part of Northwestern University. The governing board of the medical school has been instructed to turn over to the University trustees the $350,000 special endowment of the former.

**Chicago Gynecological Society.**—The twenty-seventh annual meeting of this Society will be held at the Auditorium Annex October 20, at which there will be a business meeting, to be followed by the election of officers and a banquet. The guests of the Society on this occasion will be Drs. Hunter Robb, of Cleveland, Ohio, and Matthew D. Mann, of Buffalo, N. Y.

**Tri-State Medical Association.**—The Tri-State Medical Association of Mississippi, Arkansas, and Tennessee will hold its twenty-second annual meeting at Memphis, Tennessee, in the Hotel Gayoso, on November 21, 22, 23, 1905. Information concerning the meeting may be obtained from the secretary of the association, Dr. Richmond McKinney, Memphis Trust Company Building, Memphis, Tennessee.

**Obituary Notes.**—Dr. Wellington G. Beyerle died at Reading, Pa., on October 16, at the age of seventy-four years. He was graduated from Jefferson Medical College in the class of 1852. During the Civil War he served as surgeon to the 141st Regiment, Pennsylvania Volunteers.

Dr. John H. Dickenschied died at Plover, Lehigh County, Pennsylvania, on October 17, at the age of eighty years. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1847.

Dr. Upton A. Shorretts, formerly of Frederick, Maryland, died at Colorado Springs, Colo., on October 8, of pulmonary hemorrhage, at the age of forty-eight years. Four years ago declining health compelled him to remove to Colorado Springs. We was graduated from the Hahnemann Medical College, Philadelphia, in 1883.

Dr. Harry D. Hull, of Adrian, Michigan, one of the oldest practitioners of the town, is dead. He was graduated from the Bellevue Hospital Medical College, New York, in 1877.

Dr. Joseph Huyett, of Milan, Ill., said to be the oldest physician in Illinois, having practised for fifty-seven years, died at his home, aged eighty-five years. He was surgeon of the Ninety-third Illinois regiment in the Civil War. He was graduated from the Jefferson Medical College, Philadelphia, in 1843.

Dr. John A. McKenzie, of Halifax, N. S. died of appendicitis on October 11, at the age of forty years. He was a graduate of the College of Physicians and Surgeons of Boston, and had been assistant superintendent of the Nova Scotia Hospital, Mount Hope, since 1892. For a number of years he was demonstrator of anatomy at the Halifax Medical College, resigning the position about a year ago.

Dr. Orin Peak, of Oak Park, Ill., and the earliest physician of that suburb, is dead. He was born in 1826 in Bethel, Vt., and became a teacher to the Choctaw Indians in 1846. In 1854 he graduated from the Medical School of the University of Michigan. In 1864 he was appointed surgeon of the Twentieth Wisconsin Volunteer Infantry. After the war he settled in Oak Park.

Dr. John O. McReynolds, of Elkton, Ky., died on October 6, at the age of seventy-eight years. He was graduated from the Jefferson Medical College, Philadelphia, in 1849, and was for many years a member of the State Board of Health and also County Health Officer. His two sons are Dr. R. P. McReynolds, of Philadelphia, and the Hon. J. C. McReynolds, Assistant Attorney General of the United States, Washington, D. C.

Dr. Frank Buller of Montreal died on October 11, at the age of sixty-one years. He was widely known in both Canada and in this country as an ophthalmic surgeon of unusual skill. He studied medicine at Victoria College, Cobourg, and was graduated from there in 1869. He was also the holder of a degree from McGill. After obtaining his degrees, Dr. Buller went abroad and spent seven years in study at different universities. In 1876 he returned to Canada and commenced practice in Montreal. For seventeen years he was ophthalmic and aural surgeon at the Montreal General Hospital, afterwards resigning his positions to take up similar posts at the Royal Victoria Hospital. After his arrival in Montreal Dr. Buller became connected with McGill University, first as lecturer, and in 1883 he was appointed professor of ophthalmology and otology, maintaining the chair until the time of his death.

Dr. Lowell Holbrook of Putnam, Conn., said to have been the oldest practising physician in Connecticut, died October 16, at the age of eighty-seven years. He was graduated from the Medical School of New York University in 1849, and served as surgeon of the Eighth Connecticut Volunteer Infantry during the Civil War.

# Correspondence.

## VON BEHRING'S REMEDY FOR TUBERCULOSIS.

To the Editor of the Medical Record:

Sir:—Immediately before sailing from Europe for the United States I came in possession of the full text of Prof. E. von Behring's communication to the Congress of Tuberculosis in Paris on the 7th inst., in which he describes his remedy for tuberculosis. I find this to coincide in all essential particulars with a remedy for the treatment of tuberculosis introduced by myself, the nature and mode of preparation of which I first communicated to the American Climatological Association on May 2, 1897, in an article which appeared in the transactions of this Association, and likewise in the *Therapeutic Gazette* for that year. From the text of Prof. von Behring's communication it appears that his alleged discovery consists in so preparing tubercle bacilli that the immunizing curative substance contained in them is made available for absorption by the living tissues. For this purpose he finds it essential to remove from the tubercle bacilli certain substances by extracting them with water and chloride of sodium solution and then with alcohol and ether, after which the tubercle bacilli are powdered, when they are ready for subcutaneous injection.

From my publications referred to, and numerous others which have been made by me since, it will appear that I likewise remove certain substances from the tubercle bacilli by washing and extracting them with water, and then with alcohol and ether; and while I at first omitted the use of chloride of sodium solution as a second step, I have since found that the mucoprotein substance which binds the tubercle bacilli together, and causes their cohesion in mass, is more readily soluble in a chloride of sodium solution than in water, and have since resorted to its use. I have, however, not deemed it necessary to make a supplementary publication of this fact, because the protein substance referred to is also soluble in water and can be removed by prolonged washing upon a percolator, and the use of a chloride of sodium solution is therefore not an essential step in the preparation of tubercle bacilli, to the end that the immunizing substance contained within their bodies may become available.

As in von Behring's procedure, my next, and the most essential, step consists in extracting the tubercle bacilli with alcohol and ether, a process which, so to say, "unlocks" the tubercle bacilli by removal of the fatty, waxlike substance which they contain. After this they are reduced to an impalpable powder, and the immunizing curative substance becomes available for absorption by the living tissue, when injected subcutaneously; or for further extraction with distilled water, if the immunizing substance is to be isolated in its pure form.

From the foregoing it will appear that the method of preparation of Prof. von Behring's new remedy is identical with my own, up to and including the final reduction of the tubercle bacilli to a fine powder, where he stops. In my own work I have, however, gone further, in isolating the immunizing or curative substance by extraction in distilled water, until the tubercle bacilli yield nothing more and have become an inert mass.

In addition, I have accumulated and published my large clinical and experimental researches during the past eight years, showing that the remedy has immunizing and curative properties of a high degree of efficiency in the treatment of over 1,500 patients by myself at the Winyah Sanitarium, Asheville, N. C., and of a much larger number of patients by other physicians, with results which yield about sixty per cent. of lasting arrest of the disease, and recoveries in all stages of pulmonary tuberculosis. Still unpublished records of my work with this remedy further confirm its value, showing that the blood serum of patients after being treated with it, acquires and maintains marked antibacterial properties, and a high power of agglutination for living tubercle bacilli.

In view of the attention of Prof. von Behring, as well as that of other writers to my work, I herewith claim von Behring's discovery of a new remedy for tuberculosis. I must confess my astonishment at his apparent lapse of memory of the fact that I had the honor of personally relating to him my clinical and experimental experiences with my remedy, and of describing to him its method of preparation, on the occasion of my visit to him at Marburg in June, 1902. He was then pleased to manifest some interest and to ask me for reprints of my publications, which I sent to him after my return to the United States, about a month after our interview.

Dr. Karl von Ruck

Asheville, N. C.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

THE OPENING SESSION—INTRODUCTORY ADDRESSES—A MEDICAL AND SURGICAL EXHIBITION—OBITUARY.

London, October 6, 1905.

The opening of the schools is, of course, the chief medical event of the week, and something of the old enthusiasm for the first of October (this year the second, on account of Sunday falling on the first) as "our opening day" remains, although the time-honored introductory lecture has been supplanted by other forms of celebration at several hospitals. Still we have a number of schools faithful to the tradition, and here are a few notes I have gathered from the addresses:

At University College, Professor H. R. Kenwood started with the statement that the object being to prevent as much as to cure disease, keeping persons in health rather than prescribing for them should occupy the first place in the consideration of the medicine of the future. By the development of a sanitary conscience in the community and the employment of protective agencies, much of the communicable disease we see should be gradually reduced and eventually wiped out. Bacteriology had built up such a record that we are warranted in expecting it is destined to become in the not very distant future a tremendous force in the prevention of disease. But hygienic reform must depend almost entirely for its success on the proper education of the people, for at the present time it is estimated that about a quarter of a million persons are suffering from phthisis, and this is only one form of disease which it is hoped the future will suppress.

At the Middlesex Hospital, Dr. R. A. Young took for a subject, "Method in Medicine," and method, he said, was "a means of transit," or, as expressed by Sir William Hamilton: "All method is a rational progress—a progress towards an end." Referring then to the influence of the analytical and methodical mind of Bacon upon the advancement of science, he considered method in relation to medicine (1) as it affected teaching and study, (2) in regard to research, (3) as applied to the practice of medicine. Teaching and study might be considered together, since teaching should only be control, direction, and guidance. The education and refinement of the senses, particularly sight, hearing, and touch, and the formation of sound judgment from the information thus obtained, were of paramount importance. The present-day danger was to forget that the patient was the end of study, and disease his condition—not a concrete entity. Practically no great principle had been evolved without years of methodical investigation, even of effort which long appeared fruitless. But the manner in which work was done enabled the profession. Therefore, the lecturer urged the students to work in no spirit of maudlin sentimentality, not puffed up with elation about the nobleness or beneficence of their art, but with senses alert and sympathies awake to do their best.

At St. George's Hospital, Mr. Brudenell Carter, referring to the recognition of women in the profession, said the time had come when medical matters concerned their mothers and sisters as well as "the mere man." Looking to the anxiety that was expressed about the competition of Germany in various fields, he said they were handicapped by one fact—that Germany had banished smallpox from her territory by the proper application of an English discovery, while we still permit that disease to levy tribute of lives and money, to attack thousands, and to condemn those whose lives are spared to blindness, disfigurement, or permanent debility which may be handed down to future generations. It is the problem of a medical school how best to establish effective barriers against disease, how best to deal with the admirable raw material of English homes with the definite object of producing men and women who should be conversant with disease in all its manifestations, and be wise counsellors in those wider questions of conduct of life which lie at the root of national efficiency. The great problems of life and society were problems of health, habits, and physical environment, and only the medical profession was capable of enlightening the public on these subjects. This was a task for which the clergy, statesmen, and politicians had shown themselves inadequate.

At Charing Cross Hospital, Sir J. Crichton-Browne remarked that twenty years ago one of their staff, Mr. James Cantlie, uttered a warning about physical deterioration, and, though that was neglected and sometimes ridiculed, we had heard much of it lately. The outcome of much talk of it left it a mooted question whether the race were deteriorating, or regenerating, or merely standing still. There were defenders of each hypothesis, but there was certainly a deplorable amount of deterioration around us, and inefficiency abounded. Hordes of undergrown, underfed men,

women, and children were inefficient. Many public institutions were as incompetent as stenosed valves of a damaged heart. Education was inefficient, or there would be less ignorance, stupidy, and hooliganism. Our economic system, our municipal administration, the army, and so on, were all arraigned by the lecturer and inefficiency pronounced widespread. Passing on to the temperance question, he declared that in nearly 90 per cent. of inebriates they began early, from fifteen to twenty years of age; and he urged that it was "bad form" to take alcohol before reaching their majority.

At King's College, Professor Clifford Allbutt gave the address, and, as seemed appropriate in an institution devoted to all branches of education, argued that the problems and difficulties of our London medical schools could only be solved on principles common to education everywhere and always. Education, he said, must always consist of two parts—the earlier, drawing forth and refining of all the faculties, and such a formation of them as habits that a right reason and virtue became easy and pleasant; the latter, the adaptation of these faculties to particular callings. It was of general education that the values, methods, and ends were less well understood. It was by ideas that the world had grown. To be deficient in ideas meant to be in bondage to convention, and to defects of adaptability and foresight. The protection of the public from inefficiency in its physicians was not the concern of a university, but of the state. Education was not only from ignorance to knowledge, but also from evil to good. The professor exhorted the students to seek the higher life, which was the greatest good in practice as in spirit, and to believe the words of Socrates, that the "unprobed" life was not worth living.

At St. Mary's Hospital, Dr. Wilfred Harris dilated on the competition of schools and the grievances of practitioners. He said that while the entries of students in the London schools decreased, their financial difficulties increased; and the action of the King's fund in refusing to assist those hospitals which continued to eke out their failing resources had brought matters to a crisis. Some schools were appealing to the public, but success in such appeals would injure the cause of medical education. The failing entry was partly due to the difficulty of obtaining a London degree through want of systematized teaching and restrictive regulations. Endowment of medical education Dr. Harris pronounced an unfortunate necessity. Further to attract the better class of students, the conditions of practice must be made more attractive by the removal of those grievances which bore so hardly on the majority of practitioners. The three most important were (1) unqualified practice and quackery, (2) hospital abuses, (3) contract medical practice. The public needed protection against quacks as much as against fortune tellers.

Mr. Gerald Balfour delivered the address at the Medical Faculty of the new University of Leeds. He said that he spoke as a mere outsider, he said that the medical profession was not only worthy of honor but was to be envied. In what other profession did they find science so happily blend in one harmonious whole? It was said of the golden age of science; it had made more progress in the last two generations. He spoke not only of the wonderful mechanical applications of science to everyday life; he thought rather of the great intellectual conquests, which had created new sciences, he might say new points of view involved in every department of knowledge. The extreme of energy in various forms of matter, of physics. Let them also consider the profound modification in our conception as to the construction of man. In the advance which science had made, medicine had not lagged behind. A young man who entered into its pursuits at such a time as this was to be envied.

At the Women's School, Mrs. Bryant said the ideal of study was most usefully conceived, not as a scheme of learning to be achieved, but rather as growth out of the primitive intellectual interests of human beings. With the growing mass and complexity of human knowledge the demand for specialization in studies ran ahead of self-improvement. The specialist who lost interest in events outside his work lost something of his humanity. To the complete student the two ideals, theoretical and practical, seemingly contrasted at first, appeared as parts of one, each helping to develop the other, each necessary to the other, as science to art and art to science.

At other schools and some of these dinners, conversazioni, etc., replaced the lecture, and in proposing and responding to the toasts there was, I hear, a "very free supply of frothy eloquence." Next week all will have settled down to steady work.

A "medical and surgical exhibition," organized by the *British and Colonial Druggist*, was opened on Monday, and closes this evening. It was held in the Horticultural Hall, and was very largely attended. A good feature was that it was restricted to medical men and their friends. Invitations were sent to all members of the profession within a radius of twenty miles. On the tickets it was stated they were not transferable. A covering letter requested those who could not use the ticket to return it. Thus the exhibition was very select. Between fifty and sixty manufacturers sent exhibits, the majority from London, but the United States were also represented.

A sad death was that of Colonel E. V. MacSwiney, Army Medical Staff, who on Tuesday, when traveling from London to Birmingham, opened the carriage door while the train was going at high speed and disappeared. A fellow passenger saw the tail of his coat and tried to take hold, but failed. The colonel was well known and popular at Birkenhead and Liverpool, where he was principal examiner on the medical staff for embarkations, and did important work for the transports which left for Mersey during the war. He was on leave until November on account of health. He received his commission in 1868.

## OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

MANILLA, Sept. 7, 1905.

From the beginning of the outbreak of cholera, August 23, 1905, until to-day, September 7, 1905, there have occurred in the city of Manila 146 cases, of which 121 ended fatally. The early cases were most virulent in character, and the victims succumbed in a few hours. The first fifteen or twenty cases were of the cholera sicca type; then came a series of more or less atypical cases, and now the disease has assumed the ordinary diarrheic form described in the textbooks and has become more mild in character.

The disease has been widespread throughout the city of Manila, but no two cases occurred in any one house. One noteworthy feature of the disease has been that the sections of the city which were most affected during the epidemic of 1902-'03 have been but slightly involved this time. This is very curious, because they have been considered the most insanitary in the city.

The Filipinos and Spaniards are vigorous in their opposition to being removed to the hospitals, and object to leaving their homes, and at the present time are putting every obstacle in the way of the health officials toward isolating cases. If this continues it is difficult to see when a cessation of the disease may be expected. So long as each case can be removed to the hospital, and the premises thoroughly disinfected, there is not much danger from its spread. The natives, however, object to going to the hospital, and in order to avoid it they hide their sick. During the past few days many dead bodies have been found which were removed from the place at which death occurred. That is probably done to avoid disinfection of the premises. It can thus be seen that many centers of infection remain undisinfected, and, in consequence, are a great menace.

No land quarantine has been used this time, and the results up to the present time have fully justified this course. The disease has not spread to the provinces nearly so rapidly as during the former epidemic. The total number of cases reported from the provinces has been 92, which is very much less than the number of cases which occurred during the corresponding period of the previous epidemic. So far the disease has all occurred within a radius of fifty miles of Manila.

The measures, in general, have been much less harsh than formerly, and with the exception of the objection to going to the hospital, the natives have cooperated much more freely this time than from previous occasions.

The outbreak in Bilibid Prison has not yet been controlled. In all, there have been, in that institution, thirty-five cases and twenty-nine deaths. The condition was considered so grave Saturday, September 2, that the Governor requested the Commissioner of Public Health to assume charge of the sanitary conditions of the prison. Vigorous measures to combat the epidemic were at once instituted, and since that time there has been a decided falling off in the number of cases, and it is hoped that the disease will be entirely under control within a few days.

Dr. Richard P. Strong, the Chief of the Biological Division of the Bureau of Government Laboratories, is at present engaged in vaccinating the inmates of the prison with anticholera vaccine of his own preparation. The plan is to vaccinate one half of the number of prisoners in each squad, and if there is any further cholera in that institution it will be interesting to observe whether the vaccinated prisoners remain free.

The starting point of the disease still remains a mystery, and until this is definitely ascertained it will be impossible

to decide where the infection came from. The opinion is gradually gaining ground among medical men that cholera is endemic in the Philippines, and that outbreaks must be expected from time to time. The present plan is to remove all cases to the San Lazaro Hospital, which is a fully-equipped and modern institution in all respects. Trained nurses and physicians are in attendance, and there are facilities for giving the best possible care to the unfortunates. Of the thirty-eight patients admitted to the San Lazaro Hospital, twenty-three are still alive, so that it will be seen that the death rate, so far, has been much less than for outside cases.

## CHRONOPHOTOGRAPHY TO FURNISH MATERIAL FOR THE LABORATORY AND CLINIC.

To the Editor of the Medical Record:

Sir:—The purpose of this letter is merely to suggest the application of the moving picture projecting apparatus as an adjunct to the present method of teaching the science of medicine and surgery. Besides being equally interesting and instructive if offers an excellent opportunity to follow more closely the instincts of humanity as well as economy, which should at least invite an opening for conviction. C. Francis Jenkins of Washington, inventor of the first successful moving picture projecting apparatus, says: "Thousands have been entertained and amused by moving-picture exhibitions, have laughed at the vigorous osculations of the 'Widow Jones' and have felt the excitement of a realistic fire scene. But the Phantoscope and its rivals have a more serious mission than that of reproducing, however vivid, trivial and familiar happenings."

In the Clinic: The management of a normal case of labor, from the first visible presentation to the delivery of the placenta, once recorded on a film, could be reproduced on the screen as many times as desired. Any step not clearly understood by the student would be recapitulated without the slightest deviation. Rare complications in childbirth having once appeared before the camera, would become an ordinary occurrence before the class. The various steps in the different methods of amputating, reducing fractures and dislocations; the different plastic operations, etc., could easily be demonstrated with each particular lecture. The famous operations and methods could be performed in every clinic at the same time, by the authors. Would not it be wonderfully interesting to witness an operation personally conducted by one of the famous surgeons of the past? Think how interesting the picture records of operations personally conducted by the famous men of to-day would be to posterity! By showing the characteristic gaits in locomotor ataxia, spastic paraplegia, paralysis agitans; and the convulsions in epileptic and hysterical subjects, the neurologist would afford the student a rare opportunity to become very familiar with the differential diagnostic points. Death or change of residence may at any time deprive the clinic of its most typical case. But with a moving-picture record of the subject such unfortunate happenings would not involve a loss to clinical instruction. The ophthalmologist, by operating close to the camera, could reproduce each step in the strabismus, enucleation, or keyhole operation, greatly magnified; thereby giving the class in general a more satisfactory view than the few who may be fortunate enough to have select positions near the field of the original operation. There are many other uses for such apparatus in the clinic which no doubt will occur to the mind of every reader, so it will not be necessary to continue with this phase.

In the Laboratory: By making a moving-picture record of the capillary circulation, through a microscope, one frog would furnish material enough to last several years. This is practically the only method by which the correct idea could be portrayed on every retina alike. One poor little cur would have nine times as many deaths as nine cats, and still have one more life left with which to demonstrate the physiology of the breathing apparatus. The guinea pig or rabbit, after having been inoculated with a particular bacillus or drug may die; but the characteristic symptoms could be recorded on a film and reproduced without needless sacrifice. Aside from the humane standpoint, the addition of a moving-picture outfit to the laboratory would mean economy. Material is abundantly supplied in some colleges while in others the reverse is true.

Nearly every college has a projecting lantern outfit to which could be attached, for little additional expense, a moving-picture mechanism. Should an accident destroy one of the positive records it would mean a delay of a few days only until another could be made from the negative. Any person familiar with an ordinary projecting lantern manipulation could easily learn the necessary points to give a satisfactory moving-picture exhibition. The writer is preparing to make some picture records, and hopes to demonstrate the same in the very near future.

Arthur G. Bretz, M.D.,

Binghamton, N. Y.

## Progress of Medical Science.

*Boston Medical and Surgical Journal, October* 19, 1905.

**Sugar in the Cerebrospinal Fluid of Diabetes.**—A preliminary report on this subject is made by N. B. Foster, whose first observation was made on fluid obtained by lumbar puncture in an adult male with symptoms suggesting a fulminating cerebrospinal meningitis. The fluid was found to be fermentable with yeast, yielded phenylglucosazone crystal, and was dextrorotary. The small amount of fluid handled confined the quantitative testing to the reading of the sacchrometer, which was 2.5 per cent. The patient's urine contained four per cent. of sugar. Foster has also examined the cerebrospinal fluid of twelve other diabetes and has found sugar in every case, the percentage ranging from one-half to three. He expresses himself as unable to draw any inference from the amount present. The author briefly describes the techniques of his analyses. He has no therapeutic or other suggestions to make on the basis of his findings, and hopes that others will continue the analyses, as the matter is certainly an interesting one.

*New York Medical Journal, October* 21, 1905.

**The Sanatorium for Tuberculous Patients and Its Medical and social mission.**—S. A. Knopf decrys the silly ideas which have crept into the minds of many people regarding possible dangers from the proximity of tuberculosis sanitoria, and shows that they do good, not only to the patients housed in them, but also have a beneficial effect on the sanitation of surrounding communities. Residence in such an institution teaches the patients how to care for themselves, and they become, when they return to their own families, missionaries of good hygiene. Moreover, the modern institution does much for its patients in the line of educational benefits—as lectures, schools for children, music classes, etc. The sanatorium movement gave the impulse to the antituberculosis movement, through which the rich have come closer to the poor, the educated closer to the uneducated, while the kind-hearted have roused the interest of the indifferent. All have united their efforts to combat a common foe.

**A New and Simple Method of Performing Rectal Valvotomy.**—The method of L. J. Hirschmann is thus described: The patient is placed in the knee-shoulder position and a large operating proctoscope inserted after the sphincter has been prepared for it by either gradual dilatation or by immediate divulsion under local anesthesia. A ligature carrier (figured in the paper) is threaded through the eye at the curve with a rubber ligature (5-8 French); the ligature passes inside of the curve of the needle and should project about half an inch from the point. The needle, which is nine inches long and has a handle bent at an angle, so as not to obstruct the view, is then passed up around and hooked through the highest offending valve until the point is projected and the ligature can be clearly seen. This end is then grasped by means of a long forceps and the ligature is pulled through until it is outside the proctoscope. The needle is then passed back and around the edge of the valve and is brought down also outside the proctoscope, and is then taken off the ligature. The ligature is now in place. Over the ends is slipped a lead fastener or large perforated shot, the ligature being put on the extreme stretch, the shot is grasped and pushed up to the valve tightly by means of long compression forceps and firmly compressed. This puckers the valve and constricts it in such a way that circulation is shut off and the ligature sloughs through in from two to eight days. After the ligature has cut through, the edges retract so that a large V-shaped opening is left, which gradually still further retracts. The author claims for this method the following advantages: (1) No anesthesia is required; (2) it does not require over ten minutes; (3) requires but few instruments; (4) the patient is not confined to bed; (5) no stitches are required and there is no hemorrhage; (6) the rubber ligature, being soft and non-irritating, does not scratch or bruise the bowel *in situ* or during its expulsion, and there is no danger of its doing damage if it should by any possibility be carried up higher into the bowel.

**Epileptogenic Myopathic Kyphoscoliosis.**—W. P. Spratling reports (with photographs) three cases of this rare muscular deformity due to epilepsy. He shows how convulsions may lead either to death by asphyxiation, or paralysis, due to post-convulsive exhaustion. The latter condition is temporary, usually disappearing in the course of a

few days, and is usually confined to an isolated group of muscles, an arm or a leg, though it may be general enough to constitute a hemiplegia. Physical accidents as the result of convulsions are very common. Finally, one may have the myopathic kyphoscoliosis, the special topic of the author's paper. In his case there was, as shown by the photographs, a decided leaning or "slouching" of the body to one side or forward. The fingers were flexed on the palms and the wrists flexed at right angles. The leg muscles were not affected. Electrical reaction was altered in the shoulder and back muscles in each case. In all three faradic response was diminished in the trapezius, latissimusdorsi, supra- and infraspinatus. Galvanic response in the same muscles was diminished and sluggish, though there was no reversal of formula. A distinct flattening was noticeable over the parts affected. The pathogenesis of the condition is found in a localized cortical cell destruction in part, confined to the area that is most involved during epileptic convulsions. Grand mal attacks of the most rigid and uncompromising type only can produce it. The first step in its establishment is in the nature of a postconvulsive exhaustion paralysis, and, did the central lesion stop at this point, the condition would soon pass away. But it becomes emphasized under repeated attacks until the integrity of the cortex at the point of the repeated discharges is damaged beyond repair. Like other forms of paralysis due to organic lesions, the condition once fully established is practically incurable. Passive exercise and the use of electricity may help to lessen atrophy and retain some use of the affected parts.

*Medical News, October 21, 1905.*

**Antitoxin for Poisonous Mushroom Intoxication.**—W. W. Ford presents a preliminary communication on this subject. The literature of mushroom poisoning is briefly reviewed. The fatal cases practically always follow the eating of one special species of plant, the white or deadly amanita. Those following ingestion of amanita muscaria are practically never fatal, for an efficient antidote to the muscarin is found in atropine. The author's experiments have been made with the amanita phalloides, which he finds in abundance in the woods around his city (Baltimore) and in the Blue Ridge Mountain region. The fungi were dried in the sun, macerated in water, and the mass filtered. There resulted a thin, brown fluid, the toxic principle of which is known as phallin, which has a very destructive effect on the red cells of man and all the common animals. Following the injection of fatal quantities subcutaneously, there is in both rabbits and guinea pigs an extensive subcutaneous edema with hemorrhages in the lymphatic glands, in the serous membrane, and in the internal organs, especially the liver and kidney. The heart always stops in diastole, and the blood may be fluid if the dose has been large. Death occurs usually within four or five days, although it may occur after the lapse of two or three weeks, owing, probably, to degenerative changes in the liver and kidney. If rabbits be treated with repeated small doses of phallin subcutaneously, followed by large doses intraperitoneally, it is possible to immunize them against the action of multiple toxic doses. The mortality among animals so treated is very great, but successful results have been thus far obtained with five or six rabbits. These animals were eventually able to withstand the injection of about five times a fatal dose and their blood serum exhibited definite antihemolytic and antitoxic properties. The experiments of the author are being continued on other animals.

**The Bacterial Treatment of Sewage and Its Adaptability to Small Communities.**—R. F. Palmer notes that we have in certain of the non-pathogenic bacteria living agents capable of increasing rapidly under favoring conditions and capable, furthermore, of changing dead animal and vegetable matter into oxidizable compounds. This great natural force should be utilized in the disposal of waste matter. All of the substances found in ordinary sewage contain C. H. and O. in varying proportions, while many of them contain N. Whether the sewage be emptied into a stream, on land, or on artificial beds, the means of its final disposition is the same. Through the action of these saprophytic bacteria the hydrogen and oxygen recombine to form water and the carbon becomes carbon dioxide: nitrogenous matter is broken down and, combining with oxygen and alkaline bases, forms ammonia, nitrates and nitrites. The author then alludes to the various common methods of ultimate disposal and describes the methods of preparing contact beds or intermittent filters, continuous or trickling filters, and septic or precipitation tanks. A more detailed description follows of the disposal plant at the Geological Survey Camp at Roosevelt, Arizona. Disposal of sewage by bacterial treatment is to be urged where it is possible, for this method practically eliminates all danger of contaminating the subsoil and the effluent which eventually escapes from the sewage-bed system to the neighboring stream or pool is practically harmless. Such effluents, containing as they do large numbers of nitrifying bacteria, will considerably improve an already polluted stream.

**A Study of the Results of Abdominal Hysterectomy for Fibroids of the Uterus with and without Drainage.**—J. Brettauer details his experience in fifty-four cases, all of which recovered. Of this number thirty-two were drained with gauze through the cervix, while twenty-two were not drained. The author's operative methods are described in full, and the individual symptoms of the series as pulse, temperature, gastric disturbances, intestinal reaction, pain, etc.—are analyzed. He finds that in the two sets of cases, those drained and those not so treated, there was not, generally speaking, the slightest difference in the immediate post-operative course. He had previously employed drainage more for the purpose of controlling the small amount of oozing, than for actual drainage; during this time a few instances occurred where a retroperitoneal hematoma formed and became infected after the removal of the gauze form the cervix. This complication, though not of any serious consequence, was always unpleasant; to-day, therefore, it appears preferable to him to sew up the stump in all cases, so as to assure a more perfect hemostasis.

*American Medicine, October 21, 1905.*

**Etiology and Prevention of Smallpox.**—W. T. Councilman gives the results of an investigation of smallpox, undertaken by members of the Pathological Department of the Harvard Medical School. It is believed that the organism which constitutes the virus of vaccinia and smallpox is the same; that in vaccinia it undergoes a definite cycle of development, resulting in a structure, the gemmules arising from simple growth and segmentation; that in smallpox a further and more complicated cycle of development, in which probably sexual forms occur, is added to the vaccine cycle. It is only in man and in the monkey that the conditions are favorable to the development of the cycle which constitutes smallpox. The intranuclear parasites are just as characteristic for smallpox as are the cytoplasmic forms of vaccinia. They are found in both variola inoculata and in variola vera. The spores which arise from the multiplication of the intranuclear bodies constitute the contagion of smallpox, which is capable of air transmission. This introduced into a susceptible animal, develops the typical disease, smallpox, both cycles of the organism taking place in the lesions. In the non-susceptible animal, such as the calf or rabbit, only the single, and probably asexual cycle is developed, constituting vaccine. The work, which is nearing its temporary conclusion, has left the fundamental questions relating to the disease unanswered. These relate to: (1) The parasite and its complete life cycle. (2) The relationship between vaccinia, variola inoculata, and variola vera. (3) The mode of infection in variola vera. (4) The mode of production of the exanthem. (5) The immunity, its mode of production, and the relationship between the natural and acquired immunity.

**Scheme for the Sanitary Control of the Municipal Milk Supply.**—George W. Goler advises the establishment of a bureau of milk inspection, of which the chief sanitary officer is the head, and through whom licenses are issued for the vending of milk in the city. Boards of physicians and scientists appointed by medical societies should compile rules for the production and distribution of milk of higher nutritive value and lower bacterial content than ordinary good city milk. They should directly, or through the inspectors of the bureau of milk inspection, or through inspectors appointed by the commission itself, insure: (1) Character of stable and feed of cattle, health of milkers and care of utensils. (2) A negative tuberculin test. (3) A bacterial standard, not greater than 10,000 bacteria per cubic centimeter. (4) A nutritive value of 12½ per cent. solids, of which 4 per cent. must be fats. The necessity for the organization of the milk work for a municipality under one executive head having the license power cannot be too strongly emphasized, for by this means only may the producer and the vender be under sanitary control. When such laws are enacted for any municipality as will make it an offense punishable by fine or imprisonment to bring milk into the city that has not had the seal of sanitary approval set upon it, and everything with which it comes in contact, our children and ourselves, will no more be exposed to the dangers that arise from dirty, disease-bearing milk.

**The Identity of Variations and Modifications.**—Charles E. Woodruff calls attention to the fact that none of the current theories of heredity will satisfactorily explain the pathological and anomalous conditions which the physician sees every day, but which the general biologist never studies, as he deals mostly with the healthy. The biologists are diametrically opposed to each other in some of their statements of what are apparently facts. They have con-

sidered some differences as hereditary variations due to an inherent power of the organism to vary, while others consider all these differences to be acquired, that is, modifications due to the environment and yet transmissable. As so many of man's anomalies do not come under either definition, it is suggested that there is no difference between variations and modifications, the two classes being merely artificial classifications with no basis in fact. Each is due to causes acting either early or late, as the case may be, and each is hereditary as long as the causes last, generation to generation. Indeed, there is often no way of determining whether a given anomaly is a variation or an acquired modification. Transient heredity is the term suggested for those cases where an organism is modified for some generations and then returns to the normal. Some changes can be permanent, as when they are due to an actual chemical change in the germ protoplasm. Neither school of biologists can be right if the other is wrong, and the general trend of opinion is in the direction of considering both right, and that some missing links will cause a compromise. It is pointed out that in biological theories of every sort, whether in the matter of heredity, the origin of variations, the origin and explanation of life, regeneration, and indeed every biological problem now discussed, there is a curious tendency to look upon living protoplasm as a complex inert chemical, having no innate powers of its own, but merely reacting to the multitude of forces impinging upon it. As it cannot vary of its own accord, it is merely modified. The constant tendency of every organism then is to be normal if it is only permitted. Herein lies the possibility of freeing society of its degenerates by finding out what causes them, and then removing the causes. The whole trend of modern thought is in this direction, not only of students of the lower classes, but of physicians also. It is a complete overthrow of the idea that these cases are happening without cause, and it throws out much hope for the future of the race.

*Journal of the American Medical Association, October 21, 1905.*

**The McGraw Ligature.**—A. J. Ochsner reports his experience with the McGraw ligature since December, 1902, when he saw the method demonstrated by its inventor. He has used the method 156 times and has come to the following conclusions: "1. Anastomosis with the McGraw elastic ligature can be accomplished in a satisfactory way (a) between stomach and intestines; (b) between intestine and intestine. 2. The opening can be made any desired length. 3. It can be made without carrying infectious material from the lining of the stomach or intestine to the peritoneum. 4. It can be performed quickly. 5. It requires no special skill or ingenuity. 6. The patient shows very little, if any, shock after the operation. 7. The patients are relatively very free from pain, and can usually sit up in bed with the aid of a headrest a few hours after the operation. 8. The method should not be employed in making a pyloroplasty. 9. It should not be used in making a cholecystenterostomy."

**Periodic Paralysis.**—G. E. Holtzapple refers to the literature of this subject and gives an interesting account of a family of which he had the record for four generations and had observed for twenty-two years. Seventeen of the members of this family had the typical periodic paralysis, six of them dying in an attack. A number of others were sufferers from migraine. The attacks were of the characteristic type, the severer ones involving all the muscles except those of the face, eyes, tongue, the organs of speech and deglutition, and the rectal and vesical sphincters. Others were more or less permanently crippled by the disease. The pathology of the condition is discussed, the author being inclined to consider it as a vasomotor neurosis affecting the blood supply of the anterior horns, which are supplied almost wholly by the anterior spinal artery. The slow progressive permanent paralysis which occurred late in life in two of the cases reported, he thinks is due to slow degeneration of these horns from the frequent disturbances of nutrition. The paralysis in these cases seems to him to be closely allied to the local paralyses accompanying migraine, and thinking that there might be an active toxin from the gastrointestinal tract at work he made careful urinary examinations in six of the paralytic cases, in three of those suffering from migraine, and in five of the healthy members of the family. The average quantity of urine voided in all and the average output of urinary solids appeared to be the same. There was, however, a noticeable difference in the nitrogen elimination in the paralytic individuals and in these directly after the attacks. It appeared that these patients do not excrete the normal quantity of nitrogenous metabolic products. It will require further observations to determine the exact degree of relationship, if any, between the diminished urea excretion and the paralysis. With the idea that the attacks were due to a vasomotor spasm he resolved to try large doses of bromid, preferably of potassium, 5ss. with one or two grains of citrate of caffein repeated in one or two hours. This gave decided relief, and helped to abort the attacks; small doses were never tried.

**Uterine Fibromata.**—T. B. Eastman argues against the probability of the harmlessness of uterine fibromata. He reviews rather extensively the literature of the degeneration of these growths and gives results of his own observations, reporting briefly six cases illustrating the difficulty of diagnosis of pathologic conditions other than the tumor itself. In one of these the patient was not even aware that she had a tumor, much less a degenerating one. He protests against the idea of waiting in these cases for the menopause to effect a cure, and thinks, with the low death rate of hysterectomy and the fact that so many of these growths are undergoing dangerous pathological changes which cannot be diagnosed prior to operation, that all fibromyomata should be removed unless there are concurrent conditions rendering the operation inadvisable.

**After-Effects of Diphtheria on the Heart.**—F. W. White, from a study of seventy-eight cases of diphtheria with heart complications, after their discharge from the Boston City Hospital, and kept under observation for from five months to a year, and in none of which was there any evidence of heart disease antedating the diphtheria, deduces, in substance, the following conclusions: 1. The cardiac disturbance after diphtheria usually presents the picture of a mitral insufficiency with irregular heart action and few symptoms. Occasionally there is only rapid pulse or cardiac irregularity alone. 2. Moderate disturbance of the heart is common after diphtheria, and in many cases persists for from two to six months after the original illness. 3. Frequently the cardiac lesion does not clear up in the first half year, but lasts much longer; some patients recover; others probably do not. The duration of the heart trouble is usually in proportion to the severity of the original illness. 4. The fact that only few heart symptoms are often present after diphtheria should not mislead us as to the importance of the injury to the heart. 5. Cardiac disturbance of long duration after diphtheria may be entirely recovered from, and hope should not be given up in individual cases. 6. The treatment of the condition consists in a sufficient period of rest in bed, and then in watching the effects of mild exercise on the heart for several months at least and grading it to meet individual requirements. White hopes to follow up his cases still farther, and, therefore, considers his paper as a preliminary report.

*The Lancet. October 14, 1905.*

**Nitrite of Amyl in Gynecology.**—C. F. A. Morse reports the use of this remedy in two cases. Case I was that of a woman from whom bilateral parovarian cysts had been removed, and where symptoms in the next few hours suggested the occurrence of secondary hemorrhage. The wound was reopened and the truth of the suspicion verified. Inhalations of amyl nitrite greatly improved the patient's condition, and in a few minutes the pulse had changed from a condition of apparent hopelessness to one of promising vigor, a gauze plug having in the meantime been applied locally. Ultimate recovery ensued. The patient appeared to be the subject of hemaphilia. Case II was one of internal hemorrhage due to ruptured extrauterine pregnancy, and gave equally good results with those obtained in the first case.

**A Method of Sterilizing Sponges.**—F. W. Andrewes extols for this purpose the use of a solution of persulphate of ammonium. The mixture is made as follows: 37 grammes of the persulphate are dissolved in 950 c.c. of pure distilled water and 11 c.c. of strong hydrochloric acid are then added. At first the mixture is not strongly germicidal but it increases in this respect in a few days. It should stand at least four days before use, but not more than a month. It is cheap and efficient. This method does not do away with the necessity of preliminary mechanical cleaning of the sponges required for the removal of all fibrin and other organic matter in their interstices. When thus ready the sponge becomes sterile after one hour's soaking in the solution, which is clear and colorless, does not stain, and has no injurious action on the skin, though it may fix blood stains in the crevices of the nails.

**Toxic or Typhoid Pneumonia.**—Notes of a case are given by A. M. Elliot, whose patient was a strong, wiry man, about 35 years old, and employed in the hospital ward in the care of pneumonia cases. The original diagnosis was lobar pneumonia, but in a few days the question arose whether it was not a case of typhoid fever, as the abdomen was tympanitic and bowels loose, though the Widal test was negative. On the seventh day of the illness an acute attack of arthritis came on in the left shoulder joint. This fact suggested pneumonia again rather than typhoid fever. On the tenth day there was a pseudo crisis, but no true crisis occurred, and the illness continued. On the twenty-third day, owing to indications of fluid in the chest, the patient was tapped. Four days later the temperature had become normal but rose again and fluctuated for a

week longer. In the meantime pus was found in the chest and a rib was resected. Later he had an acute cystitis and an acute dysentery but finally recovered, having been in the hospital for nearly three and a half months. Throughout the disease there was an increased leucocytosis. Pneumococci were found in the blood and in the chest fluid and pus, in the latter mixed with other cocci. The pneumococcus was found also in the urine. The author looks on the case as one of acute toxemia, caused by the Fraenkel organisms.

**A Case of Divers' Disease.**—The report of the case is made by W. H. White and F. A. Bainbridge. The patient was a man of 38 years, suffering from the usual symptoms of the malady common to divers the "bends" or transient paresis being a prominent feature. He was under observation for a period of years and finally was readmitted to hospital for cough and weakness in the legs. Death occurred in about nine weeks. Autopsy showed cirrhosis of the liver and advanced tuberculous changes in both lungs. The main interest centers about the condition of the central nervous system in view of his original malady. The brain and spinal cord were removed from the body about twenty-four hours after death and they appeared normal to the naked eye. The cord was hardened for six weeks in a mixture of 3 per cent. bichromate of potassium and 10 per cent. formalin; pieces from different levels of the cord were imbedded in paraffin. The staining methods used wese those of Marchi and Weigert Pal; anilin blue-black was also employed. The white matter showed no morbid changes either by Marchi's method or by the Weigert Pal method. Throughout its entire length the periphery of the white matter presented a vacuolated appearance; this was due, however, to postmortem changes. As regards the gray matter, a large number of sections from different parts of the cord were examined; many of them were cut serially. They appeared to show that the cells in the lumbar region were fewer in number than usual; the deficiency was most marked in the case of the large cells of the anterior horns. The cells which were present looked healthy, the only exception being that some who saw the sections thought one or two cells showed slight necrosis. The perivascular spaces in the lumbar region were larger than those in the thoracic or cervical regions. Since sections from all parts of the cord were treated in precisely the same way, the larger perivascular spaces in the lumbar region could not be due to shrinkage of the vessels. There was definite thickening of the small arteries in both the gray and the white matter; the patient had been a drinker. No hemorrhages were observed.

*British Medical Journal, October 14, 1905.*

**Pulmonary Atelectasis in Adults.**—William R. Huggard declares that atelectasis, affecting a small portion of lung, is an extremely common condition at the apex but is overlooked owing to the ordinary method of examining the chest. The most frequent seats of this affection in the adult, according to the writer's observation, are from the apex to the second interspace in front; the suprascapular, and lastly the interscapular region. In order to detect the presence of this condition, percussion must be practised in front and behind before the patient begins to breathe deeply, and again at the end of the examination, when he has ventilated his lungs to the utmost. The limited form of atelectasis does not give rise to any symptoms apart from those due to the primary disease. It must be remembered that deep breathing which is called for during inspection often clears away or diminishes the evidence of atelectasis. The usual physical signs of atelectasis here referred to are dullness on percussion with feeble breath sounds, the dullness diminishing or passing off after a few deep breaths, the breath sounds at the same time becoming more distinct. Towards the end of the first two or three deep breaths, a few sticky or viscid râles can often be heard, but these grow gradually fainter and then disappear. As to treatment, the primary ailment must be attended to. In very early apical tuberculosis and in slight bronchial catarrh of growing young people, it is extremely common when percussion is employed both before and after the patient breathes deeply, to observe dullness over the apex of the lung at the first percussion, while a clear note will be heard after deep breathing. For the condition of atelectasis itself, systematic deep breathing must be employed—deep respirations for two minutes every hour. Exercises to develop the chest muscles should be taken when there are no contraindications. The patient must also avoid anything such as a cramped position, which might interfere with the free expansion of the chest.

**Colloid Carcinoma at Twelve Years of Age.**—James A. Milne observed this case. The patient was a boy 12 years old, who died after one day's illness. He first complained of abdominal pain. His temperature was 97 degrees F. His bowels acted, and he vomited once. Castor oil was administered, and by noon he had passed several motions which were simply loose, being neither offensive nor blood-stained. Later restlessness developed with slight low delirium. When the writer saw him next, about thirteen hours after the first symptom occurred, he was in collapse, the aspect being that of abdominal disease. Warmth, stimulants, and turpentine enemata were applied, and ergotin and morphine were administered. Marked tenesmus was present. The patient gradually sank and died that night. Necropsy disclosed a much-distended large intestine. The contents consisted of much gas and a dirty-brown fluid. In the upper part of the rectum was a hard mass which consisted of a concentric growth in the rectal wall extending for two inches along the rectum and constricting its cavity. There were several enlarged glands behind this mass. The intestinal wall was thickened, while the mucous membrane was eroded and ecchymotic. Both the growth and the glands were remarkably hard. Pathological examination demonstrated that the growth was a colloid carcinoma of the large intestine.

**Case of Poisoning from Sardines.**—Herbert Caiger reports this case. The patient was a girl seven years old. She ate freely of canned sardines which had a "funny" taste. Soon after headache developed and the child felt out of sorts the rest of the day. During the night she complained of pain in the abdomen. There was neither vomiting nor diarrhea. The next morning she still had stomach ache, but after drinking a little whiskey she went to sleep. A little after noon the patient was found to be in profound coma. The stomach was well washed out, but little was found in the washings but curds of milk. There was no special odor. Atropine sulphate was injected hypodermically. An enema was given but with little result. Later the stomach tube was passed and some castor oil was introduced into the stomach. Vomiting occurred and the bowels acted, but nevertheless the child died without recovering consciousness. At the post-mortem examination, the brain was found to be much congested, with numerous small petechial hemorrhages scattered over the surface as well as in its substance. Similar hemorrhages were seen beneath the pericardium. Nothing else of interest was noted. The child doubtless died from some poison generated in the canned sardines. The quantity of poisonous material probably increased in the alimentary canal after ingestion. There were doubtless microorganisms in the fish which multiplied and developed toxins in the stomach and bowels in the absence of vomiting and diarrhea. Enough of these poisons was absorbed to cause coma and death.

**Primary Syphilis of Conjunctiva.**—W. J. Forshaw had this patient under his care. She had been nursing a case of syphilis. Her eye which had been troubling her for about twenty-four hours, was painful; the conjunctiva was chemosed, projecting over the edge of the cornea, and there was slight discharge of watery fluid. A small gray patch was noted half-way between the limbus and fornix on the ocular conjunctiva. It was two mm. in size with a shreddy surface. It was not an ulcer but appeared like a slough. The entire ocular conjunctiva was engorged and swollen. The palpebral conjunctiva was not affected to any appreciable extent. The patch was the primary syphilitic sore. The eye was gently washed and fomentation often applied. There was not much change in the condition for ten days. At no time was there any ulcer, but the lesion gradually disappeared, leaving no mark on the conjunctiva. About the third week the preauricular cervical and submaxillary glands began to be painful, and they became enlarged and hard. The temperature rose every night, and the patient had pains and aches throughout the body. At the end of the sixth week, a well-marked rash appeared on the face, trunk, and limbs. There was no other sore besides the one on the eye. Infection was probably transmitted by the fingers, and carried up by movements of the lid. The affection was without doubt a primary syphilitic sore on the ocular conjunctiva.

**A New Treatment for "Housemaid's Knee."**—Buckley Pogson reports this case. The patient had a typical housemaid's knee. She was told to paint it with iodine. Four days later the knee was accidentally knocked against the banisters, with resulting complete disappearance of the swelling. A week later, locomotion was easy, painless, and apparently natural. The writer thinks that the "collision" treatment of an enlarged bursa patella is of sufficient interest to note.

*Berliner klinische Wochenschrift, October 9, 1905.*

**The Individual Dietetic Treatment of Gout.**—Carl von Noorden and Leopold Schliep describe a method of diet determination in gout which is intended to establish the tolerance of the arthritic patient for purin bodies in much the same way as it is customary to test the capacity of the diabetic for carbohydrates. The patient's excretion of endogenous uric acid when on a purin free diet is first determined. He is then given 400 grammes of beef on each

of two successive days, the uric acid determinations being continued. The healthy individual under such conditions promptly disposes of the nitrogenous material, and the excess of uric acid is completely excreted in at the most a day or two after the two beef days. The gouty patient, however, shows but little increase in uric acid excretion on the beef days themselves, and on the succeeding days the extra amount excreted is slight and never reaches the quantity it should. If, as is sometimes the case, the excretion is performed normally, it shows that the patient can manage this amount of beef and it may be added to his daily diet, but usually the test must be repeated one or more times with smaller amounts until the limit of toleration is reached. This quantity may then safely be allowed; though as the patient's capacity changes from time to time repetition of the test at intervals is necessary. The results obtained by this plan are considered more satisfactory by the authors than those following any other method of treatment.

**The Cure of an Epithelioma of the Skin by the Direct Rays of the Sun.**—Hirschberg describes the manner in which he unintentionally cured himself of an epithelioma of the ear. The lesion measured 1½ by ½ cm. and he had planned to have it removed by the knife on his return from a sojourn at Caux, situated near Lake Geneva at an altitude of 1100 meters. After two weeks here, during which the exceptionally fine weather permitted long walks in the sunshine, he noticed that the epithelioma had decreased in size, and suspecting the cause he then took pains to expose the ear to the light as much as possible. Two weeks later the entire ulcer had healed, leaving a smooth, healthy looking surface behind, and in the eight months that have elapsed since then no recurrence has appeared. The author urges further trials of this simple treatment, but says that it must be carried out in the mountains and preferably in winter, as the active ultra violet rays are nearly all absorbed by the dense, moist, dust-laden atmosphere of the lowlands, while in summer there is always the risk of causing dermatitis if the exposure to the sun be prolonged.

*Münchener medizinische Wochenschrift, October* 10, 1905.

**New Views on the Nature and Treatment of Chronic Constipation.**—Schmidt says that he believes that the prevailing view which attributes chronic constipation to a functional insufficiency of the motor apparatus of the intestine is not satisfactory, at least for a large number of cases. He is of the opinion that the symptoms in many instances, especially of the atonic form, are due to an abnormality of digestion by which the food is exhausted to an extreme degree and very little residue is left behind. In consequence the intestinal bacteria do not flourish as they should and the decomposition products which ordinarily stimulate the intestinal walls are not formed. In his attempts to add to the diet some harmless substance which should add bulk to the feces and prevent them from becoming so dry he finally hit upon agar agar. This is tasteless and unirritating, but when given dry mixed with the food in doses of 25 to 50 grammes it increases the bulk and moisture of the feces very notably. As it is not stimulating to the intestine in many cases it is advantageous to add to it a certain quantity of watery extract of cascara sagrada. Another combination from which good results have been obtained and whose use rests upon similar principles is one of liquid paraffin with cascara, and this is often a useful adjuvant to the agar agar compound. It is necessary, however, as these substances are not given as purgatives, to continue their use for long periods of time, and the usual treatment by massage, exercise, etc., is not to be neglected.

**Cyst Formation in the Remnants of the Appendix.**—Klemm describes three cases in which a partially destroyed appendix gave rise to the formation of retention cysts followed by abscesses. He explains the process by assuming that in consequence of swelling of the mucosa an occlusion is formed in the lumen of the appendix and dilatation of the distal part follows, owing to the inflammatory exudate. This may go on to the point of inducing necrosis at the site of the stenosis, so that the dilated portion becomes detached and receives its nutrition through the adhesions. When the internal tension becomes too great the sac ruptures and discharges its purulent contents intra or extraperitoneally. In one of the author's cases after drainage of an ordinary appendicular abscess without removal of the appendix, twelve times a pus collection formed under the old scar, and when permission was finally gained for a radical operation the cause was found to be a cyst of the distal stump of the appendix, detached from the cecum and fixed to the wall of the pelvis. Each time the sac had filled and ruptured the escaping pus had made its way to the surface along the track of the old scar tissue. The other cases illustrated the same condition in a similar but less marked manner.

**Can the Acarus of Scabies Transmit Leprosy?**—Bassewitz describes an instance of transmission of the leprosy bacillus which he considers proves that the itch mite can serve as intermediary. A patient with anesthetic leprosy was for some years kept in the general ward of the hospital of a small city in Brazil, without ever infecting any of the other patients. He finally was himself infected with scabies from another patient, and owing to his anesthetic condition the disease had progressed to an unusual degree before its nature was discovered; he was then isolated, on this account and not because of the leprosy. His attendant contracted the scabies, which promptly yielded to treatment, but two and a half years later he showed pronounced lesions of tubercular leprosy. The author concludes that every other source of infection can be excluded in this case, and suggests that the itch mite may be found to be the medium of transmission of the leprosy bacillus, which has hitherto been sought in vain in the fly, mosquito, and bedbug. It would therefore be of importance to examine the itch mites found on leprosy patients to determine whether they ever contain the Hansen bacillus, and also to regard patients having scabies in addition to leprosy as being especially likely to infect others. Mugliston has also observed a number of cases which go to prove the possibility of this mode of infection. A reference to his observations was made in the MEDICAL RECORD of August 26, 1905.

*Deutsche medizinische Wochenschrift, October* 5, 1905.

**The Etiology and Treatment of Appendicitis.**—Lucas Championnière, in discussing this subject, says that his experience leads him to believe that appendicitis is commoner now than formerly; in other words, that it is a modern disease. He has observed that at times the hospitals are filled with cases of appendicitis, and then again for long periods it seems to be rare, so that epidemic exacerbations of the morbidity may be observed. Furthermore, the disease is much commoner in some countries than in others, and it is seen with great frequency in regions that have lately been the seat of an epidemic of influenza. Again, influenza is sometimes very widespread in certain countries, such as Algeria, without being followed by a corresponding wave of appendicitis. In pursuing this inquiry further the author found that appendicitis was rare in monasteries, prisons, etc., where the diet was vegetarian, while on the contrary it is especially common in countries like England and the United States, where large quantities of meat are eaten. He therefore concludes that influenza in largely meat-fed people stands in a close etiological relationship to the disease, especially in individuals who are inclined to constipation, prophylaxis includes a restricted consumption of meat and a periodic artificial emptying of the gut. The author advocates operation as soon as the diagnosis is made, and he undertakes all cases, no matter how desperate they may seem. He prefers to make a direct incision over the rectus, pulling it to one side before incising the posterior sheath, and says that he does not see any post-operative hernias.

**The Bacteriological Diagnosis of Cholera.**—Friedberger and Luerssen have discovered that while the agglutination reaction for cholera organisms is perfectly satisfactory, as it is usually performed in laboratory experiments, it is open to a serious difficulty when it is to be applied in practical diagnostic work. This is on account of the observation that young cultures, when brought into contact with salt solution alone, show a pseudo agglutination which is quite as strong as that induced by active immune serum. Experiment showed that on reducing the concentration of the salt solution the tendency to pseudo agglutination became less; but if this dilute salt solution was used for making the bacterial emulsion from the agar growths the agglutinating power of the immune serum was interfered with. On further growth the organisms lose the property of inducing this pseudo agglutination, but it requires at least eleven, and often twelve to fifteen, hours for it to disappear so that there must be considerable delay in making the diagnosis if this method is to be relied on. The authors suggest that Pfeiffer's experiment be used for diagnostic purposes, by injecting into the peritoneal cavity of the experiment animals in the one case the culture alone, and in the other culture plus cholera rabbit serum, the difference in the appearance of the organisms being so great after even twenty minutes as to permit of a conclusion regarding the nature of the organisms. By using this method, instead of waiting for the cultures to reach a stage of development when pseudo agglutination is no longer to be feared, the diagnosis may be made from seven to ten hours earlier. The authors explain the non-detection of this pseudo agglutination before by the fact that the cultures used in laboratory work are nearly always growths that have been retransplanted several times since their isolation from the human body, and have, therefore, lost the power of pseudo agglutination even in young cultures.

**The Virus of Molluscum Contagiosum.**—Juliusberg, in order to test the ability of the contagiosum of this disease to pass through a porcelain filter, obtained a considerable quantity of the juice from the tumors, triturated it with sand, and diluted it with bouillon. He then passed it through a porcelain filter which both before and after proved itself impermeable to bacteria, and inoculated himself and two colleagues with the filtrate. In two cases there was no result, but after fifty days in one instance sixty mulluscа contagiosa developed and showed the typical molluscum bodies. It is therefore certain that the contagium of the disease is ultramicroscopic.

*American Journal of the Medical Sciences, September,* 1905.

**Hematemesis from Gastric Ulcer; Notes on Over 200 Cases.**—W. Gilman Thompson cites cases which illustrate his statement that it sometimes happens that diagnosis of the exact condition is most difficult as between hemorrhage from a circumscribed ulcer and in which operation may prove successful, and that from a mucosa generally congested and not amenable to surgical treatment. The so-called "cardinal symptoms" are also variable and inconstant. The writer declares that he is not yet prepared to accept a definite clinical classification of gastric ulcer into acute and chronic types based upon hematemesis, as attempted by various authorities. For it must be admitted that a single large hemorrhage may denote a chronic ulcer, equally with an acute one. The important difficulty lies in differentiating the cases of diffuse punctate hemorrhage. The estimation of the mortality of gastric ulcer by statistical methods is liable to misinterpretation. The mortality from cases of gastroenterostomy for gastric ulcer appears to be lessening gradually under improved technique. The great majority of hospital cases occur among young women who are seamstresses, domestic servants, factory operatives, and so on. The writer believes that cases in which a single large hemorrhage occurs and in which there have been antecedent symptoms, should be operated upon, as well as those suffering from a recurring hemorrhage. He adds also as indicating operative intervention those cases in which the patient's life is miserable through pain or in danger from persistent vomiting and emaciation, and in which medical treatment has failed.

**Examination of the Blood in Pulmonary Tuberculosis.**—Josephus T. Ullom and Frank A. Craig from their study of a series of cases, present the following conclusions. They declare, however, that the number of cases is too limited and the field covered too narrow, to afford deductions which could be considered final. In pulmonary tuberculosis without cavity formation a mild anemia, with a decrease in erythrocytes and a relatively greater decrease in hemoglobin, is constant. From the standpoint of prognosis an increase of the erythrocytes, in cases without cavity formation, is of favorable significance. In advanced cases a decrease of the leucocytes is of unfavorable import. In their investigations, the writers have received the impression that the actual increase of lymphocytes seems to correspond to the increase of resistance on the part of the organism to the tuberculous infection, but further study is required to confirm this deduction. The transitionals seem to follow the same rule as the lymphocytes in this regard. At the beginning of the investigation the eosinophiles seemed to increase with the patient's improvement, but further study did not support this view.

**Rest in the Treatment of Laryngeal and Pulmonary Tuberculosis.**—W. Peyre Porcher declares that next to violent paroxysms of cough and perhaps exceeding them, reckless and prolonged phonation does more toward destroying the laryngeal mucous membrane than any other factor. He strongly advocates entire rest of the larynx by total cessation of phonation. He adds that it is not alone in cases of laryngeal tuberculosis that complete rest of the larynx and pharynx is indicated, but he points out the advantages of this treatment in cases of ordinary pulmonary tuberculosis. It lessens the amount of cough and consequent prostration, hyperpyrexia, perspiration, and so on. Ankylosis of the joints does not follow absence of phonation even after a period of several months. There appears to be sufficient motion in ordinary respiration to prevent it. By complete rest the physiological power of the patient to resist the disease is increased. The writer believes that rest, either partial or complete, should be paramount in all cases.

**Concerning the Causes of Gallstones.**—Edwin Beer tersely sums up the results of his observations as follows: Naunyn's factors—stagnation of bile plus inflammation of the bile-passage mucosa—do not seem to be sufficient by themselves to lead to gallstone formation, even though the time allowed for the working of the causes be adequate. The writer's first series of cases shows that these two factors lead to stone formation in patients who previously had gallstones. In this series there is the first real evidence of the factors underlying gallstone production and the causes of cholelithiasis in human beings, the third factor being a faulty hepatic metabolism. When this exists, stones are formed. In its absence they are not produced, even though the first two factors are present.

**Xerostoma.**—Lewis S. Somers declares that as an independent affection *per se* the condition of xerostoma or dry mouth is exceedingly unusual. Although the various theories in regard to the etiology of the affection are most diverse, still they all appear to have an underlying basis of a nerve origin of the disease. Xerostoma is essentially an affection of middle age or later years. It is of exceptional occurrence in those under forty. It is seen most often in women, for with but few exceptions males do not seem to be affected. In not a few cases the general health remains unimpaired for a long period. The degree of xerostoma does not seem to bear any relation either to constitutional impairment or even to changes in digestion. Aside from the dryness of the buccal and adjacent mucous membranes, the tongue offers the most marked features. It is fissured to a greater or less extent and lacks its epithelial coating in part. Excessive dryness of the skin has been noted. Dental decay is quite constant. When xerostoma in a severe form has once become established, the condition remains practically as long as the patient lives. As to treatment, galvanism and pilocarpine have seemed to give the best temporary results in the greater number of cases. Aqueous or oily solutions containing various medicinal substances may be employed for the constant dryness of the mucosa of the upper respiratory tract.

**Clinical Investigations of the Digestion in the Insane.**—David Murray Cowie and Florence Allen Inch conclude that: In states of mental depression (melancholia) hyperacidity is the rule, occurring in 71.4 per cent. of von Noorden's fourteen cases, 81.8 per cent of the writers' twenty-two cases, or in 77.7 per cent. of all cases. Males and females are equally affected. This hyperacidity is due to a true hyperchlorhydria. Hypertotal acidity also occurred in the writers' cases, and in this respect they correspond exactly with those reported by von Noorden. The hyperchlorhydria is of moderate degree, is fairly constant, and is associated with increased peptic power and rapid evacuation. The increased secretion is due to the neurosis or psychosis and not to proliferative changes in the glands, as is evidenced by the presence of increased secretion associated with degenerative changes in the glandular elements, and of the entire mucosa. The evacuation of the stomach is usually normal or somewhat hastened after the Ewald test breakfast, while after the large stimulus of the Riegel meal and ordinary Asylum meal it is more often hastened. In the cases showing hyperchlorhydria the peptic value is never below normal and is often increased. Many of the insane suffer from various forms of gastrointestinal disease. These conditions are frequently overlooked. The writers urge the necessity of examining systematically in these cases the secretions and functions of the body, including the stomach contents. The signs of disease in the insane are almost entirely objective, and thus it is essential to make use of every modern method of value in diagnosing the disease. Cancer and gastric ulcer may often be recognized at the beginning. It is not improbable that the mental symptoms in these cases will proportionately decrease with proper treatment.

**The Relations Between Climate and Health.**—William S. Washburn, in his discussion of the Philippine Archipelago, presents the following conclusions: With respect to the principal climatological factors, temperature, humidity, and atmospheric movements, the climate of these islands is not extreme, as it is distinctly insular in character, the greater part of the land area being not far distant from the ocean. There are other modifying influences which obtain in parts of the archipelago, such as general oceanic and local interisland currents, prevailing winds, elevation, the state of cultivation, and drainage of the soil, and the presence of forests and other plant life. Excluding localities in the tropics characterized by excessive heat, high relative humidity, or unhealthful soil conditions, acclimation or physiological adaptation of the white man to tropical environment is possible. If acclimation is possible, colonization is possible. Failures of the white race to live in the tropics and maintain health, excluding localities indicated in the second conclusion, appear to have been due principally to nonobservance of the rules of personal, domestic, and public hygiene. As a rule, Americans appear to become acclimated in the Philippines during the third year of residence. With sanitary surroundings and by observing the rules of personal and domestic hygiene, residence of Americans in the Philippine Islands appears to be attended with as little danger of disease and death as residence in the United States under similar conditions.

# Book Reviews.

PATHOLOGY AND MORBID ANATOMY. By J. HENRY GREEN, M.D., F.R.C.P., Consulting Physician and Emeritus Lecturer on Clinical Medicine at Charing Cross Hospital, London, etc. Tenth American Revised from the Tenth English Edition. Revised and Enlarged by W. CECIL BOSANQUET, M.A., M.D. (Oxon.), F.R.C.P. (Lond.), Assistant Physician (Late Pathologist) to Charing Cross Hospital, London, etc. With a Colored Plate and 348 Illustrations in the Text. Philadelphia and New York: Lea Bros. & Co., 1905.

GREEN'S Pathology certainly needs no introduction to the American medical profession. Few among us have not pored over its pages, and few can not look back upon the hours thus spent as upon some of the most pleasant ones of our undergraduate reading. The book now comes forth in its tenth American edition, which has been revised from the corresponding English issue. On the whole the charms of the old book have been preserved—its clear, forceful style, its brevity, and its clean-cut definitions and descriptions. The advances of science have made additions and revisions innumerable necessary in each edition, and the present one has not been an exception. The work of the reviser has been chiefly concerned with the chapters on parasitology and immunity, and a new chapter dealing with autointoxications and nutritional diseases has been added. We regret that no mention is made of *Uncinaria americana*, (Stiles), and that in the chapter on the gonococcus nothing is said of the special culture media needed for its growth. The infectious theory of rheumatism has not been well developed; thus, on p. 528 we note "rheumatic poison" vaguely spoken of. But these are minor defects and are really not essential to the general object of the book, which is the education of students in the elements of pathology.

TRATADO DE GINECOLOGÍA. POR MIGUEL A. FARGAS, Catodratico de Obstetrica y Ginecologia de la Facultad de Medicina de Barcelona, etc. Tomo II. Fasciculo I. Enfermedades del Utero. Enfermedades de los Anexos. Barcelona: Salvat y Ca, S. en C., 1905.

THE present installment of the second volume of Professor Fargas' exhaustive treatise on gynecology deals with diseases of the uterus. The first volume, dealing with prolegomena and diseases of the external genitals and the vagina, was reviewed some time since in this column, and the praise accorded the work on that occasion holds good for the second installment of the book. The author has drawn freely from cosmopolitan literature and gives a very complete presentation of his subject, especially in the chapters on fibroid growths, cancer of the uterus, and uterine displacements. As in the first volume especial attention is given to operative technique, but precise directions are also to be found for palliative methods, including electrotherapy. Radiotherapy is not discussed, however, under the heading of cancer of the uterus.

THE FOOD INSPECTOR'S HANDBOOK. By FRANCIS VACHER, Medical Officer of Health for Cheshire, etc. Fourth Edition. Illustrated. London: Sanitary Publishing Co.; New York: D. Van Nostrand Co., 1905.

THE fourth edidtion of this small volume on Food Inspection has been carefully revised and brought up to date. The laws of the United Kingdom concerning food inspection are now fully covered in this book, through the addition of a supplementary chapter on the statutory powers of food inspectors. The work is an elementary handbook for those who desire to qualify themselves as inspectors of food, especially as inspectors of meat, and will be found valuable by persons preparing for civil service examinations for the post of sanitary inspector, inspector of nuisances, etc.

A SYSTEMATIC TREATISE ON MATERIA MEDICA AND THERAPEUTICS, with Reference to the Most Direct Action of Drugs. By FINLEY ELLINGWOOD, M.D., Professor of Materia Medica in Bennett Medical College, Chicago; late Professor of Chemistry in Bennett Medical College; Secretary of the National Eclectic Medical Association; Author of "A Synopsis of Medical Chemistry," "Manual of Urinalysis"; Editor of Chicago "Medical Times." With a Condensed Consideration of Pharmacy and Pharmacognosy by PROF. JOHN URI LLOYD, Ph.M., Ph.D., late President American Pharmaceutical Association, Professor of Chemistry and Pharmacy in the Eclectic Medical Institute of Cincinnati, Author of "Eudorlpha." Fifth Edition, thoroughly revised and greatly enlarged. Published by the Chicago Medical Times Publishing Co., 1905.

THIS volume presents the subjects of Materia Medica and Therapeutics from the standpoint of the Eclectic School. Hence the reader will expect to find the names of several drugs and preparations not at all familiar to him; at the same time he will note several new methods of treatment. The work is stimulating and crisply written, and the physician will obtain many new ideas from a perusal of its pages. It is a pity that the book was not prepared more carefully. On the title page this new edition is said to be the fifth, and also to be thoroughly revised; on the first page of the preface we are told that it is the sixth edition, and that the typographical errors found in a former edition are eliminated. Yet the book abounds in typographical and other errors, such as hystology (page 11), systitis (page 421), midriatic (page 225), fleuroscope (page 756), scorbutis (page 805), trychosis (page 630), ilocolitis (pages 643 and 703), ihocolitis and colitis (page 683), hyperiodrosis pedum (page 702). The Latin expressions fare no better; witness the following: Caffeine citratis effervescens (page 261), olium olivæ (page 387), ferrum bromide (page 119), liniment saponis (page 387), per orem (page 387), syrupus rhei et potassa compositis (page 380), tinctura Tolutani and syrupus Tolutani (page 301), aceps lima hydrosus (page 701). The chemical formulæ are equally unfortunate. Among others incorrectly given we note those for nitrogen monoxide, chloral, bromoform, potassium bichromate.

THE ERA KEY TO THE U. S. P. A Complete List of the Drugs and Preparations of the United States Pharmacopœia Eighth decennial revision. New York: The Pharmaceutical Era, 1905.

THE publishers announce a new edition of the well-known "Era Key to the U. S. P." whose object is to further the introduction and employment of the official drugs and preparations of the United States Pharmacopœia, the eighth revision of which is now in force. The book comes in vest pocket size and gives in sixty-three pages much important information required by the physician who desires to prescribe pharmaceutical remedies their official names, synonyms, and constituent parts, with average doses in both metric and English systems. The little book would have been more useful had there been added a list of the proprietary remedies recently admitted, with their pharmacopœial names. There is probably not one practitioner in five hundred who knows the official name of trional, for example; yet to be ethical he must prescribe it by the pharmacopœial name, and not the trade name.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By James M. ANDERS, M.D., Ph.D., LL.D., Professor of Medicine and of Clinical Medicine at the Medico-Chirurgical College, Philadelphia. Seventh edition, revised and enlarged. Philadelphia and London: W. B. Saunders & Company, 1905.

IT was so recently that we noticed in this column the sixth edition of Dr. Anders' well-known and justly valued treatise that there is little more to be said regarding this new edition. The appearance of a new and revised edition of a book every year or two is an evidence of its popularity, and that it meets the needs of students and practitioners. The author lays special emphasis on the two most important branches of medical practice—diagnosis and treatment—and, unlike some of the other makers of text-books, he approaches the therapeutic sections with apparent confidence, as though the writing of them was of some utility, and not a mere concession to custom. Myasthenia gravis and the spotted fever of the Rockies are subjects introduced in this edition for the first time, as also are examination of patients for diagnosis of diseases of the stomach, splanchnoptosis, and Cammidge's test for glycerose in the urine. Certain other individual affections have been rewritten and additions have been made to tropical diseases. The book seems to be quite free from errors, though there are a few; for example, the author has labeled a picture of *Spirochæta obermeieri* "The bacillus of relapsing fever," as though unaware that the organism is now regarded as probably a protozoan parasite, and not a bacterium.

THE READY REFERENCE HAND-BOOK OF DISEASES OF THE SKIN. By GEORGE THOMAS JACKSON, M.D., Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons (Columbia University), New York. Fifth edition, enlarged and thoroughly revised. With 91 engravings and 3 colored plates. Philadelphia and New York: Lea Brothers & Company, 1905.

THE features that have always characterized this book are the alphabetical arrangement, lucidity of statement, and the special attention devoted to symptomatology, diagnosis, and treatment. The present edition is larger than its predecessors, and contains sections on Acne agminata, Acne necrotisans et exulcerans serpiginosa nasi, Acne telangiectodes, Acrodermatitis perstans, Acrodermatitis chronica atrophicans, Asteatosis, Botryomycosis hominis, Cheilitis exfoliativa, Erythema serpens Congenital ichtyosiform erythrodermia, Folliclis, Depilating folliculitis of the limbs, Granuloma annulare, Granulosis rubra nasi, Hyponomoderma, Koilonychia, Multiple benign sarcoid, and Veld sore. To students and practitioners who want a handy yet thoroughly reliable work on dermatology we can commend the present volume.

# Society Reports.

## NEW YORK STATE MEDICAL ASSOCIATION.

*Twenty-second Annual Meeting, Held in New York City, October 16, 17, 18, and 19, 1905.*

(Special Report to the MEDICAL RECORD.)

THE PRESIDENT, DR. J. RIDDLE GOFFE, IN THE CHAIR.

(*Continued from page 679.*)

FOURTH DAY—THURSDAY, OCTOBER 19.

**Spontaneous Cure in Cancer; Its Significance in Relation to the Ultimate Solution of the Problem of the Cure of Cancer.**—DR. HARVEY R. GAYLORD, of Buffalo, N. Y., spoke of the occasional occurrence of spontaneous cure of cancer occurring in mice in the laboratories in various parts of the country, and said that in the Buffalo laboratory they had inoculated 1500 mice and had noted seventy true, unquestionable spontaneous cures, to which might be added twenty or thirty doubtful ones. They had now come to look upon spontaneous cure in cancer-inoculated mice as more or less of a constant occurrence, and the facts associated with this were of extreme importance. One of his assistants, Dr. Clews, had recently gotten together certain facts, and he found that in no case a mouse that had spontaneously recovered could be successfully inoculated; it endowed the animal with a permanent immunity. A number of undoubted spontaneous recoveries had occurred in the human being, which he referred to, especially mentioning the case of Senger. This was a case of epithelioma of the cheek, opposite a carious tooth. Operation was recommended. There was much swelling in the submaxillary region and of the submental glands. The tooth was withdrawn, and in three months the tumor had entirely disappeared. Another patient presented himself with a similar condition of affairs. He operated upon a tumor the size of a cherry. There was the same submaxillary enlargement. The tooth was withdrawn. The sections of the epithelioma proved its nature without doubt. In the course of a few weeks the patient returned and the rest of the tumor had entirely disappeared. In going through the literature the best cases were found in the most malignant forms of cancer, the choroidal; there were eight cases of undoubted spontaneous cures of this most malignant type. He detailed a case that had already been published in Munich which represented the features of all the cases. Certain points bearing upon spontaneous cures were told. Experiments had shown, for instance, that without any doubt mice that had recovered spontaneously from cancer were positively immune. It had been shown that there was a period in these cancers in mice in which the tumor can be made to retrograde with ease. If there was much hemorrhage and this blood got between the epithelial cells of the tumor, there followed an atrophy of the cells. It seemed that contact with the blood in the early stages took away the power of these cells of proliferation. Squeezing the tumor and causing hemorrhage into it produced the same effect. Again it was interesting that if the tumor had attained a certain size, the same procedure would cause it to grow rapidly. The injection, too, of adrenalin into the tumor caused it to grow rapidly. The histological portion of the tumor retrograding had a similar appearance as one retrograding under the action of the *x*-ray. In one experiment one-half the mice were bled, causing the tumor to develop rapidly; the other half were not bled, and the tumor retrograded. The determining factor was whether the tumor did well after being interfered with, and this was a question of how much residual immunity there was. A great field for experimentation was now open in determining to what extent hemorrhages influenced the tumors. Loss of blood at operations might be advantageous, while prolonged anesthesia might be disadvantageous. The highest percentage of spontaneous cures occurred during the earlier stages of the growth. A good many mice had a natural immunity, and they could not be successfully inoculated. He said that it was quite obvious that in dealing with mice they were dealing with quite different material than was to be found at the bedside. At the bedside one usually encountered the fatal cases. At the present time certain positive deductions had been made regarding the immunity factor, and he hoped that some practical use would soon result. Early operation and treatment was most important. The only new thing was the experimental deductions of this factor of immunity.

DR. J. RIDDLE GOFFE referred to the hopeful view expressed of this most terrible disease.

DR. WILLIAM B. COLEY said that in a large proportion of cases of cancer of the lip in which the glands had not been removed, finally resulted in permanent cure, and he believed this was in line with Dr. Gaylord's thought. This occurred more frequently than people believed. The real cure for cancer was early operation; but in the not distant future means of attacking the disease would be presented which would give far more hopeful results and a far larger proportion of cures than at the present time.

DR. C. C. FREDERICK of Buffalo reported a case of spontaneous cure of cancer of the uterus occurring in a woman, 40 years old, the mother of several children, and who had been bleeding for two and a half years. When he saw her the room was foul and a foul smelling mass was noted in the vagina. The temperature was from 101° to 102° most of the time. Recently she had had a profuse hemorrhage and the pulse was very rapid and, taking all in all, she looked as though her chances of life were very slim. The diagnosis of the case was undoubted, the tumor involving the cervix, infiltrating the vaginal walls in its neighborhood. He advised building the patient up, and, when in better condition, operating in order to prolong life for a few months. Months passed away, when he was informed by a neighbor that she was well; that two or three weeks after he had seen her she passed a large, stinking mass, and had improved so since that she was now well and weighed 160 pounds. He examined her, and all he could find was a cicatrix. The cervix was entirely gone. There was a small opening into the uterus, all that remained of that organ. The pathologist's report was that it was a carcinoma. This was a case in which Christian Science got the credit of curing her, she embracing this faith after he first saw her.

DR. MARY E. DUNNING of Newburgh said that five years ago she saw a woman, aged 60 years, who was very anemic and who had a mass extending midway to the umbilicus, inguinal glands very much enlarged, and a profuse discharge from the vagina. A diagnosis of carcinoma was made and a hopeless prognosis given. Another physician was called in and made the same diagnosis. Six months or a year later Dr. Dunning was informed that the patient was cured. Two years later she appeared at her office again and the vaginal examination showed nothing except an atrophied uterus. The abdominal examination showed a slight mass to the right side that she thought might be a misplaced or enlarged kidney. Later fecal vomiting set in and operation for intestinal obstruction revealed a perfectly normal atrophied uterus. But there was a mass at the lower lobe of the liver carcinomatous in character which caused complete obstruction of the bowels.

DR. CHARLES P. NOBLE of Philadelphia reported a case of deciduoma malignum operated upon five years ago, the special point of interest being the length of time between the pregnancy and the malignant growth. At the time of operation apparently the wall of the bladder was invaded by the growth. Her condition was bad. It was clear that to remove the entire growth meant a resection of one-half the bladder; owing to the patient's bad condition, he did not feel warranted in doing a total hysterectomy, and so did a supravaginal amputation. Some months after the operation one could distinctly feel a mass in the bladder wall where the malignant growth was left. One year after operation examination showed that there was no longer any abnormality about the bladder. The patient's health remained good for four years, when she was attacked with pneumonia and pleurisy. It was the opinion of the family

physician that there was a recurrence in the lung. The patient lived one year after this attack. The chest was carefully examined, but no consolidation of the lung was made out. There was no question about the spontaneous disappearance of the cancer in the pelvis. Personally he believed that that patient died from heart trouble, but free from cancer.

**The Therapy of Carcinoma.**—Dr. Samuel Lloyd of New York presented this communication. He made two statements, first, that in the first stage of cancer was merely a local disease, but later it became constitutional, and, second, that it was capable of transmission from one individual to another of the same species. He said that the first proposition was accepted by most, if not all, clinicians. The happiest results were obtained with those small epitheliomata about the face and lips. If they were recognized early and removed they seldom recurred. The results became much more unsatisfactory if the deeper structures were included. When cancer had become constitutional the possibility of its cure had passed from certainty to almost impossibility. Since Dr. Willy Meyer and Dr. Wm. S. Halstead advised the radical operation for the removal of cancer of the breast, statistics showed that instead of 25 per cent. of cures the number of cures had risen to from 42 to 45 per cent. It was evident that much more would be obtained when the general profession shook off their lethargy in regard to carcinoma and urged their patients to prompt and radical treatment so soon as they became conscious of the presence of the disease in any case. It was a disgrace for a physician to allow a cancer to pass to the inoperable stage without doing everything in his power to get the patient into the hands of an experienced surgeon. Heidhaim was convinced by his investigations that we were still ignorant of the extension of cancer in its own neighborhood, but he believed that the "path and the way in which cancer spread were quite different according to the kind of cancer, its anatomical structure, and the function of the diseased organ or tissue." Dr. Lloyd said that the question as to whether cancer was communicable would still be considered debatable by many, but he was absolutely convinced of this fact himself and had been collecting data for some years which went to prove this statement. Most convincing was the increasing ratio of cancer to the population, as shown by the health statistics of different countries. It was also shown that cancer was more common in thickly populated districts. In the poorer sections of Paris there were from 137 to 145 deaths per 100,000, while in the richer and cleaner sections there were but 75 deaths per 100,000. The same thing had been found to be true in other cities. This was also true of country regions. He had had several personal experiences where the disease had no doubt been communicated from one individual to another. One man, an engineer, had cancer of the tongue, from which he died, and about a year later the night engineer working in the same place presented himself with cancer of the anterior pillar of the fauces. They had used the same drinking cup for several years. A man died of cancer of the stomach, and within two years Lloyd operated upon the wife for cancer of the breast; he had also operated upon a case of cancer of the stomach in a man whose brother had died of cancer a few months previously. A woman died of cancer of the breast, and two years later he operated upon her sister, who had nursed her, for cancer of the stomach. There was no previous cancer in the family. A physician's wife was operated upon for cancer of the stomach, the physician himself developed cancer in the lower jaw. Autoinfection with cancer was now a well established fact. Gueillot believed that the epithelial origin of cancer would soon be admitted. Orth said, "Every cancer must be designated as an epithelioma." "The epithelial cells form the essential element of the cancer—they are not only the most important, but indeed the only important element." It was well known that we are constantly shedding our epithelial cells. If the normal were shed, so were the abnormal, and they might become a veritable cancer graft. In order to control the spread of cancer it became essential to prevent the dissemination of whatever element communicated the disease. The public should be educated to consider it contagious. Dressings removed from cancer cases should be immediately incinerated. The patient should be advised to avoid direct contact with others, kissing, etc. When a discharging wound was present, it should be covered with impervious dressing. In the second place, it should be remembered that cancer was engrafted upon points of ulceration, chronic irritation or developed in regions where abnormal epithelial tissue already existed. All contact with cancerous ulcers, and the common use of beds, utensils, drinking vessels, linen, etc., with cancerous patients should be avoided. All inflammatory lesions should be treated and cured, and all abnormal collections of epithelial cells should be removed. As to the *x*-ray, he said that it produced a form of obliterative endarteritis, and the curative effect was produced by cutting off the blood supply of the involved area. If the results of the treatment were always positive, if they were prompt in their effects and could be confined to the diseased area alone, and if they caused an equal amount of change in the superficial and the deep tissues, without endangering the life of the patient, we might feel that the advocates of this treatment were correct. The treatment of cancer by this method sometimes caused an increase in the rapidity of the growth of the malignant tissue. Several cases were cited to prove this statement. That the constant use of the *x*-ray was not prophylactic was shown by the fact that cancer developed in the *x*-ray burns on the hands of those constantly using this method of treatment. Radium offered some advantages over the *x*-ray in that it could be applied directly within the mass and its range of action might be directed to the deeper structures. He still believed that some superficial cancers could best be treated by some one of the caustics, especially those away from the mucocutaneous borders and involving only the superficial layers of the skin. No application of a paste or caustic should be made to a cancer that had penetrated beyond this. In some of these cases it might be possible to apply the actual cautery and get rid of all the diseased tissue. The advertising of cancer cures without operation was a dangerous practice. In case one did employ a paste, Jenning's or Bougard's was probably the best. The former was composed of hydrochlorate of cocaine, 2 parts; caustic potash, 12 parts; vaselin, 6 parts. The formula of the latter was, wheat flour, 60 grammes; starch, 60 grammes; arsenic, 1 gramme; cinnabar, 5 grammes; sal ammoniac, 5 grammes; corrosive sublimate, 0.50 centigrammes; solution of chloride of zinc at 52° F, 245 grammes. For the superficial cutaneous epitheliomata of the face terchlorid of antimony had proven superior to any of the pastes in the reader's hands. Treatment with toxins, antitoxins, or sera had thus far failed. From the standpoint of clinical observation as well as in consequence of statistical results he thought that we were forced to the conclusion that up to the present time that early and complete excision of all cancerous disease was the best known method of treatment, and it was important to urge on the profession the necessity of immediate operation as soon as the malignant change in any given case was recognized. This ought not to deter from further investigations along other lines. He also urged constant watchfulness for several years after operation.

Dr. William B. Coley agreed with practically all that Dr. Lloyd had stated, particularly regarding the communicability of cancer, which he had believed for many years, and he related some cases showing the communicability of carcinoma. In his lectures to nurses he emphasized his belief in the communicability of cancer. This same feeling regarding tuberculosis once existed. Cases of autoinfection were numerous, and surgeons now treated cancer wounds with care, believing that the knife could carry the disease to other parts. With regard to the non-surgical treatment of cancer, the *x*-ray was now commanding attention, and he called attention to the fact that many cases reported two, three, or four years ago, since lost sight of, were still being

reported as cures. But now the three year limit had gone by, and reports of these cases would be anxiously awaited. His own experience dealt with 170 cases of malignant disease treated with the *x*-ray, none of these being operable cases. Of 40 cases of cancer of the breast, there was only one in which the cancer disappeared under the influence of the *x*-ray. It promptly recurred in the other cases. What he said regarding carcinoma applied equally as well to sarcoma. At Harvard, among 130 cases there was not a single case of deep-seated cancer cured by the *x*-ray. The same report came from the Middlesex Hospital, England, and from Mikulicz clinic as well. He referred to the report of Dr. Collins, at the recent meeting of the American Medical Association, that 94 per cent. of the cases of tumor of the breast in persons between the ages of 20 and 30 were not malignant. With regard to the use of the *x*-ray as a pre-operative method there were objections; while attempting this the disease might extend and metastasis occur. He said he was strongly opposed to this pre-operative treatment with the *x*-ray.

**Mediastinal Tumors.**—Dr. William Francis Campbell of Brooklyn read this paper. In April, 1905, there was referred to him for operation a farmer, 21 years old, with a diagnosis of goiter. There was loss of voice, a swelling just above sternal notch, embarrassment of respiration, and difficult deglutition. A study of these symptoms elicited from the patient was exceedingly interesting, but the point of interest was the sequence of the symptoms. The very first symptom was loss of voice, which led him to doubt the previous diagnosis, for in goiter loss of voice was a late symptom, not an early one; in goiter the appearance of the tumor was first and loss of voice secondary; here the loss of voice was first and the appearance of the tumor secondary. On the second night after entering the hospital the patient was sitting as usual by the open window. This was his most comfortable method of resting. He arose to get something, after walking several steps fell and expired. Autopsy showed a tumor of the mediastinum involving the pericardium and extending into the sac. It extended backward and upward into the neck and was about the size of the head of a seven months' fetus. The pathologist reported it to be a limphosarcoma.

**The Sanatorium for Tuberculosis Patients and Its Medical and Social Mission.**—Dr. S. A. Knopf of New York read this paper. He said that by the admission of a patient to a sanatorium, a frequently dangerous center of infection was made inoffensive and the patient was given the greatest possible chance of cure. If in the advanced stage he was made as comfortable as lay in the power of human skill with all the modern therapeutic means at command. The sanatorium taught that phthisiobia was as unjust as it was cruel. It showed that the careful and conscientious consumptive was as safe an individual to associate with as anybody else and that the sanatoria for consumptives were not a danger to the neighborhood. It cured the consumptive, whenever his case was curable and demonstrated the curability of the disease independently of climate. It made the patient a hygienic factor when he returned to his former environment and demonstrated the preventability of tuberculous diseases. The patient would have been taught the love of fresh air by day and night, to shun vitiated atmosphere and the air of the saloon and the crowded meeting places. He would have learned the value of simple, pure and good food and how much more advantageous it was for him and his children to spend his money for food than for intoxicating liquors. The sanatoria for children, some of which reported as many as 75 per cent. of cures, prevented many a strongly predisposed child from ever becoming consumptive in later years or going through life crippled and deformed. In summarizing the social mission of the sanatorium for tuberculous patients, he said we beheld an even greater destiny. The sanatorium taught true democracy, compassion and benevolence to the aristocratic, the rich and the indifferent. It taught the fallacy of a belief in alcohol as a food or specific for tuberculosis and thus combated alcoholism. It taught the disorderly to become orderly and offered to the uneducated an opportunity for education. It taught love for pure, fresh air, personal and general cleanliness, and thus, indirectly prevented not only tuberculosis, but many other diseases whose origin must be traced to lack of fresh air, to filth, and to unsanitary habitation and habits. The young medical man entering the sanatorium as assistant, was given an opportunity to become a trained diagnostician of incipient tuberculosis, and thus he would be most helpful in the solution of the tuberculosis problem. The sanatorium showed the benefit of housing the laborer in a model tenement, of paying him reasonable wages, and of having him work in a sanitary place. It showed that it did not pay to overwork the adult and that it was criminal to employ children. Thus, the sanatorium, through its medical and social mission, not only diminished tuberculosis among the masses but made their lot a happier one, furthered charity, humanity, and liberty. It had been asked what would become of the numerous sanatorium buildings when tuberculosis would have so decreased as to no longer fill them. He said that by reason of their location and construction the sanatoria for adults would make admirable homes for the aged and infirm who now crowded our almshouses and the seaside sanatoria would give to the children and overworked mothers of our crowded cities much needed vacation homes. Hence we should continue to build sanatoria where they were needed.

(*To be continued.*)

## MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

*Fifty-fifth Annual Meeting, Held at Scranton, September 26, 27, and 28, 1905.*

(Special Report to the Medical Record.)

(*Continued from page 681.*)

SECTION "B."

FIRST DAY—TUESDAY, SEPTEMBER 26.

Dr. Erasmus V. Swing, Coatesville, First Vice-President, in the Chair.

**The Address in Surgery.**—Dr. Jonathan M. Wainwright, Scranton, took for his subject, "The Value of Spinal Analgesia in Shock." The author referred particularly to the danger from shock following amputations for crushed lower extremities and gave in detail, illustrated by charts, the blood pressure of dogs in which experiments had been performed, (1) under ether, and (2) under spinal analgesia produced by cocaine. The blood pressure invariably decreased where the analgesia was not employed, while in those cases in which it was employed, it either arose or remained stationary. In two clinical cases he had also been able to demonstrate these results, which he viewed as showing the great value of the method in those cases where there was grave danger from shock.

**The Results of Surgical Treatment in Exophthalmic Goiter.**—Dr. B. Farquhar Curtis, New York, stated that out of seven cases he had operated on by means of sympathectomy two died from acute thyroidism, one relapsed nine months after the operation and died from the original disease with acute endocarditis, and only one was completely cured five years after the operation. He stated that he preferred the operation of thyroidectomy, as it could be easier done under a local anesthetic, the mortality was not so high, and the scars did not come so far up in the neck He reported three cases of operation by this method.

**Focal Diagnosis of Operable Tumors of the Cerebrum.**—Dr. Charles K. Mills, Philadelphia, referred to the advance in localization and removal of tumors in this region during the two last decades, citing as notable causes of failure in these cases, particularly in the past, difficulties and imperfections in localization, the small size of the openings for removal, and relative imperfections of surgical technique. He illustrated, by means of charts, the division of the cerebellum into prefrontal, motor, auditory,

midfrontal, parietal, and occipital areas. He stated that the tumor was more apt to develop in the region controlling the upper extremities than the lower, and urged that the incision made be from three to four inches in length.

**Surgery in Relation to Operable Lesions of the Cerebrum.**—Dr. CHARLES H. FRAZIER, Philadelphia, stated that one of the main causes of failure in these cases was the fact that they came too late; and particularly is this true of Jacksonian epilepsy. Trephining of any kind was liable to produce adhesions, and he did not favor the placing of silver foil between the dura and the skull; he cited a case in which it had produced convulsions, which after the removal of the silver foil ceased. Indiscriminate exploratory craniectomy was not advised, but in cases of infantile encephalitis, if the lesion could not be localized, he felt it to be justifiable. He reported two cases, in one of which the brain was exposed and a cortical clot removed within about a month, and the patient made an almost complete recovery. In conclusion, he stated that early diagnosis was more frequent, the percentage of cases in which the tumor was found was larger, and the mortality not so high as formerly, which he attributed largely to better methods of diagnosis and larger openings, and in many instances palliative operations are justifiable.

**An Instrument Affording a Quick and Safe Method of Entering the Skull with the Minimum Destruction of Bone and Always Preserving a Vital Flap.**—By Dr. H. C. MASLAND, Philadelphia. The instrument was on the circular saw pattern, the depth of the incision being adjustable by the operator, and the propelling power was electricity. It also had an adjustable inner guard if desired.

**Treatment of Trifacial Neuralgia by Complete Avulsion of the Peripheral Branches of the Trigeminal Nerve.**—Dr. ERNEST LAPLACE, Philadelphia, stated that he believed the recurrence in many of these cases after excision of the inferior dental nerve was due to regeneration, illustrating this by the regeneration of nerve growths in other parts of the body. He called attention to the fact that whenever the nerve was twisted or squeezed tightly it would break, and stated that in order that the nerve might be extracted as far as possible, he had used a specially curved hemostatic forceps, and by twisting the nerve very slowly, taking as much as a minute or two minutes for a single twist, he was able to extract it almost entire; the whole operation requiring from twelve to twenty minutes.

Dr. JOHN B. ROBERTS, Philadelphia, commented particularly on the value of the operation outlined by Dr. Laplace, and also the diagnostic importance of the work of Dr. Mills.

**The Essentials of Successful Röntgen Therapy.**—Dr. CHARLES LESTER LEONARD, Philadelphia, called attention to the fact that the *x*-rays might act as a stimulant, alterative, analgesic, or escharotic; too light a dose would stimulate malignant tissue, while a too strong dose was liable to destroy the other parts; the best results could be secured only by careful adaptation to each individual patient. One difficulty was that sometimes the effect was not manifested for several days, which caused danger of cumulative action.

**The Adjustment of Radiation for Various Physiological Effects.**—Dr. RUSSELL H. BOGGS, Pittsburg, called attention to the fact that before successful application of this agent could be brought about careful study of the physiological action and application to the individual cases were required. He dwelt particularly upon the degree of vacuum, and stated that during the last two years he had treated various cases by five different degrees, the cases being classified under the following groups: (1) Acne and unulcerated lesions; (2) epithelioma and lupus; (3) cancer of the uterus, tuberculous glands, etc; (4) sarcoma.

**The Treatment of Mediastinal Carcinoma by the X-ray.**—Dr. G. E. PFAHLER, Philadelphia, reported six cases of carcinoma of the mediastinum following carcinoma of the breast, the first occurring in a woman aged thirty-six, who had a primary growth removed; sixteen months later a secondary growth appeared, which was removed, and she was able to do her ordinary work. The second case was a secondary growth appearing three years after the removal of the primary lesion, which was treated on several occasions for a period varying from six weeks to three months with the *x*-ray; the patient had now apparently recovered. The third, fourth, and fifth cases were in women, aged respectively sixty-two, fifty-two, and sixty-two years, in whom the treatment had produced good palliative results.

Dr. JAY F. SCHAMBERG, Philadelphia, stated that in deep-seated malignant disease there was no doubt that surgical intervention should be imposed in the operable cases, but he urged the use of the *x*-rays as an adjunct thereto, or as a palliative measure in inoperable conditions.

Dr. JOHN C. PRICE, Scranton, emphasized the importance of careful individual regulation of the strength and quality of the rays, and particularly deprecated the fact that they were too often employed by the general practitioners, without sufficient regard to these points.

Dr. ERNEST LAPLACE, Philadelphia, said that during the early stages, if the cancer cell was of low grade, this agent would exert a beneficial effect or possibly destroy the growth. He referred to the work of Doyen of Paris, which he had had an opportunity of observing a couple of weeks ago, and reported a series of experiments conducted upon guinea pigs by that author; all but twenty-one of the animals had died of the disease, and seven of the latter showed neoplastic cells, which, however, were not far enough advanced to cause fatal results.

Dr. CHARLES P. NOBLE, Philadelphia, stated that the diagnosis in the case reported by Dr. Pfahler had been confirmed by clinical and microscopical observation, and felt that the field for this agent was rather in postoperative work or in inoperable cases.

SECOND DAY—WEDNESDAY, SEPTEMBER 27.

**Conservative Treatment of the Enlarged Prostate.**—Dr. H. M. CHRISTIAN, Philadelphia, stated that the patient when first seen by the surgeon would present one of the two conditions: (1) Good general health, moderate enlargement of the gland, with increased urethral length, partial retention, residual urine, varying from three to six ounces, urine sterile or slightly cloudy, indicating slight infection of the bladder; catheter used without difficulty once or twice daily; or (2) general health fair, marked enlargement and increased urethral length, complete retention, absolute catheter life, chronic cystitis, and the introduction of the catheter difficult and painful. He did not view prostatectomy, either suprapubic or perineal, as a minor operation, and, while recommending it for the second class, felt that its use should be limited to those cases in which there was acute or chronic cystitis, painful or difficult insertion of the catheter, or when the occupation of the patient prevented the use of this instrument.

**Recent Results in Cancer Research which Bear on the Parasitic Theory.**—Dr. H. R. GAYLORD, Buffalo, reviewed fully the literature regarding the transplantation of tumors, with a view to proving that they had their origin in germs. Among the various operations he referred to one reported by Ehrlich, in which the tumor, started by inoculation from a carcinomatous growth, had, at the thirteenth generation, developed into a sarcoma. He said that spontaneous recovery had taken place in about fifty per cent. of the cases inoculated, and stated that the literature showed fourteen cases to have recovered. He also referred to experiments made by injecting the serum from immune mice, or by mixing the blood of immune mice with the germ as prepared for inoculating others, which would prevent its taking any effect. He gave a detailed account of the experiments conducted under his observation, particularly with a view to proving the germ theory.

Dr. WILLIAM L. RODMAN, Philadelphia, congratulated the author on the work that he had done, but felt that it was incumbent on the advocates of the germ theory of the origin of cancer to bring more evidence to bear on the point.

He remarked the fact that changes in the mode of life seemed to increase the susceptibility to this disease, the same as it did to tuberculosis, citing as instance in both diseases the Africans and American Indians. As a contradiction of the germ theory he referred to the fact that there was no reported case of a physician becoming infected while doing an operation.

Dr. J. C. Bateson, Scranton, referred to observations he had made some years ago with a view to ascertaining the causative agent in cancer, particularly in regard to heredity, and urged, in view of the rapid increase of this disease, the necessity for careful study.

Dr. Ernest Laplace, Philadelphia, stated that he believed there were two things necessary to the development of cancer, a proper seed and a fertile soil.

Dr. Gaylord, in closing, remarked that, while there was very little difference in the facts as found by the various observers in their experimental work on cancer, they had drawn far different conclusions therefrom. He called particular attention to the fact that cancer cells increased in virulence with each successive generation, and believed that many more investigations and experiments would have to be made before the treatment of cancer by immune serum would become of practical value.

**Three Patients with Meningocele Who Recovered.**—Dr. George W Guthrie, Wilkes-Barre, in this paper discussed three varieties of the disease, meningocele, meningomyolocele (meningoencephalocele, when the growth contains brain matter, as well as membranes), and syringomyelocele, and the etiology and prognosis. He stated that the most favorable cases for operation were embraced under the first head, and reported three cases, one of which was cured spontaneously and the other two by operation.

**Additional Observations Upon the Treatment of Empyema with Special Reference to Irrigation of the Pleural Cavities.**—Dr. P. Y. Eisenberg, Norristown, said that the puncture method was gradually giving place to more radical measures, simple incision, resection of one or more ribs, and finally decortication when resection failed. He reviewed particularly the literature of reported deaths due to flushing of the empyemic cavity, and believed that causes of death could probably be explained by the physical condition of the patient, the use of too much force, too sudden distension of the pleural cavity, etc., rather than the flushing *per se*. The irrigating fluid should either be sterile water, weak boric acid solution (three per cent.) or salt solution. He stated that he had employed this method in six cases during the last two years with invariably good results.

**Fractures of the Head of the Radius.**—Dr. T. Turner Thomas, Philadelphia, stated that a search of the literature on this subject revealed only forty-eight reported cases, six of which were diagnosed during life; but he had been able to secure from four skiagraphers in Philadelphia records of about fifty-five cases. He expressed the belief that the cases were more frequent than was supposed, and mentioned, as important diagnostic factors, interference with rotation and supination, localized pain, and tenderness, together with a history of falling on the hand. He recommended immobilization for three or four weeks, after which passive movements should be begun gently. Several pathological specimens and *x*-ray pictures were also exhibited.

**The Address in Obstetrics.**—Dr. Ella B. Everitt, Philadelphia, took for her subject "What Constitutes Operability in Cancer of the Uterus," and stated that the best results would be accomplished in three ways: (1) Bringing about conditions favorable to earlier diagnosis; (2) improvement in operative technique; (3) clear and widespread knowledge of when to apply radical measures, and when to be content with palliative relief. Among the factors requiring consideration under the latter heading were (*a*) the proportion of the uterus involved; (*b*) the extension beyond the uterus; (*c*) the operative measures available. After reviewing the various operations for this condition and their development, she stated that the question of prime importance should always be what is best for this individual patient, believing that operative interference was justifiable only when a radical cure, or at least a prolongation of life under more favorable circumstances, could be fairly expected.

**Ectopic Gestation.**—Dr. Charles P. Noble, Philadelphia, stated that during the past sixteen years he had operated upon ninety-one cases, eighty-nine by abdominal section and four by the vaginal route, two of the latter subsequently requiring abdominal section. In forty-four of these cases the pregnancy was in the left tube; in forty in the right; in seven the report did not show which. In his experience the causes were usually mechanical. Early diagnosis and prompt operative interference were urged as important factors, and it was believed that careful consideration of the history would greatly facilitate the diagnosis.

Dr. George D. Nutt, Williamsport, believed that the condition was much more frequent than was supposed before abdominal surgery came into prominence, in most cases, in his experience, being due to mechanical factors. He reported a case in which a rupture of the right tube containing a quantity of blood had been completely walled off from the abdominal cavity, and the menstrual periods had been regular for seven months prior to the operation.

Dr. Richard H. Gibbons, New York, urged the necessity for early diagnosis and prompt operation, and reported several cases, including one of rupture of the broad ligament which he had operated on several years ago, with complete success.

Dr. J. C. O'Day, Oil City, mentioned, as strong diagnostic symptoms, long-standing history of sterility without apparent cause, with sudden cessation of the menstrual periods and pelvic pain. Among the causative factors were mentioned gonorrhea, torsion of the tubes, and other mechanical factors, and he reported a case in which an operation for a cystic ovary revealed a ruptured extrauterine pregnancy in the left tube, occurring quite a time before and completely walled off.

**The Restitution to Normal after Childbirth.**—Dr. Barton Cooke Hirst, Philadelphia, stated that injuries of the genital canal and backward displacement of the uterus constituted more than one-third of over six thousand cases of diseases of women that had come under his observation; and if to this number were added the puerperal infections, pelvic inflammations, etc., after childbirth, and abortion, subinvolution, endometritis, and other pathological consequences of parturition, they would constitute far the larger proportion, and among the remainder would be a limited number of neoplasms, genital tuberculosis, and gonorrhea. The patient should be carefully watched during the period of gestation and parturition, and sufficient examinations made afterwards, to insure the physician that all the organs have returned to normal.

**Uterine Curettage.**—Dr. E. E. Montgomery, Philadelphia, stated that the indications for the use of the curette were chronic endometritis, polypoid or mucous growths projecting from the mucous surface of the uterine cavity, retrodisplacements, if followed by measures to restore the normal position, pelvic inflammation, if associated with measures to correct the intraperitoneal disorders, carcinoma for the purpose of securing scrapings for study, and the retention of products of embryonic life. The contradictions were acute endometritis, intrauterine myomata, or any other cases in the absence of intrauterine inflammation. Aseptic precautions should be observed in the preparation of operator, patient, and instruments—Pratt's dilators and metal bougies were recommended—and the operation should be performed only by one skilled in the work, and drainage must be established.

**Significance and Management of Chronic Uterine Hemorrhage.**—Dr. George Erety Shoemaker, Philadelphia, said that the determination of whether or not the flow was normal could be made only by comparison with the other

periods of the same individual during a time she was in a healthy condition, and cited, among the causes for hemorrhage, passive congestion of the pelvic vessels, pelvic disease outside of the uterus, prolapsed and cystic ovaries, chronic adherent inflammatory disease, disorders of pregnancy, partial placenta previa, threatened abortion, and extrauterine pregnancy. He deprecated the idea that preceding the menopause there was likely to be slight hemorrhage and urged careful examination and prompt treatment of these, as well as all other cases.

Dr. Richard H. Gibbons, New York, reported a case in which after he had curetted and employed a bichloride solution of one to three thousand, he opened the abdominal cavity to complete the operation and found the intestines blistered, which could only be explained by the escape of fluid into the abdominal cavity. In this case, after the removal of the appendix and one tube and shortening of the round ligament, the woman made a good recovery.

**The Technique Employed in the Last One Hundred Laparotomies.**—Dr. L. J. Hammond, Philadelphia, discussed at length the literature on the subject and cited the opinions of different operators, both for and against the use of drainage. He reported one hundred cases, thirty-six with localized pus and sixty-four in which pus was absent, consisting of appendicitis, cholelithiasis, etc., with but four fatalities, in one of which drainage had been used. He expressed the opinion that drainage should be employed only when there was some positive indication for it; in cases of disease of the gall-bladder, however, drainage should always be employed.

Dr. J. G. Clarke, Philadelphia, referred to a series of one thousand cases which he had worked out several years ago, and stated that as the number of operations became greater, the number of times which drainage was employed decreased, and he believed that it should be the exception rather than the rule.

Dr. J. Montgomery Baldy, Philadelphia, believed the less the abdominal contents were handled the better, and that the more experienced the operator became the less he would employ drainage.

**The Management of Pus Cases in Abdominal Surgery.**—Dr. Reed Burns, Scranton, stated that in empyema of the gall-bladder the best results followed cholecystectomy, and that in cases of pyosalpinx, suppurating ovaries and tubes, ovarian abscesses, suppurating cysts, and acute salpingitis operation was the method of choice. In appendical abscess he recommended that the pus be evacuated before opening up the abdomen. He reported a number of cases of peritoneal abscess, perforation of the appendix, and one of rupture of the gall-bladder.

Dr. W. L. Estes, South Bethlehem, felt that the reason drainage did not produce the results expected in many cases was due to the improper method of employment, and stated that in some cases an important factor, particularly with women, was the raising of the head of the bed.

Dr. J. C. O'Day, Oil City, said the gall-bladder should be left in and drained wherever possible, owing to the danger of fibrous degeneration and closure of the common duct.

Dr. William L. Rodman, Philadelphia, did not favor the flushing of the abdominal cavity when the pus was confined to a limited and circumscribed area, and said that, while cholecystectomy had its field, it should be confined to cases of gangrene or other disease of the gall bladder.

Dr. Richard H. Gibbons, New York, urged the necessity for immediate operation in all cases of appendicitis, and believed that that organ should be taken out whenever a laparotomy was done. In regard to the gall-bladder he felt it had better be left in, unless malignant degeneration was present.

Dr. J. E. O'Brien, Scranton, said the greatest need was of a competent surgeon. He remarked that during the last eight years Dr. Burns had operated on one hundred and twelve cases of appendicitis, with but two deaths.

Dr. Charles P. Noble, Philadelphia, said that drainage should be employed only when especially indicated; but he believed that it was better to remove the source of the infection and then pack with sterile gauze than to flush out the abdomen in cases of free pus and general peritonitis.

*(To be continued.)*

## MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

*Thirty-first Annual Meeting, held at Indianapolis, Indiana, October 10, 11, and 12, 1905.*

The President, Dr. Bransford Lewis of St. Louis, in the Chair.

Addresses of welcome were delivered by Mayor John W. Holtzmann, on behalf of the city of Indianapolis, and by Dr. W. N. Wishard, on behalf of the local profession, which were responded to by Dr. H. O. Walker of Detroit.

The scientific work was divided into two sections, medical and surgical.

### SURGICAL SECTION.

**Surgical Dressing.**—Dr. Carl E. Black, of Jacksonville, Ill., presented a preliminary report on the technique of the after-dressing of surgical cases. He pointed out briefly the principal elements necessary for the proper dressing of a wound, whether it were a surgical or an accidental wound. While the technique differed somewhat in different kinds of wounds, the fundamental principles were the same in all. Such a consideration divided itself into (1) the patient; certain modifications must always be made to suit the individual case. (2) Those things which were auxiliary to the dressing itself, but which did not come in contact with the wound. (3) The surgeon or nurse making the dressing and his or her assistant. (4) The instruments, dressings, and solutions coming in contact with the wound. Septic wounds should be so dressed that there was no opportunity for a further mixture of infection in the wound, nor any opportunity for the infectious material from the wound in any way to be scattered where it could come in contact with other wounds. These two points should always be the basic principles of a surgical dressing, and should always be kept prominently in mind by those undertaking the dressing of wounds. To facilitate dressings and to economize in materials, and at the same time carry out a thorough technique, the author had arranged and had been using for some time a plan which had proved quite satisfactory. He had devised a box which contained everything that might come in contact with the wound, and everything, excepting the instruments, could be purchased in ordinary stores of towns and were not expensive.

Dr. John Young Brown of St. Louis, Mo., thought the secret of the success of the essayist in dressing wounds was due largely to the thorough system he had inaugurated. System was everything in surgery, as in business.

Dr. O. H. Elbrecht of St. Louis, Mo., said the sooner surgeons reached a standard in the sizes of dressings, in tapes, squares, oblongs, etc., the less confusion there would be on the part of the surgeon in going from one hospital to another to do surgical work. He mentioned the plan adopted by him in the hospital with which he was connected.

Dr. C. E. Ruth of Keokuk, Ia., said that the sooner the profession came to a realization of the needs pointed out by the essayist, the less confusion there would be, as well as lessening very materially the liability to infection.

Dr. Miles F. Porter of Fort Wayne, Ind., said the keynote of success in the management of surgical cases was system and simplicity. One should attempt to do away with the necessity of dressing wounds until they were healed in all cases where this was possible. The essayist spoke of there being no necessity for dressing an antiseptic wound until the stitches had been removed. The speaker said there should be no stitches to remove in the ordinary aseptic wound, no matter where it was located, and in the

ordinary treatment of septic cases there was a great deal more dressing than was called for. The dressing of a wound after it was made should be looked upon as an evil to be avoided as far as possible.

Dr. Black, in closing, said that the gist of the whole matter was system for the purpose of saving time, of safety for the patient, and of economy.

**Curettage in Septic Cases.**—Dr. C. E. Ruth of Keokuk, Ia., stated that prevention must always be the most important treatment and must always include hygienic asepsis of the patient and physician and great care in examination. No instrumentation in any variety of puerperal sepsis should be considered which denuded the uterine mucosa and opened up tissues not in any sense protected from septic infection, the utmost gentleness being used to avoid any possibility of puncturing the softened or disintegrated uterine wall. The curette should never be used in such cases, certainly not a small or sharp one, and then only in the least serious of these cases, namely, saprophytic intoxication, which was not sepsis. He had for many years been satisfied with a placental detacher of his own device, which answered every purpose with a minimum danger of perforation. Streptococcic and staphylococcic were the most serious of puerperal infections, as these, on the manifestation of symptoms, passed beyond all possible reach of removal by any form of curettage. While curettage could do no good, it might do much harm in disseminating infection and in causing uterine perforation. Within the last two and a half years the author had operated upon four cases of puerperal sepsis which illustrated the dangers of curettage. These cases were reported in detail.

Dr. O. H. Elbrecht of St. Louis, Mo., thought that many deaths were due to the curette being used in cases of septic uteri. It was just as criminal, in his judgment, to introduce a curette into a septic or infected uterus as it was a sound or curette for the purpose of producing criminal abortion. He mentioned one case in which a physician curetted a uterus contrary to his advice, and the next day the patient died. He mentioned two other cases of sapremia that terminated fatally, as he believed, from curettage of the uterus.

Dr. H. O. Walker of Detroit said the paper was timely, and one could not condemn too strongly the indiscriminate use of intrauterine curettes and irrigators. Many deaths were undoubtedly due to the indiscriminate use of these instruments.

Dr. John Young Brown said that while the indiscriminate use of the curette was dangerous, the instrument nevertheless had an important function to fulfill. Where there were decomposing membranes or fragments of retained placenta, the uterus should be cleaned out.

Dr. Hannah M. Graham of Indianapolis related her experience in treating the class of cases under discussion. She used an applicator, and not a sharp or dull curette. Cotton was wrapped around the applicator, which was saturated with carbolic acid, and the debris left in the uterus was swabbed out. It was her practice, too, to use a fenestrated catheter as a drainage tube, through which peroxide of hydrogen was injected every two to three hours, by either herself or the nurse, and she had had good success by this method.

Dr. A. M. Hayden of Evansville, Ind., concurred in the remarks of Dr. Brown. When a physician was called to see a patient whose uterus contained a broken-down fetus or fragments of placenta, if he failed to clean out that uterus the speaker thought he was criminally negligent. Patients went on for weeks with elevation of temperature due to sepsis, and would not get well without the judicious use of the curette, while if the uterus was cleaned out the patients would recover in a short time. He advocated the use of placental forceps for removing débris or pieces of retained placenta without disturbing or breaking down nature's protection.

Dr. Thomas B. Noble of Indianapolis uttered a word in defense of the uterine curette, saying it was an instrument for prevention as well as cure. The proper way was to interpret the pathology that one had to contend with, remembering that the curette was a means to an end. If a woman was suffering from high temperature, rapid pulse, prostration, due to saprophytic material in the uterus, which could be removed by mechanical means, the physician did her an injustice if he left the uterus alone, simply trusting to the *vis medicatrix naturæ* to take care of it.

Dr. G. Frank Lydston of Chicago said he did not believe that the essayist or those who spoke so emphatically in condemnation of the curette, would fail, as a matter of practice, to differentiate between the post-abortive septic phenomena and the post-puerperal septic phenomena. He did not believe that any of the speakers intended to convey the idea that the curette was to be condemned and never to be used. If one were called to see a woman who had been suffering from general sapremia for several weeks, who was in such a condition that it was evident dissolution was not far away if something was not done, if the history was such that material had been left behind in the uterus, and she was having a temperature of 106°, he would certainly not treat such a woman surgically or provide drainage by way of the vagina through the medium of vaginal irrigation, but would remove the septic material from the uterus. If this were not done the case was doomed, and many women in such a condition recovered under proper intrauterine treatment.

Dr. A. H. Ferguson of Chicago mentioned a case that terminated fatally on account of meddlesome interference on the part of a physician.

Dr. Ruth, in closing, said he thought a good deal of the discussion arose from a misunderstanding or failure to differentiate between the varieties of infection that one had to deal with. There was no danger from a careful curettage in a case of putrescent uterus in which there was not added to the intoxication or sapremia a septicemia.

**Artificial Hyperemia in Surgery.**—Dr. Alexander C. Wiener of Chicago pointed out the indications for this treatment in surgery, as follows: (1) Subacute mild inflammations of joints and soft tissues were relieved rapidly. (2) Acute purulent inflammations of soft tissues either on the extremities or the head. (3) Acute and subacute inflammations of joints and purulent arthritis; gonorrheal infection of joints. In these cases the elastic bandage had to be applied in such a manner as to produce energetic venous stasis, without causing pain to the sufferer. In acute inflammations comparatively light constriction produced an immense hyperemia. This conclusively showed that the arterial blood was not diminished but slackened. Cases were cited in which excellent results were obtained by the Bier method.

**Surgery of the Gall-Bladder and Its Ducts.**—Dr. H. O. Walker of Detroit, Mich., related his experience with 185 cases upon which he operated. He quoted from a former paper written by him years ago, saying that what he said then still obtained to-day. (1) Jaundice, which heretofore had been regarded as almost pathognomonic of the presence of gallstones, was present in only about 20 per cent. of gallstone cases. (2) Pain in the region of the gall-bladder did not by any means indicate the presence of gallstones, but was quite as often the result of a kinking of the systic duct from lesions, the result of one or more attacks of cholecystitis combined with pericholecystitis. (3) The passage of stones in the feces was not as common as was formerly supposed, for colics were rarely successful in passing a stone from the gall-bladder. (4) Empyema of the gall-bladder was not always felt by palpation, for frequent attacks of cholecystitis tended to diminish the size of the gall-bladder. (5) Tumors of the gall-bladder without pain or jaundice indicated a simple dropsy, while a painful, distended gall-bladder indicated empyema, and when accompanied by jaundice indicated constriction of the choledochus. (6) A hard nodular painful tumor of the gall-bladder, with or without jaundice, was almost certain evidence of carcinoma. (7) Obstruction of the choledochus, accompanied with inflamma-

tion and jaundice, quickly disappeared after the passage of the stones into the papilla of the duodenum. Cholelithiasis was of greater frequency than was supposed. Approximately every tenth individual had concretions in the gall-bladder, yet only about one in twenty ever complained of their presence, so that quiet stones needed no treatment. It was only the cholecystitis and cholangitis which made manifest the irritable presence of gallstones without demanding treatment, namely, medicinal and surgical. The conditions that required operative intervention were (1) an acute seropurulent cholecystitis with accompanying pericholecystitis. (2) Persistent and frequent pains due to adhesions between the gall-bladder, intestines, stomach, and omentum. (3) Chronic obstruction of the common duct. (4) Chronic empyema of the gall-bladder and its accompanying accidents. Cholecystectomy was undoubtedly advisable where the gall-bladder had been subject to frequent attacks of inflammation, and where chronic septic conditions existed. The author reported an interesting case in which he removed the gall-bladder and fixed the right kidney.

**Retroperitoneal Teratoma.**—Dr. C. M. Nicholson of St. Louis, Mo., read a paper on this subject. The tumor described was a teratoma of the abdominal cavity, remarkable not only because of its rare occurrence, rapid growth, and total absence of symptoms until three weeks before death, but because with its substance had been found a chorion epithelioma. At the post-mortem examination made by Dr. S. S. Stahl, a fibrous capsule was found, enclosing a semi-solid mass and adherent only in the median line and to the right kidney. Not without much difficulty could the tumor be removed, so intimately was it attached to the structure anterior to the vertebral column. The abdominal aorta from the first dorsal vertebra to the fourth lumbar was closely attached to the growth. The tumor weighed a little less than two pounds. It was right-angled and lobulated, the lobules being smooth and extending in different directions. On cutting, the tumor was soft, the anterior inferior extremity being partially cystic. Some of the cysts were as large as a hazelnut. The remainder of the growth appeared solid. The outer surface of the tumor was covered with a distinct fibrous capsule. Paraffin section of the Zenker-fixed tissue showed a very complicated mass. Portions of organs were found corresponding in embryonic origin to all the general layers. Skin, cutaneous organs, central nervous system, peripheral nerves, represented the epiblast. Mucous glands, tubes, cysts with epithelial lining, were indicative of the hypoblast. Bone, cartilage, fibrous tissue, constituted the mesoblastic structures.

Dr Joseph Riley Eastman of Indianapolis said he had had a remarkable experience in relation to tumors of this character. He had had two cases of complete precoccygeal teratomata, but he had not had such a case as the one related by Dr. Nicholson. His two cases were simply instances of precoccygeal teratomata. They were not cases of inclusio fetalis which Dr. Nicholson had reported. He related a case in which his father had removed almost a complete skeleton from the [illegible] of a man in middle age.

Dr Nicholson, in closing, stated that cancroid epithelioma occurring in a case of teratoma was extremely rare, and so far as a search of the literature was concerned, he had been unable to find a similar instance. Examination of the tumor in question had clearly the presence of [illegible] germ layers.

**Some of the Fallacies in the Clinical Diagnosis of Gonorrhea.**—Dr. G. Frank Lydston of Chicago discussed some of the more dangerous of the fallacies in the diagnosis of gonorrhea, with especial reference to prognosis as regards the infectiousness of a given individual to other and healthy persons with whom he or she might come in sexual contact. He considered, first, the possibility of excluding infectiousness in the case of a woman under suspicion, or who was known to have had gonorrhea. That the most dangerous type of infection of the female was that in which the external manifestations of the disease were absent, or wanting, was coming to be well understood by both gynecological and genitourinary specialists. The explanation of the relatively great danger of infection of others by such subjects was not so thoroughly understood as it should be. Gonorrheal urethritis in the female, when it had assumed the chronic form, might present no secretion whatever upon external examination. There might be little or no vaginal, cervical, or uterine discharge, and even such as there was might upon examination fail to disclose the microorganisms of gonorrhea. A swab or probe passed into the urethra might return perfectly clean. Notwithstanding this apparent lack of infection in the urethra, the mucous glands might be involved, and under the influence of sexual excitement and the mechanical effect of coitus the physiological hypersecretion might convey gonococci in abundance to the meatus. The result was sufficiently obvious. The author presented clinical facts which would seem to make it impossible for a physician to state in any given case that a woman was free from infection. This was one of the strongest arguments against regulation and medical inspection of prostitutes. He entertained serious objections to the medical profession constituting itself an assurance society for the protection of the social evil, but aside from this scruple, there remained the fact that no reliable system of inspection or examination could be devised. The speaker was firmly convinced that in many cases of infection of healthy women by a latent gonorrhea of the husband, mixed infection was responsible, and the resulting pathological condition in the female was non-specific. Its being non-specific, however, did not preclude the possibility of its becoming very serious.

Dr. W. E. Washburn of Kewanee, Ill., exhibited an improved urethrotome.

**Irritation of the Bladder.**—Dr. A. Ravogli of Cincinnati, O., said that in many abnormal conditions of the genitourinary organs and also of the urine itself this affection came on as a symptom in the form of the necessity of frequent micturition. This symptom could be produced by a number of intravesical and extravesical affections. In this condition the urination was so increased that it seemed the bladder could not tolerate the presence of urine. In some cases it occurred in the daytime only, in other cases at night, and in severe cases often in the day as well as in the night. The intervals between urination might be two hours, but in some cases the patient urinated every quarter of an hour, or even every five minutes. The patient would lose sleep, waste away, and was scarcely able to attend to his occupation. In reference to the causes, the urine might be the cause of irritation on account of its quantity or its quality. It might be too concentrated, contain urates, phosphates, sugar, etc., which maintained or kept up irritation of the bladder. The bladder itself might be the cause on account of an hyperæmic condition. This hyperæmia might be the result of vesical or of extravesical troubles. Phimosis, urethritis, prostatitis, neoplasms, perityphlitis, vulvitis, colpohyperplasia, etc. In other cases it was a pure neurosis, the consequence of epilepsy, hysteria, and eclampsia. Since the urethroscope and the cystoscope had been used, cases of irritation of the bladder without pathological condition had greatly diminished, and in many of them there had been found to be granulations or hyperæmia of the mucous membrane. There were two kinds of irritation of the bladder, one which was a local neurosis, and another which resulted from pathological alterations of the bladder or of the urethra. The affection was a stubborn one, but the detection of the causes would help greatly in the selection of appropriate treatment.

**Prostatectomy.**—Dr. W. D. Haines of Cincinnati, O., said that two patients, aged respectively 42 and 50 years, with small indurated prostate with obstruction, did well after perineal section and the removal of the gland, in that the catheter was abandoned and a troublesome cystitis relieved. One of the men suffered incontinence for a period of three

months after the operation, and the cure was incomplete as residual urine was found in both cases, and this despite easy bladder access by the sound or catheter. The author condemned the use of metallic instruments in prostatics for diagnostic purposes, or for the relief of urinary retention, as the danger of perforation and infection far outweigh the meager information or temporary relief thus obtained. One could confidently hope for complete cure in 30 per cent. of the cases submitted to prostatectomy, namely, release from catheter bondage, relief from bladder complications and restoration of urinary functions. In his experience with perineal prostatectomy seven cases had been functionally cured, nine showed residual urine, some of whom had had attacks of cystitis and dribbling, and five of these were suffering from incontinence six months to one year and a half after operation. Two cases required secondary operation, one for stone, and one for perineal fistula, making a total of sixteen cases, with ages ranging from 42 to 79 years, without mortality. While these results were far from ideal, the unfavorable physical condition present in the majority of them would in a measure militate against criticism as to the final outcome of this series.

**The Operative Treatment of Tuberculous Joints.**—Dr. Horace J. Whitacre of Cincinnati, Ohio, advocated four kinds of operations for tuberculous joint disease: First, osteotomy for the removal of an epiphyseal focus; second, erasion or arthrectomy of those cases, particularly in the young, where the focus was circumscribed and a fair amount of synovial membrane remained; third, excision; fourth, amputation. Osteotomy for the removal of a focus localized in the epiphyseal end of a bone was a most logical operation. Six cases of rather extensive tuberculosis of the knee were treated by arthrectomy or erasion. In four of these cases a complete cure of the disease with a useful stiff joint and good position was attained. In three of the cases a slight amount of motion giving some assistance to the patient in locomotion was regained. In two cases amputation was subsequently resorted to. These subsequent amputations occurred in patients who passed from his observation very soon after operation. They undoubtedly represented recurrence in a spot where the dissection had not been sufficiently thorough. Excision for a tuberculous joint had been reserved in his practice for those cases in which the bone ends were damaged.

**President's Address.**—Dr. Bransford Lewis, in his address, considered two subjects: (1) Some unrecognized responsibilities of press and State in conserving health, and (2) the prophylaxis of the so-called venereal diseases. He called attention to quack medical advertising in newspapers and magazines, and said that news managers provided against discrimination frequently by making unworthy advertisements resemble as closely as possible the regular news material of the paper, or by setting it up as telegraphic matter. He thought the press was *particeps criminis* in presenting such fraudulent material. There was a widely disseminated and growing belief that matters pertaining to sexual physiology and pathology should be taught in a simple way to the budding youth of both sexes in the course of their regular education, in order to place them in a position to resist the temptations that beset young life, by the clearer understanding that such instruction would afford. He would make use of educational channels of all sorts to spread the information desired in a scientific, dignified, truthful, and wholesome manner, and such instruction would be received in the spirit in which it was imparted. It was primarily to the education of the people to which we must look for providing either the required legislation or the belated impulse for self-respect and decency on the part of the newspapers in eliminating quack advertisements. Another subject which he considered well worthy of attention was the determination of practical methods of protecting the people from the far-reaching and disastrous effects of those diseases generally termed venereal, but which were not uncommonly entirely innocent in their development. He referred to gonorrhea, syphilis, and chancroid. These diseases prevailed to an extent undreamed of by the people and those in control of the public health of our country. He believed nothing was to be accomplished by prolonging a discussion as to the propriety of legal control and regulation of prostitution. Instead of trying to do what was impossible, to corral and disinfect all prostitutes, he would teach the public the dangers of prostitution, the dangers of the diseases to which it led, the prevalence of such diseases in daily life, and how they were acquired innocently, how they were to be avoided, and the necessity of seeking relief from them as soon as possible when they were acquired. The campaign of education must be the chief reliance, and the medical profession, followed by the ministry, instructors in institutions of learning in general, philanthropists, and leaders in public work, would have to be counted on as the imparters of such education.

(*To be continued.*)

## MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

*Stated Meeting, October 9, 1905.*

The President, Dr. Thomas E. Satterthwaite, in the Chair.

**Foods and Nutrition.**—Prof. R. H. Chittenden of Yale University read the introductory paper on this subject. He stated that there could be no exaggeration in emphasizing the importance of the daily diet in the maintenance of health, and in the establishment of a proper and normal condition of nutrition, and the numerous and varied fads of the present day in matters of diet all testified to the still unsettled condition of the public mind on that important subject. The physiologist and the practising physician likewise showed a noticeable lack of agreement as to what constituted a proper diet under normal conditions of life, to say nothing of the requirements in cases of disease. The physiological relationship between certain forms of diet and specific conditions of disease were obvious and easily illustrated; for example, no one needed to be told of the connection between carbohydrate feeding and the production of sugar, as in diabetes. Less readily discernible, however, and of more or less uncertain significance, were the secondary results of intemperance in diet, the effects of an excess of this or that article of food, and the equally important effects of a deficiency in some one or more dietary substance. Who could tell, with any degree of precision, the exact effects of an excess of proteid food upon the functions of the liver and the kidneys, or the effect of an accumulation of waste nitrogenous products upon the nervous system, or of different types and admixtures of foods upon the growth of the young? Yet these were all questions that called for definite answers, and with a full and complete knowledge of the laws of nutrition the answers might be forthcoming. Dr. Chittenden said that, in his judgment, two at least of the dread diseases of mankind, viz., cancer and tuberculosis, were probably the result of a disturbance of nutrition, in which at least the predisposing causes were to be found in excess of nutritive material in general in the blood, or to a disturbance in the balance of nutritive materials in the circulating medium, or, possibly, in the tissues themselves. The speaker said there was nothing original in this statement, although he had formed his opinion through independent reasoning and observation. In tuberculosis, while all recognized the importance of fresh air, there was still great uncertainty as to the character and extent of the diet best adapted for combating that disease; there was surely a reaction going on against the altogether too prevalent fashion of overfeeding. The speaker said that while we still had to admit a lack of definite knowledge as to what constituted a proper nutrition of the body, his own obser-

vations in that direction led him to believe that there was much of value to be learned in a study of the minimal quantities of food required to maintain health and strength; the real needs of the body for food were unquestionably very much below the amounts ordinarily consumed, and that being true, one might well ask the question, Did not that excess of food, for which the body had no true physiological need, in the long run imperil the health of the individual, diminish the ordinary powers of resistance, and so pave the way for various forms of disordered nutrition which we spoke of as disease?

**A Theory of Protein Metabolism.**—Otto Folin, Ph.D., of Waverley, Mass., read this paper. He said it was a well-known fact that the destruction of protein within the human body was diminished, but did not altogether cease when the supply of food protein was cut off. The greatest diminution in the daily protein destruction was obtained by the use of diets which contained liberal amounts of carbohydrates and fats, and which, at the same time, were free, or almost free, from nitrogenous constituents. Under the exclusive use of such nearly protein free diets the daily urinary nitrogen continued to diminish for from five to seven days, and then remained practically stationary at from 2.5 to 4 grains. The larger or more muscular the person, the more nitrogen did he eliminate toward the end of such a feeding experiment. Only urines rich in nitrogen had the chemical composition that was supposed to be normal. Every decided diminution in the total nitrogen was accompanied by unmistakable changes in the relative proportions of the more important nitrogenous products. The fall in total nitrogen was chiefly represented by a fall in the urea elimination. The prevailing idea that the urea contained about ninety per cent. of the total nitrogen in normal human urine was therefore erroneous. Urea nitrogen, representing ninety per cent. of the total, was found only when a great deal of protein was destroyed within the body, and when the urine in consequence was rich in total nitrogen. When the daily protein consumption was reduced, and the total nitrogen elimination was diminished, the per cent. of that nitrogen present as urea sank more and more, until it finally represented less than sixty, sometimes even less than fifty, per cent. of the total nitrogen. That fact had to be taken into account in the examination of pathological urines. When such urines were low in total nitrogen, the urea determination alone was very misleading. The urines might be normal, and yet might contain only five grams of nitrogen and only seven grams of urea. Since the urea nitrogen sank more rapidly than the total nitrogen when the daily protein catabolism was diminished, it followed that some other nitrogenous products must at the same time become relatively more and more prominent. The most interesting product in that connection was one that had received comparatively little attention in the urine analysis of the past, namely, creatinin. This was a simple compound containing about thirty-seven per cent. of nitrogen, and was present, the speaker believed, in all urines. As creatin it constituted the chief nitrogenous extractive in the extract of muscles. The occurrence of creatin and the absence of urea in muscles had always seemed a most peculiar circumstance in view of the fact that urea had been supposed to constitute the chief nitrogenous end product in protein catabolism. When the total daily catabolism was reduced, creatinin not only became more and more prominent as a catabolism product, but the absolute amount of creatinin eliminated was not at all affected by the diminution in the elimination of total nitrogen. The constancy in the creatinin elimination, and the constant presence of creatin in muscle extracts, when considered in connection with the enormous fluctuations in the urea elimination and the almost complete absence of urea or of any adequate precursor of urea in muscle extracts, seemed to indicate that those two products were the representatives of two different kinds of protein metabolism. Since the catabolism which gave rise to creatinin appeared to be for each individual a constant quantity, no matter how much or how little nitrogenous food was taken, and since its chief decomposition product was demonstrably always present in muscles and other tissues, it seemed justifiable to consider that metabolism as the tissue metabolism. On the other hand, since the catabolic processes which produced nearly all the urea varied within such enormous limits, and so directly with the supply of food protein, and since the urea was always strikingly absent in the muscles, it seemed fair to consider these catabolic processes as a part of a more localized and more specialized form of protein metabolism. To this form the speaker had given the name exogenous metabolism. The tissue metabolism represented the daily wear and tear of all the cells in all the different tissues, while the exogenous metabolism represented the specialized activities of certain definite organs, such as the digestive tract and the liver. The total quantity of tissue catabolism occurring in twenty-four hours depended only on the number and condition of the cells in the individual. The total quantity of the exogenous metabolism was independent of the size of the person; it depended normally only on the amount of available protein contained in the food.

**Distinctive Features of Animal and Vegetable Dietaries.**—Prof. La Fayette B. Mendal of Yale University read this paper. He stated that until very recent years the advocacy of unique dietary régimes, such as were involved in vegetarianism, or the preponderating use of animal foods, had been based upon considerations scarcely to be termed physiological. There was no little divergence of opinion, even among orthodox writers on diet, with respect to the proportion of animal foods which should be admitted into the daily diet. Inasmuch as even the vegetarians readily permitted the use of the eggs and milk of animals, the question at issue was essentially concerned with the physiological value of meat and its products. The speaker thought it would be readily admitted that man *could* nourish himself on an exclusive vegetarian régime, and the discussion was thus restricted to the relative advantages of the different systems. The ready digestibility of the meat proteids and the consequent availability of flesh products had always been contrasted with that of the proteids in plant materials, and it was undoubtedly true that a considerable larger proportion of the vegetable proteids was lost to the organism in the ordinary forms of vegetable diet. Vegetable proteids, *per se*, were as a rule not less digestible than those from animal sources, and the poorer utilization ordinarily recorded was attributable to the form in which the nutrients were present; in other words, to the peculiar texture of the crude material. The physician of to-day should be in a position to accept at correct value certain familar fallacies which were still widely current with respect to food products. One class of these fallacies rested upon the untenable assumption that the chemical composition of a foodstuff was an adequate index to its nutritive value; that might be essentially misleading when either proteids or fats or carbohydrates were exhibited in a form which the digestive apparatus could not satisfactorily appropriate. The essential improvements which the modern innovations in the form of prepared cereal foods had introduced related to their cooking and their palatability. That was particularly true of the oat products. The extravagant claims on the packages were no guarantee of extraordinary food value, although the product might be wholesome and nutritious; and the "malted," or so-called "predigested," preparations, as a rule, possessed no advantages beyond those obtained by thorough cooking. Well baked white bread was utilized even better than most of the ready to-eat preparations. The deficiency of the ordinary vegetable dietaries in proteids had long been the subject of criticism by the opponents of the vegetarian regimen. Impartially, that might more properly be spoken of as a paucity rather than a real deficiency of proteids, if we accepted the evidence afforded by the researches of Profssor Chittenden and of Dr. Folin on the actual proteid needs of the body.

Furthermore, it was well to bear in mind the recent progress in the production of palatable plant products which were decidedly rich in proteids, and were at present available in considerable variety and attractive form. That applied in particular to nuts and nut foods, some of which approached meat in composition. With extract of beef imitated by "yeast extracts," and likewise containing purin bases, and with nut meats competing with flesh products, it had to be admitted that the qualitative disinctions between animal and vegetable dietaries were becoming far less marked than they were in former years. Vegetarianism undoubtedly had its place in ameliorating various functional disorders, and that without laying claim to any mysterious properties. In the treatment of obesity, certain forms of neuralgia of unknown origin, and of gout, for example, the strict diet had rendered effective aid in many instances. In the field of dietetic therapy, in particular, radical changes of diet frequently supplied essential factors or eliminated deleterious ones in most welcome and unexpected ways.

**The Mechanics of Some Digestive Processes.**—Prof. W. B. Cannon of Harvard University discussed this phase of the subject, and illustrated his remarks with stereopticon views of *x*-ray slides, which showed with great clearness the presence of various foodstuffs in the stomach and intestines. He also exhibited a number of tissue paper tracings of these shadows of food in the intestine. These studies had been undertaken in order to ascertain how the different foodstuffs were treated mechanically in the stomach and intestine, and at what rate they left the stomach. It was found that the carbohydrates, which did not unite readily with the free acids of the stomach, and which were not materially affected by the gastric juice, made a quick exit; the proteids, which united with the free acids of the stomach, made a comparatively slow exit, and fats, which checked the secretion of acid, made a still slower exit. It was also observed that the presence of fats delayed the exit of both carbohydrates and proteids. Under normal conditions, the carbohydrates remained in the stomach only about half as long as the proteids. Evidence had accumulated to show that the alternate opening and closure of the pylorus was controlled by the presence of a certain amount of free acid in the stomach. This caused the pylorus to open, and then, as the acid chyme passed from the stomach into the duodenum, its acid content closed the gate behind it, but as this acid became neutralized by the alkaline secretion of the pancreas, the closure of the pylorus weakened until the acid in the stomach again opened it. In this way the process was continually repeated.

**The Influence of Preservatives and Coloring Matters and Their Relation to Nutrition.**—Dr. Harvey W. Wiley, Chief of the Bureau of Chemistry, U. S. Department of Agriculture, said the widespread use of preservatives and coloring matters in food products had attracted the attention of physiologists and food officials during the last few years. Two important questions were involved in the use of these bodies in food products: one related simply to the question of fraud or deception, and the other related to the influence of those bodies upon health and digestion. There were many food products which were prone to decay; therefore, when they were presented in a well preserved state, it was reasonable to infer that they were fresh. If that freshness was retained for an indefinite time by the addition of chemical preservatives, it was to that extent deceptive. The chemical preservatives referred to were not those of a condimentary nature, such as salt or sugar, etc., which always revealed their presence by the odor or taste. On the other hand, they were those of a non-condimentary nature, which had neither odor nor taste. Their presence, therefore, in food products was not announced to the consumer in any way unless it was by the label upon the foods themselves. Therefore, *a priori*, the use of dyes and preservatives in foods was reprehensible, aside from their influence upon health. In regard to the latter point, the most conflicting views obtained. Numerous experiments had been made in various countries, and from the results of those experiments opposed conclusions had been drawn. Dr. Wiley said his own experience led him to believe that the use of even small quantities of ordinary preservatives for a long while, or large quantities for a short while, led to unfavorable effects. There was, in general, a loss of weight, a feeling of lassitude and malaise, and in some cases more pronounced symptoms of intestinal and metabolic disturbance. In all cases the same general results were produced. Some of the preservatives commonly used in foods, such as borax, acted more vigorously and promptly than others, such as benzoic and salicylic acids. In fact, these latter seemed to have the least injurious effect of the ordinary preservatives employed. Of the coloring matters used, the speaker said he had only experimented with one, namely, sulphate of copper, and the results of his work did not permit him to say anything very good of that very common and wholly unnecessary coloring agent. In conclusion, Dr. Wiley said he thought there was no necessity for the use of chemical preservatives in food products. There were other methods at our command that were unobjectionable, providing the food was not preserved too long. Among those methods he mentioned cold storage, sterilization and dessication. By their use food products could be preserved from one season to another, which, excepting for unusual purposes, was long enough. They were certainly preferable to the indiscriminate drugging to which the public was now more or less subjected. The prescribing of drugs should be left to the medical profession, and not to the manufacturer of foods. The pharmacopeia and the grocery store should be kept separate.

Prof. Carl von Noorden of Frankfort, who was invited to open the discussion, simply thanked those who had taken part in the symposium for their interesting and instructive papers.

Col. Valery Havard, Asst. Surgeon-General, U. S. A., and late medical attaché with the Russian Army in Manchuria, made some remarks upon the ration of the Russian and Japanese soldiers in the field, and its effect upon their health and efficiency. He stated that the lesson of the advantages of frugality in diet so convincingly taught by Prof. Chittenden had never been so impressively demonstrated as during the Russo-Japanese war in Manchuria. Both Russian and Japanese soldiers were fed on rations which American and English soldiers would have rejected with scorn, and yet, for rugged health, strenuous work and endurance of hardships during a long winter's campaign, he doubted whether they had ever been excelled. The Russian ration in the field consisted of about two pounds of black rye bread, fourteen ounces of fresh meat, three or four ounces of cereals or grits, some vegetables, and tea and sugar. These quantities of food were often reduced in emergencies. The black bread was not very palatable to the American taste, and probably not very nutritious, but it possessed valuable laxative properties, so that constipation was unknown in the Russian army. Each company had an ambulant or traveling kitchen, on wheels, drawn by two horses; it consisted chiefly of a huge boiler, with a furnace underneath. Wherever the company went, the kitchen followed, and while on the march the dinner was cooking and could be served as soon as the company stopped to make camp. All the constituents of the ration, with the exception of the bread, were put into the boiler, and the result was an excellent soup. The soup, with whatever vegetables it contained, being eaten, the meat was then forked out from the boiler, sliced, and distributed as a second course.

The Japanese soldier's rations consisted of about a quart of rice, half a pound of fresh fish or meat, some vegetables, and tea. When going into a fight he received, instead, an emergency ration consisting of cooked rice, or hard tack, and a four-ounce can of beef. In the health condition of both the Russian and the Japanese troops, the experience of all former wars had been completely reversed; instead of

the mortality from disease greatly exceeding that from wounds, it was found to be much less. In the Russian army there had been no epidemic of any kind, no prevalent camp disease, and yet infectious germs were not lacking. There were always cases, not only of typhoid fever, but also of typhus, recurrent fever, dysentery and anthrax; yet these diseases never spread beyond the sporadic stage. The health of the Japanese troops, according to all accounts, was also eminently satisfactory, and would have been at least as good as that of the Russians were it not for beriberi, from which they were said to have seriously suffered, making up at least three-fourths of their morbidity. The cause of beriberi had not yet been exactly determined; the former belief that it was due to an exclusive vegetable diet, such as was used in countries where this disease prevailed, had been abandoned.

Maj. Louis L. Seaman, late Surgeon First Regiment of Engineers, U. S. Volunteers, said he was specially interested in the remarks of Prof. Cannon on the mechanics of certain processes of digestion. His elucidation of the subject was so clear that one could not help regretting he had not gone further afield, leaving the paths of physiology for those of pathology, and told something of the results of the use of a defective dietary. In other words, on the effects of a diet that no longer acted as a food, but as an irritant or a foreign substance, and so became a factor in the mechanical production of disease. It was that cause that contributed largely to bringing the American army almost to its knees in its short campaign in Cuba and Porto Rico in 1898, when whole regiments were suffering from diarrheas and intestinal catarrhs. During the Russo-Japanese war, in the siege of Port Arthur, the besieged Russians were compelled to subsist on a diet without vegetables, and they rapidly succumbed to the ravages of scurvy, 9,003 cases being found in the fortress when it capitulated. The Besieging Japanese, living on a diet almost exclusively of vegetables, chiefly rice, deficient in its nitrogenous nutrition, had their ranks seriously decimated by beriberi.

Dr. Graham Lusk, who closed the discussion, confined his remarks chiefly to Dr. Folin's paper on protein metabolism.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 21, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 113 | 2 |
| Diphtheria and Croup | 218 | 28 |
| Scarlet Fever | 75 | 6 |
| Smallpox | .... | ..... |
| Chickenpox | 35 | ..... |
| Tuberculosis | 326 | 151 |
| Typhoid Fever | 99 | 17 |
| Cerebrospinal Meningitis | 10 | 8 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ... .. | .. ... |
| Totals | 876 | 212 |

**Bronchopneumonia in the Eighth Month of Pregnancy; Spontaneous Delivery; Abscess; Recovery.**—Hirigoyen reports the case of a patient thirty-four years old. In the eighth month of her tenth pregnancy she was attacked with severe bronchopneumonia. Ten days after the beginning of her illness she gave birth to a child, which died the next day. The mother became worse and worse, although there was no disturbance in the genital apparatus. On the eighth day the patient's condition was so grave that the case was considered hopeless; treatment had availed nothing. Hirigoyen then decided to make an injection into the thigh of one gramme of the essence of turpentine. This had no effect; but a second injection, two days later, was followed by an immediate reaction, which terminated in the formation of an abscess. From this moment the patient's condition improved. In two days the abscess was opened and pus was taken out. Three days later the patient became convalescent. At the end of two weeks she had entirely recovered.—*La Presse Médicale.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, Public Health and Marine Hospital Service, during the period from October 9 to 20, 1905:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| California, San Francisco | Sept. 23–Oct. 7 | 9 | .. |
| Florida, Jacksonville | Oct. 7–14 | 1 | .. |
| Illinois, Danville | Aug. 8–Oct. 9 | 1 | .. |
| Galesburg | Oct. 7–14 | 3 | .. |
| Louisiana, New Orleans | Sept. 30–Oct. 14 | 3 | 1 |
| Maine, Cooper | Oct. 6 | Present. | |
| East Machias and vicinity | Oct. 6 | Present. | .. |
| Jacksonville | Sept. 27–Oct 6 | 5 | .. |
| Wesley | Oct. 6 | Present. | |
| Massachusetts, New Bedford | Oct. 7–14 | 1 | .. |
| Ohio, Cincinnati | Oct. 6–13 | 1 | .. |
| Pennsylvania, Altoona | Oct. 7–14 | 2 | Imported. |
| York | Oct. 7–14 | 2 | .. |
| Washington, Tacoma | Sept. 23–Oct. 7 | 2 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Pernambuco | Aug. 15–31 | 283 | 283 |
| Rio de Janeiro | Aug. 27–Sept. 20 | 30 | 6 |
| Ecuador, Guayaquil | Sept. 20–27 | .. | 4 |
| France, Paris | Sept. 16–30 | 22 | 4 |
| India, Calcutta | Sept. 2–9 | .. | 1 |
| Madras | Aug 16–Sept. 15 | .. | 1553 |
| Italy, General | Sept. 14–28 | 8 | .. |
| Messina | Sept. 16–23 | .. | 1 |
| Russia, Moscow | Sept. 2–23 | 13 | 2 |
| Odessa | Sept. 16–23 | 6 | .. |
| St. Petersburg | Sept. 2–23 | 11 | 2 |
| Turkey, Constantinople | Sept. 10–17 | .. | 1 |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Florida, Pensacola | Aug. 29–Oct. 8 | 853 | 38 |
| Illinois, Chicago | Oct. 1–7 | .. | 1 Imported. |
| Louisiana, Ascension Parish | To Oct. 7 | 78 | 4 |
| Assumption Parish | To Oct. 10 | 40 | 1 |
| Avoyelles Parish | To Oct. 7 | 12 | 2 |
| East Carroll Parish | To Oct. 10 | 318 | 38 |
| Iberville Parish | To Oct. 10 | 33 | 8 |
| Jefferson Parish | To Oct. 10 | 473 | 50 |
| Lafourche Parish | To Oct. 6 | 385 | 48 |
| Madison Parish | To Oct. 9 | 312 | 18 |
| Natchitoches | To Oct. 9 | 81 | 7 |
| Orleans Parish, New Orleans | July 21–Oct. 11 | 3235 | 415 |
| Rapides Parish | To Oct. 9 | 24 | 2 |
| St. Bernard Parish | To Oct. 9 | 80 | 3 |
| St. John the Baptist Parish | To Oct. 5 | 177 | 18 |
| St. Mary Parish | To Oct. 9 | 801 | 51 |
| St. Tammany Parish | To Oct. 10 | 9 | 1 |
| Terrebonne Parish | To Oct. 10 | 311 | 13 |
| Mississippi, Gulfport | Aug. 15–Oct. 7 | 107 | 2 |
| Gulf Quarantine | July 22–Oct. 7 | 69 | 1 |
| Hamburg | Sept. 15–Oct. 7 | 44 | 6 |
| Handsboro | Sept. 17–Oct. 6 | 5 | .. |
| Mississippi City | Aug. 22–Oct. 6 | 68 | .. |
| Natchez | To Oct. 8 | 93 | 5 |
| Port Gibson | Sept. 27–Oct. 7 | 44 | 1 |
| Rosetta | To Oct. 8 | 28 | 7 |
| Soria | Sept. 14–Oct. 5 | 2 | .. |
| Vicksburg | Aug. 30–Oct. 8 | 110 | 13 |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | Aug. 27–Sept. 20 | 9 | 2 |
| Cuba, Sagua | Oct. 6 | 1 | On schooner. |
| Ecuador, Guayaquil | Sept. 20–27 | .. | 1 |
| French Guiana, Maroni River | To Sept. 16 | 2 | Reported. |
| Honduras, Choloma | Sept. 15–22 | 1 | .. |
| Puerto Cortez | Sept. 19–26 | 1 | .. |
| Rio Blanco | Sept. 15–22 | 2 | 1 |
| San Pedro | Sept. 15–22 | 2 | .. |
| Mexico, Coatzacoalcos | Sept. 23–Oct. 7 | 5 | .. |
| Soconusco | Oct. 7 | 2 | .. |
| Tezonapa | Sept. 17–30 | 8 | 5 |
| Tierra Blanca | Sept. 17–23 | 1 | 1 |
| Vera Cruz | Sept. 17–30 | 4 | 1 |
| Panama, Bocas del Toro | Oct. 1 | 1 | .. |
| Panama | Sept. 20–27 | 2 | 1 |

CHOLERA—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | Aug. 23–Sept. 14 | 172 | 150 |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| China, Shanghai | To Sept. 13 | .. | 402 |
| India, Bombay | Sept. 12–19 | .. | 6 |
| Calcutta | Aug. 26–Sept. 9 | .. | 62 |
| Madras | Aug. 26–Sept. 15 | .. | 969 |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Hawaii, Honolulu | Oct. 10 | 1 | .. |
| Waipahu | Oct. 9 | 2 | 2 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Australia, Queensland, Townsville | Aug. 4 | 1 | 1 |
| Brazil, Rio de Janeiro | Aug. 26–Sept. 20 | 41 | 14 |
| Egypt, Alexandria | Aug. 26–Sept. 2 | 9 | 8 |
| Assuan | Aug. 26–Sept. 2 | 1 | .. |
| Damietta | Aug. 26–Sept. 2 | 1 | .. |
| India, General | Aug. 13–Sept. 2 | 6030 | 4580 |
| Bombay | Sept. 5–19 | .. | 75 |
| Calcutta | Aug. 26–Sept. 9 | .. | 26 |
| Karachi | Sept. 3–17 | 48 | 48 |
| Peru, Callao | Aug. 21–Sept. 10 | 2 | 2 |
| Lima | Aug. 11–Sept. 10 | 13 | 5 |
| Mausiche | Aug. 11–20 | 2 | 1 |
| Mollendo | Aug. 21–Sept. 10 | 2 | 2 |
| Pampa Blanca | Aug. 21–Sept. 10 | 1 | 1 |
| Payta | Aug. 11–Sept. 10 | 8 | 13 |
| Trujillo | Aug. 21–Sept. 10 | 1 | 1 |
| Zanzibar | Sept. 2 | 6 | .. |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 19.
Whole No. 1826.

NEW YORK, NOVEMBER 4, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### ANTEPARTUM MEASUREMENT OF THE FETAL HEAD.*

By WILLIAM S. STONE, M.D.,
NEW YORK.

THE inability of the obstetrician to make sufficient practical use of his knowledge gained from pelvimetry has long been recognized as due to the lack of precise methods for the determination of the relative size of the head and the pelvis. Various procedures have been tried, but, with the exception of the Müller method of manual engagement of the fetal head by means of suprapubic pressure, none has proven of sufficient accuracy to be generally adopted.

The Müller method is certainly of great value, increasing proportionately to one's experience, and has been of distinctly more service to the writer, since it has been used in conjunction with the method, to be described, of directly measuring the head through the abdominal wall.

This method of measurement of the fetal head may be regarded as a simplification of that described by Perret, who used a specially devised instrument, and, after measuring the head, pinched up a fold of the abdominal wall between the fingers, measured its thickness, and deducted the amount from the fetal measurement.

Edgar (The Practice of Obstetrics), who quotes Perret's own description of his method, says that it has been in constant use in the Tarnier clinic for a number of years, and, although numerous published reports of results exhibit great diversity in regard to the practical utility of the instrument, he thinks, in the hands of one specially trained, cephalometry may be termed a practical success.

Norris (*American Journal of Obstetrics*, 1904, vol. I., No. 3, p. 389), however, says this method cannot be relied upon, and considers the Müller method more valuable.

The writer uses the ordinary pelvimeter, and does not deduct anything for the thickness of the abdominal wall, because in most instances the wall is surprisingly thin during the last months of pregnancy, as can be attested by those who have performed cesarean sections. It is also recognized that skill in abdominal palpation is necessary, but those cases, in which accurate knowledge of the relative size of the head to the pelvis is required, demand special skill, both in the diagnosis and in the treatment. Accurate pelvimetry, too, requires long experience and skill.

The comparative ease with which the fetal head is ordinarily palpated, especially during the last months of pregnancy, led the writer to attempt to directly measure the occipitofrontal diameter through the abdominal wall in the following way: The patient is placed in the ordinary dorsal position for an abdominal examination, and the examiner, standing by the side and facing the lower end of the patient's body, first carefully palpates and makes out the position of the head. If it is already engaged in the pelvis, it will not be practicable to measure it, but in such cases it naturally is unnecessary. In a few instances, however, the writer has had the head pushed up by an assistant, so that it could be measured for the sake of practice. The occipital and frontal poles are then grasped between the two hands, and an assistant places from below the ends of the pelvimeter between the terminal phalanges of the middle and ring fingers of the examiner, pushing them firmly inward, as the examiner directs. It is essential that the ends of the pelvimeter go between these fingers, because in palpation one naturally places the middle or longest finger nearest the two poles from which the measurements are to be taken. If placed in front of the middle finger, the pelvimeter will slide forward and the measurement will be inaccurate. An assistant or nurse is necessary to obtain the best results, in order that the examiner's fingers may be entirely free to accurately locate the fetal parts.

The writer, by this method, has been able to measure forty-one cases in the service of the New York Lying-in Hospital during the past year and verify the results by examination after delivery.

TABLE I.

| No. | A P. | Head. Post P. | | Pelvis. | | Labor. |
|---|---|---|---|---|---|---|
| | OF. | OF. | B. P. | C. D. | C. V | |
| 1 | 11.50 | 12.00 | 9.00 | 12.00 | 10.00 | Normal. |
| 2 | 11.75 | 11.75 | 9.00 | 12.50 | 10.00 | Tedious. |
| 3 | 11.00 | 11.00 | 8.75 | 11.50 | 9.50 | Low forceps. |
| 4 | 10.00 | 10.00 | 8.50 | 12.00 | 10.00 | Normal. |
| 5 | 11.50 | 11.50 | 9.00 | 13.50 | 9.50 | " |
| 6 | 12.00 | 11.75 | 9.25 | 12.50 | 10.50 | " |
| 7 | 11.50 | 11.50 | 9.50 | 10.50 | 8.50 | Previous labor tedious; normal. |
| 8 | 12.00 | 12.00 | 9.50 | 13.00 | 11.00 | Normal. |
| 9 | 11.00 | 10.75 | 8.75 | 12.00 | 10.25 | " |
| 10 | 11.50 | 11.50 | 9.25 | 13.00 | 11.00 | Of. increased |
| 11 | 11.75 | 11.75 | 8.75 | 11.50 | 9.25 | Normal. |
| 12 | 10.50 | 10.50 | 8.50 | 11.50 | 9.50 | " |
| 13 | 11.50 | 11.00 | 9.00 | 13.50 | 11.50 | " |
| 14 | 11.00 | 11.25 | 8.75 | 12.50 | 10.50 | " |
| 15 | 11.50 | 11.25 | 9.50 | 12.50 | 11.50 | " |
| 16 | 12.50 | 12.50 | 10.00 | 10.75 | 8.75 | 2 weeks overdue; Cesarean. |
| 17 | 12.00 | 12.00 | 10.00 | 10.50 | 8.50 | Cesarean. |
| 18 | 11.25 | 11.50 | 9.25 | 11.25 | 9.75 | Normal. |
| 19 | 12.25 | 12.25 | 9.75 | 11.75 | 9.75 | " |
| 20 | 11.25 | 11.50 | 9.25 | 11.00 | 9.50 | High forceps. |
| 21 | 11.00 | 10.75 | 9.25 | 12.00 | 10.00 | Low forceps. |
| 22 | 12.25 | 12.25 | 10.25 | 12.00 | 10.00 | Normal. |
| 23 | 10.75 | 10.75 | 8.75 | 13.00 | 11.50 | " |
| 24 | 11.75 | 12.00 | 9.75 | 12.00 | 10.00 | " |
| 25 | 10.75 | 10.75 | 9.25 | ..... | ..... | Induction normal. |
| 26 | 11.00 | 11.00 | 9.00 | 12.00 | 10.00 | Normal. |
| 27 | 12.00 | 12.00 | 9.75 | 12.00 | 10.00 | " |
| 28 | 11.50 | 11.50 | 8.75 | 12.00 | 10.00 | " |
| 29 | 12.25 | 11.25 | 9.50 | 12.00 | 10.00 | " |
| 30 | 12.00 | 12.00 | 9.50 | 11.50 | 10.00 | " |
| 31 | 12.00 | 11.75 | 9.75 | 12.50 | 10.50 | " |
| 32 | 12.00 | 12.00 | 10.00 | 12.50 | 10.50 | " |
| 33 | 11.25 | 11.25 | 9.50 | 11.00 | 9.50 | " |
| 34 | 11.25 | 11.25 | 9.00 | 12.00 | 10.00 | " |
| 35 | 11.50 | 11.50 | 9.50 | 12.00 | 10.00 | " |
| 36 | 11.75 | 12.00 | .975 | 12.25 | 10.25 | " |
| 37 | 11.75 | 11.50 | 9.25 | 9.25 | 7.50 | Caesarean. |
| 38 | 11.25 | 11.25 | ..... | 12.00 | 10.00 | Normal. |
| 39 | 11.75 | 11.75 | 9.25 | 11.50 | 9.50 | " |
| 40 | 11.75 | 11.75 | 7.25 | ..... | ..... | " |
| 41 | 10.00 | 10.00 | 8.50 | 12.00 | 10.00 | " |

Table I shows the detailed results. Most of the cases were admitted just before or during labor. In a few instances it was possible to make some observations in regard to the increase of size of the fetal head during the late weeks of pregnancy.

Small heads, with rather an excess of liquor

*Accepted as thesis for admission to the American Gynecological Society, May, 1905.

amonii, were the hardest to measure, because of the difficulty of fixing them between the hands while the pressure was being made with the pelvimeter.

The table will show that in twenty-eight instances the postpartum measurement of the occipitofrontal diameter agreed exactly with the measurements made through the abdominal walls before labor; in eleven there was an error of 0.25 cm.; in two of 0.50 cm.

Any personal bias was eliminated in many instances by turning the scale of the pelvimeter downward so that it could only be read by the assistant or nurse. The resident surgeon, Dr. E. McDonald, who assisted the writer with most of the cases, often measured them independently with as much accuracy as did the writer.

It was then necessary to decide, if possible, upon some average amount to deduct from the occipitofrontal diameter in order to estimate the biparietal.

The skulls of one hundred new-born children were specially measured for this purpose, with the result shown in Table II.

TABLE II.

| OF. diameter. | No. cases. | Average difference |
|---|---|---|
| 10.00 | 1 | 1.00 |
| 10.50 | 4 | 1.55 |
| 10.75 | 8 | 1.81+ |
| 11.00 | 17 | 1.91+ |
| 11.25 | 21 | 2.07+ |
| 11.50 | 19 | 2.26+ |
| 11.75 | 9 | 2.50 |
| 12.00 | 13 | 2.30+ |
| 12.25 | 5 | 2.35 |
| 12.50 | 1 | 2.50 |
| 12.75 | 2 | 3.12+ |
| | 100 | 2.33+ |

The average difference in the two diameters for the entire one hundred cases was found to be 2.33 cm., but that it varied fairly constantly with the size of the head, the smaller heads showing in general less of a difference than the larger ones. If 2 cm. is deducted for the heads with an occipitofrontal diameter of less than 11 cm. and 2.50 cm. for those above this measurement, fairly accurate results will be obtained and sufficient amount will be allowed for the moulding.

Perret, quoted by Edgar, gives the average difference in the two cranial diameters for the seventh, eighth, and ninth months in all skulls having a biparietal from 7.62 cm. to 8.89 cm. as 2.54 cm. According to Williams there is an average difference of 2.50 cm.

The amount of diminution in the diameters that is possible from moulding is naturally somewhat of an uncertain factor, but probably, depending upon the size and hardness of the head, does not average over 0.50 cm. or 0.75 cm. Two experiments relative to this showed the following: A large head with an occipitofrontal diameter of 12 cm. under moderate pressure with the forceps moulded 0.50 cm.; under hard pressure, 0 75 cm.

An average head with an occipitofrontal diameter of 11.25 cm. moulded 0.75 cm. under moderate pressure, and 1 cm. under hard pressure. The bones overlapped in each experiment.

Table I., in which both the cranial and pelvic measurements are given shows a disproportion between the biparietal and the conjugate vera rarely exists in cases which subsequently have a normal labor. Such a disproportion followed by a normal labor occurred in two of this series of cases.

Case No. 7 gave a history of previous tedious labors. The occipitofrontal diameter measured 11.50 cm. before delivery, and the internal diagonal diameter of the pelvis only 10.50 cm. from which a conjugate vera of 8.50 cm. was estimated. The pelvis, however, was that variety of flat pelvis with a markedly jutting promontory, and with considerable room upon either side. The decision to allow her to attempt her own delivery, especially in the presence of strong uterine contractions, was justified by the subsequent normal course of the labor.

Case No. 22 showed only a disproportion of 0.25 cm., and in the presence of external measurements that were above the average size the decision to allow her to deliver herself was not particularly hard to reach. It should also be noted that in neither of these cases did the Müller method of suprapubic pressure favor a policy of non-interference.

The practical utility of the measurements, in which greater difficulties were presented, are shown in the following five cases:

Case No. 20. Aged eighteen years, I-para. Admitted in the first stage of labor. Head in L. O. A. position and floating above the brim.

The Müller method gave a negative result. The pelvic measurements were: Spinæ, 20; cristæ, 22; obliques, 19.50; external conjugate, 19.50; internal diagonal conjugate, 11, from which the true conjugate was estimated to be 9.50. Justominor pelvis. The occipitofrontal diameter measured through the abdominal wall 11.25 cm. After three hours of full dilatation the high application with Tarnier axis traction forceps was made and the delivery of a living child accomplished. The occipitofrontal measured 11.50 cm., or 0.25 cm. more than was estimated prior to delivery. The biparietal measured 9.25 cm. Total length of the child 49 cm.; weight, 3050 grammes. A disproportion of 0.25 cm. was thus overcome, although with considerable difficulty, by the moulding.

Case No. 17. Aged seventeen years, I-para. Admitted at the beginning of labor. Head in L. O. A. position and floating above the brim. The pelvic measurements were: spinæ, 20; cristæ, 24; obliques, 20.50; external conjugate, 18; internal diagonal conjugate, 10.50, from which the true conjugate was estimated to be 8.50. Justomino pelvis, with flattening. The Müller method, although doubtful, seemed rather favorable to the application of forceps. The occipitofrontal diameter measured 12 cm. and the head seemed very hard. Efforts with the forceps were unsuccessful, and a cesarean section accomplished the delivery of a living child. The occipitofrontal diameter measure ured 12 cm. the same as before delivery, but the biparietal was 10 cm., making a disproportion of 1.50 cm. Child's total length 50 cm. and weight 3750 grammes.

Case No. 37. Aged thirty years, IV-para. Admitted just before labor. Three previous labors had been instrumental and children were stillborn. Head floating above the brim. Müller method showed that engagement was improbable. The pelvic measurements were: spinæ, 22; cristæ 28; obliques, 21; external conjugate, 18; internal diagonal conjugate, 9.50, from which the conjugate vera was estimated to be 7.50. Flat rachitic pelvis. The occipitofrontal measured through the abdominal wall 11.75 cm., from which the biparietal was estimated to be not less than 9.25 cm. A living child was delivered by cesarean section. The occipitofrontal after delivery measured 11.50 cm., 0.25 cm. less than the measurement before labor, but the biparietal was 9.25 cm. making a disproportion of 1.75 cm. between the biparietal and conjugate vera.

Case No. 16. Aged thirty-three years, II-para. Patient said that she was two weeks past the expected date of her labor. Previous labor was tedious. The head was floating above the brim,

and appeared to be large and hard. Suprapubic pressure failed to engage the head.

The pelvic measurements were: spinæ, 24; cristæ, 27; obliques, 21; external conjugate, 19; internal diagonal conjugate, 10.75 from which the conjugate vera was estimated to be 8.75. The occipitofrontal diameter measured through the abdominal wall 12.50 cm., from which the biparietal was judged to be at least 10 cm., or 1.25 cm. more than the conjugate vera. Labor was immediately induced by means of the Champetier de Ribés bags, but, as no engagement of the head occurred after full dilatation and rupture of the membranes, cesarean section was performed with the delivery of a living child, weighing 4100 grammes and having a total length of 51 cm. The occipitofrontal diameter measured the same as was estimated before delivery, and the biparietal 10 cm.

Another case, not in the table, with a markedly flat, rachitic pelvis, was judged by a colleague to demand a cesarean section. The writer estimated the biparietal from the occipitofrontal measurement to be the same as the conjugate vera, and thought the patient could deliver herself, which she promptly did on the way to the operating room for the proposed cesarean.

With no maternal or fetal mortality in this series of cases, it seems as if, at least in the special cases thus described, these measurements were of real practical value. They should be considered in the same relation to diagnosis and treatment in obstetrics as clinical microscopy is to general medical diagnosis and treatment, sometimes furnishing positive information, at other times only corroborative assurance. Due consideration must always be made of the other data furnished by the previous history, age of the patient, and other physical signs.

The Müller method of suprapubic pressure in two instances rather negated the measurements. on account of which, in Case No. 18, high forceps was attempted before resorting to cesarean section.

The apparent hardness of the head, and the variety of pelvis rather than the absolute degree of contraction of the internal conjugate, furnished the most efficient aids to a proper interpretation of the figures obtained from the measurements.

There were about 150 deliveries in this service during the time in which these measurements were taken without any fetal mortality, except in one instance; a patient, who died a few hours after admission from eclampsia, gave birth to a dead six and one-half months' fetus.

Apart however, from those cases first coming under observation at full term or during labor, the measurements will be found to have their greatest utility in furnishing information earlier in pregnancy as to whether it should be allowed to continue to full term and cesarean section be performed, or if not, as to the proper time for the induction of a premature labor.

The conclusion of Norris, in a paper entitled "The Ultimate Results of Induced Labor for Minor Degrees of Pelvic Contraction" (*Amerian Journal of Obstetrics*, 1904, vol. I. No. 3, p. 389) that it is extremly important to be sure that the child is large enough, has been confirmed by the writer in several instances. A premature child is unable to withstand the shock of a possible operative delivery, or if born alive, to withstand the first few weeks of its extrauterine environment as well as the one born at full term.

The following most discouraging case occurred in the writer's service before he had begun his antepartum measurements:

Patient aged twenty-seven years, II-para. Admitted in the early part of the seventh month of her gestation. Previous labor was difficult and child was stillborn. The pelvic measurements were: spinæ, 20.50; cristæ, 35; obliques, 20.50; external conjugate, 16.50; the internal diagonal conjugate, 10, from which the conjugate vera was estimated to be 8. The height of the fundus corresponded to the menstrual history. The head was small, compressible, and efforts to make it engage seemed successful until the middle of the seventh month. Labor was then induced by means of the Champetier de Ribés bags. No engagement occurred after full dilatation, and a podalic version and extraction accomplished the delivery with some difficulty. The child gasped a few times, but respiration could not be established. Its length was 47 cm., the occipitofrontal diameter 10.75 cm. and the biparietal 9 cm. If the writer had been in possession of the same information he has subsequently derived from the antepartum measurements of the fetal head, he would have known that with an occipitofrontal of 10.75 cm. there were great chances of the biparietal being at least 0.75 cm. more than the conjugate vera. The amount of delay in the delivery of the aftercoming head in this case was not sufficient to have jeopardized the life of a full term child. This case then should have been either induced earlier, or possibly better, allowed to go to full term and have a cesarean section performed.

The following case, in contrast to the preceding one, was treated three months later with the additional knowledge gained from the measurements: Age twenty-eight years, IV-para. First two labors were operative and children were stillborn. The writer delivered a live child by cesarean section at the end of the last pregnancy. The pelvic measurements were: spinæ 22.50; cristæ, 27.50; obliques, 21; external conjugate, 18; internal diagonal conjugate, 10.75; from which the conjugate vera was estimated to be 8.75. The pelvis was flat and funnel-shaped. The occipitofrontal measurements of the last child delivered by cesarean section was 12.50 cm.; the biparietal 10 cm. She first presented herself at the sixth month of her present pregnancy, but the head was too small and movable to accurately measure The occipitofrontal measured at the seventh month 9.50 cm., at the eighth, 11 cm., when she was told to enter the hospital for an induction. She delayed doing so for ten days, so that at the time induction was started it measured 11.50 cm. Labor was induced with the Champetier de Ribés bags, and delivered by a difficult podalic version and extraction of a living child whose occipitofrontal diameter measured 11.50 cm., the same as estimated before delivery, and the biparietal 8.50 cm. Its length was 49 cm. and weight 2500 grammes. If she had entered the hospital at the time directed, ten days before she did, the delivery would not have been so difficult.

A more complete knowledge of the rapidity of growth of the head during the last two months of pregnancy will be of inestimable advantage in the determination for the proper time for induction. The writer's efforts to work out this problem have been limited to the following measurements: An increase of the occipitofrontal diameter of 0.75 cm. in three weeks; 3 cm. in two months; 1 cm. in two weeks; 0.50 cm. in nine days; 0.50 cm. in twelve days. However near these few observations may approach the average rate of increase during the last few weeks, the writer feels sure that the increase of the hardness is a more im-

portant factor in the last ten days, and the field for the induction of labor at the middle of the last month is very much wider than is generally accepted.

These measurements, showing that an occipito-frontal diameter of 11 cm. assures a sufficiently large child, will enable one to more definitely select the proper time for induction.

*Conclusions.*—1. The antepartum measurement of the fetal head is as feasible, at least for the specially trained, as is pelvimetry.

2. The measurements afford a more precise method of estimating the course of labor in contracted pelvis than any other now available.

3. They are of the greatest volue in the selection of the cases suitable for premature induction, and in the determination of the best time for performing it.

41 West Seventy-first Street.

## CARCINOMA OF THE INTESTINAL TRACT.*

By JAMES P. TUTTLE, M.D.,
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In a statistical paper read before this Association in 1901 on malignant neoplasms of the large intestine (*New York State Journal of Medicine*, June, 1902, page 169), it was shown: (1) That cancer comprises over eighty per cent. of all neoplasms in the human body. (2) That about fifty per cent. of all cancers are found in the gastrointestinal tract. (3) That while cancer is ostensibly a disease of mature age, it is being found more and more frequently between puberty and thirty years, and consequently youth cannot always be accepted as a positive diagnostic contraindication to the presence of this disease. (4) That cancer is on the increase throughout the civilized world, especially cancer of the intestinal tract. (5) That local examination with the sigmoidoscope and early exploratory laparotomy are the only means of positive diagnosis in malignant disease above the reach of the index finger. And (6) that while the *x*-ray, radium, and the chemical cautery have proved efficacious in certain superficial or skin cancers, early resort to radical surgery is the only hope for those afflicted with internal malignant growths.

Experience and the published statistics of the past four years serve only to confirm each of these conclusions. The death rate from cancer all over the world has shown a marked increase in every quinquennial period for the past thirty years, and, in view of the fact that we are absolutely without any preventive methods, it is to-day the most discouraging and alarming proposition with which the medical profession has to deal. In connection with this general increase, it is a significant fact that cancers of the intestinal tract have increased out of all proportion to those of other portions of the body; a fact, which lends color to the belief of some that these growths have their origin in vegetable parasites which are taken into the system through the alimentary tract, naturally invade the first tissue, offering a suitable field for their development, that field usually constituting a traumatized or abraded surface. Weinberg and Gasper (*Zeitschrift für Krebsforschung*, B. 1, H. 2, 1904), in a study of the vital statistics of Stuttgart for the past thirty years in decennial periods, have brought out the following facts: (1) Increase of cancer in general. (2) Increase of cancer in proportion to other diseases. (3) Increase of cancer in the digestive tract compared with other regions. (4) The general increase in cancer is practically made up by the increase in that of the alimentary tract. From 1873 to 1883 there were 556 deaths from cancer in the alimentary tract, and 372 from cancer in other organs; from 1893 to 1903 there were 1,005 deaths from cancer in the alimentary tract, and 382 from cancer in other organs; showing an increase of ten, .027 per cent., in cancer of other organs, to 449, 81 per cent., in that of the alimentary tract. (5) The increase was relatively greater among males, especially so far as sarcoma is concerned.

Had these statistics been made from the clinical histories it might be stated that the modern methods of examination had rendered the diagnosis more feasible, and thus larger numbers of intestinal carcinoma were being discovered than formerly; the fact, however, that the statistics are drawn from autopsies in the various periods, so that the recognition of the disease was just as feasible in 1873 as it is to-day, shows clearly that the proportionate increase of cancer is an actual, and not an apparent, fact. Without going into the statistics and the details of our studies, it is sufficient to say that the vital statistics of England and America practically prove the same state of affairs in these two countries. If this proportionate increase continues, the time is not far distant when there will be more deaths in these countries from cancer than from tuberculosis, diphtheria, and typhoid fever combined. These facts render a special study of cancer in the alimentary tract of the utmost importance, not only to the medical profession, but to the whole civilized world.

*Site.*—The comparative frequency with which cancer attacks the different portions of the alimentary tract from the stomach downward is: 1, stomach; 2, rectum; 3, sigmoid; 4, cecum and ascending colon; 5, the transverse and descending colon; 6, vermiform appendix; 7, duodenum; 8, ileum; 9, jejunum. Figures drawn from many sources amply prove this order of occurrences, and yet I am convinced they are misleading, so far as the actual proportions are concerned. For instance, in my study on this subject, I have collected, all told, reports of 2,432 malignant tumors of the intestinal tract, exclusive of the stomach, of which 1,690 were cancers of the rectum, 182 cancer of the sigmoid, 160 cancer of the transverse and descending colon, 283 cancer of the cecum and ascending colon, 60 cancer of the vermiform appendix, 37 malignant neoplasm of the ileum, of which 27 were sarcoma, 14 neoplasm of the jejunum, of which 12 were sarcoma, and 8 malignant neoplasm of the duodenum, of which 1 was sarcoma. I do not imagine for an instant that the proportion of cancer of the rectum could be maintained in a complete collection of all malignant tumors of the intestinal tract, for many of the cases included in my own studies have never been published, having been furnished me through private reports in answer to a circular sent out to the profession some seven years since, and I have no doubt there are just as many unpublished cases of cancer of other organs; but, in general, this order of occurrence will be maintained.

The *types of the neoplasms* found in the intestinal tract include cylindrical epithelioma, adenocarcinoma, medulary carcinoma, scirrhus and colloid cancer, and sarcoma of the round, spindle, and mixed cell varieties; of these the adenocarcinoma is by far the most frequent; it occurs in the rectum throughout the large intestine and in the duodenum; in fact, wherever glandular tissue exists. Pure epithelioma is very rare, except at the margin of the anus and just within the rectum. The medullary cancer may occur at any part of the intestinal

*Read at the twenty-second annual meeting of the New York State Medical Association, October 16-19, 1905.

tract, but is much more rare than the adenocarcinoma. Scirrhous cancer rarely occurs in the rectum; it is found, however, in the sigmoid and other portions of the colon, except in the cecum; also in the small intestine and the duodenum. Sarcoma is prone to occur in the small intestine rather than in the large; many of the cases reported as sarcoma of the cecum being, in fact, sarcoma of the Bauhinian valve, which is practically a part of the ileum and not of the large intestine. Sarcoma has been seen, however, in the large intestine, even as low down as the margin of the anus.

The *symptoms* of malignant growths in the alimentary tract vary according to the site at which the growth occurs, the character of the neoplasm, and the state of its development. The symptoms of this disease in the different portions of the intestinal tract vary so greatly that it is necessary to treat the several divisions almost as separate organs. For example, the subjective manifestations of malignant disease of the duodenum are so closely allied to the symptoms arising from diseases of the stomach that it is often almost impossible to distinguish between the two; while those of the jejunum and ileum are practically the same as those arising in diseases of the transverse and descending colon. We must, therefore, treat these portions of the small intestines separately.

*Duodenum.*—The symptoms of cancer in this portion of the intestine, as already stated, are largely stomachic and vary according to whether the growth involves the lower or middle portion. They always begin in disturbances of digestion, loss of appetite, eructations, nausea, vomiting, increasing pain in the epigastric region, dilatation of the stomach, with splashing when full of fluid, loss of weight and strength, anemia or cachexia in the later stages, and irregular action of the bowels. Constipation is usually spoken of as one of the symptoms, but I exceedingly question if it is any more than a compensatory constipation, dependent upon the small amount of food ingested and passing into the intestinal tract. The patients whom I have seen have all complained of griping and desire to go to stool without efficient result. If the growth is above the papilla of Vater there will be eructations of the stomachic fluids, acid, watery, and containing no bile; if the growth is below the papilla the eructations and vomit will contain bile in greater or less quantities; if at the site of the papilla the eructations may or may not contain bile (they usually do not), the vomiting will be less severe, and one will find in the stools a large proportion of undigested fats and starches. Pic claims that it is almost impossible to diagnose cancer in this portion of the intestinal tract from that of the pancreas, but the absence of sugar in the urine is such as to warrant the positive exclusion of pancreatic involvement. Blood may or may not be present in the vomit. It does not come from the neoplasm except in very late stages, but may be due to rupture of capillaries from straining. Pain is an uncertain symptom; some patients suffer intensely while others have only a vague discomfort. The presence or absence of hydrochloric acid in the vomit is important in distinguishing between disease of the duodenum and the stomach. Increasing nausea and tendency to vomit are the most important subjective symptoms; they indicate to the practitioner the possibility of what is developoping at a time when it is possible to do something radical and curative. The objective symptoms are tension of right rectus muscle; flat or hollow abdomen; the presence of a tumor, irregular, nodular, always immovable and slightly painful on pressure in the right epigastrium. Unfortunately, however, the tumor is often impalpable until the disease has progressed to such a state that operation is exceedingly hazardous. Especially is this true in stout persons. With all the skill of our erudite diagnosticians it is often impossible to differentiate growths of the duodenum from gallstone, cholecystitis, and diseases of the pancreas without surgical exploration, and it is a dangerous waste of valuable time to postpone such exploration until the patient has grown so emaciated or the tumor so large that it can be felt. Only in the very last stages of the disease do the stools show blood, pus, or mucus; their examination is therefore of negative value in diagnosing the case. Early recognition of the probability of a growth and prompt resort to surgical exploration and extirpation, if the growth is found, offer the only hope in this disease.

*Jejunum and Ileum.*—Cancer of these portions of the small intestine produces no subjective symptoms upon which a positive diagnosis can be made until late in the disease. They are frequently the same as the symptoms found in diseases of the transverse and descending colon; they begin usually in irregular griping pains followed by increased visible peristalsis, frequent desire to go to stool or pass wind, with more or less digestive disturbances, loss of appetite and flesh, and symptoms of autointoxication. Cachexia and alternating diarrhea and constipation come on in the latter stages; local or general peritonitis may be due to extension of the disease, and death will occur from perforation, sepsis, or exhaustion. The tumor is rarely palpable in its early stages, and if so, it is always *exceedingly movable* and hard to grasp or hold in one position. If the growth is of the scirrhous type, the stools rarely contain any blood, pus, or mucus, except in the very last stages. On the other hand, if the growths are of the medullary or adenocarcinomatous type, mucus, blood, and pus may be found in the stools during a comparatively early period of the disease. The blood in the stools, when the small intestine alone is involved, will usually be found disintegrated and black, of a coffee ground nature, rather than fresh and in clots. Tympanites may or may not exist, but a diagnostic feature of some importance consists in the fact that the cecum and colon are not distended, but retain their normal resonance.

*Ascending Colon and Appendix.*—The symptoms of cancer in this region of the intestine are practically those of chronic appendicitis. They consist in mild disturbances of digestion, flatulence, loss of appetite, constipation, increasing tenderness over the right hypochondriac region, and tension of the right rectus muscle. When the growth involves the appendix alone it is impossible to determine its nature by any other means than exploratory incision. The temperature is always more or less elevated, especially when the tumor is well advanced. The variation in temperature is very liable to lead one to the conclusion that he has to deal with a simple chronic appendicitis, and valuable time is likely to be wasted in waiting for a period of complete quiesence before resorting to operative procedure.

*Transverse and Descending Colon.*—The symptoms of cancer in this portion of the intestinal tract are frequently the same as those detailed for the ileum and jejunum. They always begin with griping and a tendency to diarrhea without any increase in the discharge of fecal matter or blood in the stools. If the tumor is in the transverse colon, sagging downward and displacement of this organ is likely to occur. This displacement, however, is so frequent

in connection with other conditions that one would hesitate to accept it as a strong indication of malignancy. One symptom, however, to which I would call your attention is the temporary arrest of gases at this particular portion of the abdomen. Patients often complain of tenderness at certain locations, and if their attention is called to the fact they will observe that their tenderness is enhanced by the accumulation of gases about that point and often suddenly relieved by a gurgling sensation there and the subsequent passage of gas from the intestinal canal. I have no statistics that absolutely confirm the fact, but I am inclined to think that a markedly increased tendency to expel gas and inability to retain it is one of the earliest symptoms of malignant disease of the colon and sigmoid flexure. Along with this passage of gas, early in the disease, there appears in the stool a certain amount of glairy mucus; this symptom is common to neoplasms of the entire colon, including even the rectum. This mucus is always glairy and never coagulated as in typical mucomembranous colitis. In my own experience I have never seen a single case of carcinoma of the colon in which there was a discharge of the typical coagulated and membranous shreds. In one case these shreds were observed in a case of carcinoma of the pancreas and mesentery, but the colon itself was not involved in the disease. Constipation, or rather obstipation, alternates with attacks of diarrhea, the discharge of pus, blood, and carcinomatous shreds if the growth be of the adenocarcinomatous or medullary types, and of blood with very small quantities of pus if it be of the scirrhous or sarcomatous varieties, but it should always be remembered that constipation is a late and not an early symptom of cancer. Diarrhea or frequent desire to go to stool with no effectual results is the striking early symptom of cancer of the colon.

*Sigmoid and Rectum.*—The symptoms of cancer of the upper sigmoid are largely the same as those already given for the descending colon, but those of disease of the lower portion of the sigmoid resemble so closely the symptoms of cancer of the rectum that the two portions may practically be considered as one. The disease in this location is nearly always preceded by habitual constipation; the histories of patients show a resort to cathartics long before there was any possibility of obstruction to the passage of fecal matter by the neoplasm. This constipation is, in my opinion, much more frequently the cause than the result of the neoplasm; the early symptoms of the disease will always be found in an increased desire to go to stool, griping, and bearing down without adequate result. This symptom leads to the employment of enemata with a view to overcoming the supposed constipation, and frequently the first intimation that there is of organic trouble is the discharge of blood and mucus. Unfortunately, this symptom is too often attributed to the bursting of a hemorrhoidal vein and prescribed for accordingly, even by the best practitioners. The fact that hemorrhoids exist in nearly all such cases is very misleading and often leads to unwise treatment and unnecessary operations by those who do not make careful instrumental examinations of all cases in which there is discharge of blood, pus, or mucus with the stools. I have seen no less than ten cases operated on for hemorrhoids when there existed well marked neoplasms within four to seven inches of the anus. The discharge of glairy mucus, one of the first symptoms of the disease in the rectum and sigmoid, is often not noticed by the patient himself, as people are not prone to examine their stools carefully, and unfortunately when they do notice it and call the physician's attention to the fact, they are too often told that it is a matter of no moment and only the result of intestinal catarrh, for which they are treated without due consideration or proper examination.

Morning diarrhea, or, more properly speaking, call to stool immediately upon rising in the morning, associated with passage of mucus, blood, or pus is always a symptom of localized disease which demands the most careful digital and instrumental examination of the rectum and sigmoid. Happily for us and our patients the diagnosis of malignant disease of the sigmoid and rectum is now a possibility in its earliest stages through the systematic employment of the modern means of examination of these parts. The proctoscope, sigmoidoscope, and specimen forceps afford us an unfailing means of diagnosis in these cases, and we are not dependent upon the subjective symptoms of the patient to determine exactly what ails him. If the tumor is in the lower portion of the rectum within reach of the finger, it can always be diagnosed by the educated touch; if more than five inches from the anus, however, the instruments above mentioned are absolutely necessary and they should be resorted to without hesitation in every case of constipation or diarrhea observed, with or without the discharge or of any abnormal material in the stools. *Early diagnosis of the existence of malignant disease in the intestinal tract furnishes the only hope for individuals afflicted, and the sooner the profession recognizes the importance of early resort to instrumental examination in the lower portion of the bowel and exploratory incision higher up whenever subjective symptoms indicate the possibility of such growths, the sooner will we be able to reduce the mortality which now confronts us.*

The prognosis of cancer of the intestinal tract without surgical interference is absolutely hopeless. The fact, however, that metastasis and glandular involvement are later in this area than in any other portion of the body renders surgical interference more hopeful here than elsewhere. The one hope consists in early recognition of the condition to be dealt with, and this is why I have devoted my entire paper to diagnosis.

Time does not permit of the discussion of the various procedures in the treatment of these conditions; total extirpation is the ideal operation in all cases where this is feasible. I wish, however, to lay particular stress upon a point which I have elsewhere emphasized, namely, the importance of eliminating the fecal current from the involved area in cases where extirpation of the growth itself is impossible. It has long been customary and is still the practice of many surgeons to do an inguinal colostomy in cases of carcinoma of the sigmoid and rectum; if, however, there is sufficient healthy intestine below the growth to admit of anastomosis with healthy intestine above the growth, such a procedure is far preferable and is likely to result in a greater prolongation of life. Ileorectostomy and sigmoidorectostomy are far better procedures than colostomy. In inoperable cancer of the cecum or transverse or descending colon, ileosigmoidostomy is the ideal operation; if the growth involves the sigmoid then ileorectotostomy should be employed.

In inoperable exuberant carcinomatous growths low down in the rectum and filling up its caliber I have seen the most radical relief obtained by scraping away the growth with a curette and thoroughly cauterizing its base. I am persuaded that this procedure will prolong life quite as much as and obviate the disagreeable features of colostomy, although the latter should be done at the same time if the condition of the sphincters renders fecal continence imperfect.

In the small intestine and upper colon, whenever the growth is so mobile that it can be brought outside of the abdominal wall, it is safer to fasten it in this position, close up to the abdominal wound about it, and wait for two or three days before excising the growth. The operations thus far performed in this manner, eleven in all, with one death, render this procedure an exceedingly hopeful one as compared with the majority from resection followed up by end-to-end or lateral anastomosis. So far as the operations upon the rectum itself are concerned, I have nothing new to add to the statements made before this body in 1903. The mortality has been slightly reduced by modified technique, Dr. Swinford Edwards of London having recently reported 40 cases with a mortality of less than 9 per cent. Recurrences depend largely upon the site of the growth, the nearer the anal margin the more likely are they to recur; 90 per cent. of my recurrences have occurred in cases involving the lower two inches of the rectum, mostly operated upon by the anal or perineal route. I have had no recurrences so far in ten operations performed by the combined method; the mortality, however, in these cases (33 per cent.) is much greater than that by other methods; at the same time, I am persuaded that when the growth involves any portion of the rectum more than five inches from the anus, this is the method which should be employed.

42 West Fiftieth Street.

## THE QUICK CURATIVE TREATMENT OF GONORRHEA.

By FREDERICK A. LYONS, A.M., M.D.,
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In the Medical Record of May 4, 1895, I published a series of fifteen cases of acute gonorrhea in the male, in which 67 per cent. were cured within six days, and almost 50 per cent. in three days or less, by a method which was described in full in that paper.

More than ten years have elapsed since that publication, so that I have more than followed Horace's injunction *"Nonumque prematur in annum,"* and at the present time I can report that out of a total of a little over 400 cases treated on that plan, in 384 of them or about 95 per cent., I have succeeded in curing the disease in six days, and in about 80 per cent. in twenty-four hours. When I say that the disease was cured in twenty-four hours, I mean that no gonococci were seen in the secretion at and after that time. It takes from five to ten days for the urethra to be restored to its normal condition. Of these 384 successful cases, 15 of them were primary attacks, and the results were as brilliant as in any of those in which there had been previous attacks.

As this paper was published so long ago, I am obliged to reprint here that portion of it which describes the plan of treatment.

When a patient presents himself complaining of symptoms pointing to a urethral difficulty, I first get a detailed history of the case, and then on examination of the penis, smear a little of the secretion, if there be any, on a cover-glass. If there be none, or but a slight moisture, I rub the sterilized platinum wire with a little loop on it over about three-quarters of an inch of the walls of the urethra a few times, and smear this on a cover glass. After staining in the usual way with methylene blue, I examine under an immersion lens. If gonococci are found and the history of the case shows it to be one of acute infection, and if there be a fair proportion of epithelial cells present in the secretion under the microscope, I deem it a good case for the quick curative plan of treatment, and proceed as follows:

Having had the patient urinate for the purpose of cleansing the canal, which I think is sufficient without further irrigation, I myself inject into the urethra, the patient being in the recumbent position, with an ordinary conical-shaped soft rubber pointed clap syringe, one drachm and a half of a 4 per cent. solution of nitrate of silver. I seize the meatus on removing the syringe, and hold the solution inside the urethra for from two to three minutes by the watch. The patient complains of no or but little pain at the time, and at most, according to my experience, a little smarting on urination during the next twenty-four hours, at the expiration of which time he is directed to present himself again. In the meantime he is cautioned to follow strictly the usual hygienic rules prescribed in these cases, and to do nothing more for himself whatever. When he presents himself again, it will usually be found that the character of the discharge has changed to a thin serous fluid, a little more abundant than it was before, and on smearing the cover-glass and examining, it will be found that the gonococci have entirely disappeared, or have been exceedingly reduced in numbers. If none are found, two or three more cover-glasses are smeared and examined to make sure of the fact, and nothing more is done. The slight inflammation will then disappear in the course of twenty-four or forty-eight hours, but the secretion of the urethra is examined for several days, until no more pus is present, and shows only normal epithelial cells, or as is sometimes the case, the ordinary bacteria that are commonly found in healthy urethræ.

If the gonococci have not entirely disappeared, the injection is repeated wiah a drachm and a half of a 2 per cent. solution of silver nitrate, and in twenty-four hours a reexamination is made. The second injection produces a little more pain afterward than the first, and the secretion the next day is more serous, and perhaps tinged with blood; but I have not yet found a patient refuse a third injection when I have deemed it necessary, with a 1 per cent. solution. If the gonococci have not entirely disappeared by this time, it is useless to proceed further, the treatment is abandoned, and the symptomatic plan pursued.

It will be seen that my present results are much better than those of my early report, and one explanation of this is that I have used the method only in those cases in which the aspect of the stained smear under the microscope gave me a reasonable assurance that success could be looked for. In other cases of acute gonorrhea coming for treatment, where the slide showed that, in my judgment, the disease had already progressed too far, the method was not employed, but other treatment pursued.

In 1895 I stated, as may be seen above: "If gonococci are found and the history of the case shows it to be one of acute infection, and if there be a fair proportion of epithelial cells present in the secretion under the microscope, I deem it a good case for the quick curative plan of treatment, etc." To-day, my larger experience causes me to modify the statement by saying, "and if there be a fair proportion of epithelial cells present (on which colonies of gonococci are seen)" we may expect success in the treatment. The result depends on the stage of the disease in which we attack it, and the amount of progress made by the infection may be estimated to a very great extent by the microscopical picture. The result of my personal study of many thousand smears, taken at all periods of the disease, has led me to the following conclusions:

During the period of incubation of the affection we find the normal pavement epithelium of the anterior portion of the urethra, and on the scales a large variety of bacteria consisting mostly of various sized bacilli, and a few varieties of cocci, mostly the

streptococcus and micrococcus ureæ, while we see only a few gonococci present, and these are sometimes difficult to make out.

In the prodromal stage a smear shows that all the nonspecific bacteria have disappeared, leaving the field entirely to the occupation of the gonococci in pure culture. But the formed epithelial scales are in great abundance, and the germs appear upon them in large colonies, while there are, comparatively speaking, few pus cells present, and in these considerable numbers of gonococci are seen, while some appear free.

As this stage progresses the number of pus cells increases, while that of the rhombic cells covered with the large colonies proportionately diminishes until the florid stage is reached, when the secretion consists almost entirely of pus cells containing large numbers of the specific microbes; the colonies have disappeared from the epithelial cells, and these latter are not of the same kind, but of the transitional variety, more rounded in outline, with a proportionately larger nucleus. At a still later period, many fields of the smear will show not a single epithelial cell, and the number of gonococci is apparently, though probably not really, decreased. It is foreign to our purpose to describe the microscopical appearances of the secretion in the further stages of the disease. These observations agree completely with those described by well-known observers.

The length of time, however, required for the development of these different stages, differs widely in different individuals, just as the period of incubation in which there are no symptoms has been known to last but one day, or has been as long as twenty days in two cases reported by good authority. So the length of time elapsed after the appearance of symptoms, whether it be one or five days, is no criterion of the stage of the disease, which must be judged entirely by the microscopical appearances presented by the smear.

In my opinion, these microscopical appearances show the extent to which the disease has progressed, and indicate to the surgeon the method of treatment to be employed.

The point of the matter lies in this. In the early period of the disease the gonococci lie entirely upon the outer layer of epithelial cells, and multiplying rapidly thereon, destroy the vitality of the cells, and cause them to loosen and exfoliate. This continues and the irritation of the microbes causes congestion, afflux of serum, and migration of leucocytes. This process is carried on until all the epithelial lining of the part attacked is shed, and the subepithelial tissue laid bare. At this juncture, the gonococci penetrate into the connective tissues, and the inflammatory period of the disease is well established. Just so long, then, as these epithelial cells, studded over with colonies of gonococci appear in the microscopical field, so long are the germs within reach of the germicide, and the case amenable to the quick curative plan of treatment.

The ideal plan of treatment is to remove the cause of the disease as early as possible, and this result can be accomplished when that cause is within reach. When the subepithelial tissues are invaded, it becomes impossible. In no disease in my experience, is the saying so true, *sublata causa, tollitur effectus*. As soon as the gonococcus ceases to appear, the discharge dries up and the mucous membrane of the urethra is restored in a very short time to its normal condition.

In speaking of this method of treatment to physicians, I have been met by the remark, "Oh, it is the old abortive plan." In answer to this, I would simply say that in both theory and practice it is entirely different, and I prefer to call it the quick curative plan. The old method was purely empirical, unsatisfactory, and untrustworthy. The new one is entirely scientific, perfectly controllable, theoretically perfect, and practically based on the well-founded facts of pathological anatomy, which modern methods have established. It was thought out and developed upon the lines of the pathogenesis of the disease.

An objection raised has been that by it there is a destruction of the epithelial coating of the urethra. This is by no means a valid objection, for such destruction is not at all harmful. It is of the very nature of epithelial covering to be quickly replaced, and in a very short time the surface is completely renewed. The disease itself rapidly destroys the epithelial layers, and does vastly more harm in many other ways. A moment's reflection will clearly present to the mind numerous analogous circumstances in other parts and organs of the body, where we deliberately destroy the epithelial covering, because it is not harmful to do so, and as before stated, epithelial structures are very rapidly regenerated.

A final objection is urged that few patients will present themselves early enough to the surgeon to have a quick curative method applied. This is true to a certain extent at the present time, but counts for naught against the plan itself, and is a fault that may justly be laid at the door of the profession. Patients have, heretofore, been led almost universally to believe that a quick cure can be rarely, if ever expected, and if it could, the method is bad and leads to injurious consequences. These beliefs are erroneous, and the sooner they are wiped out the better. Both profession and laity have become accustomed to the *laissez faire*, symptomatic plan of treatment, the most incipient cases even being allowed to go on to the florid stage, simply for the purpose of making a diagnosis. If patients were educated to the conviction that if they presented themselves at the first sign, they might expect a rapid termination of their complaint, there is not much doubt in my mind but that the vast majority, instead of a minority of patients, in private practice at least, would come early enough to get well quickly. Under any circumstances, let the microscope decide the question whether they can or cannot be quickly cured.

50 East Sixty-third Street.

## TREATMENT OF JOINT STIFFNESS BY MEANS OF GRADUAL RECTIFICATION COMBINED WITH MASSAGE.

By GUSTAF NORSTRÖM, M.D. (Stockholm),
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In the year 1887 I published a monograph* on this subject, which at the time was received with great favor by the French medical press, and was furthermore regarded as an entirely original work. In this I attempted to present the different views that were entertained during late years on the treatment of false ankylosis and how the indications for treatment which were applicable to this had been understood. I also gave the history of the bloodless methods of restoring mobility, and described these as an introduction to the description of my own method. I reproduce in this article only the salient points of the above treatise. An abstract of the operative procedure applicable to the different

*Traitement des raideurs articulaires au moyen de la rectification forcée graduelle et du massage Paris, 1887, 137 pages.

articulations, as given in this monograph, follows. The method of overcoming the rigidity of limbs by manual force is by no means new. It has been practised for a very long time, but in the manner in which it has been performed the results have not generally been very satisfactory. As soon as reaction set in, the operator became frightened and stopped treatment altogether, or temporarily with the intention to resume it as soon as the irritation had subsided. The patient was then obliged to keep in bed for a longer period of time, antiphlogistics were applied, and when the proper moment had arrived to commence treatment anew, one was surprised to find that all that had been obtained so far was lost in the interval. On the other hand there were those who did not stop the rectification on account of the swelling, but continued the stretching and bending, although this often gave rise to almost unbearable pain to the patient.

Stiffness of the joint may be caused in three ways: By (1) traumatism, (2) rheumatism and gout, (3) chronic inflammation depending upon tuberculosis.*

1. The indications to be followed in *traumatic ankylosis* are readily found. The nature of the primary affection is known, and we may state that in cases which I have observed the results of the treatment have been excellent. The worst cases are those in which the false ankylosis has occurred after periarticular fractures. Those of the olecranon, for instance, are especially serious. Then the mobility of the articulation is often entirely or partially destroyed through the formation of an exuberant callus, which we cannot remove. The same may be produced in the knee, more rarely in the wrist.

Here the question arises whether ankylosis can be produced by immobilization alone. Menzel's experiments demonstrate that in some large animals like the dog, immobilization alone is sufficient to produce an alteration in the cartilages, which would lead to ankylosis if left alone. M. Reyher in 1873 tried some new experiments on this subject and obtained the same results; but he explains them differently from Menzel. According to the former, joints which primarily were not affected by disease and which became ankylosed through immobilization, became so because the synovial fringes which are formed in the neighborhood of the point of contact of the cartilages form adhesions amongst themselves. These are not the result of immobilization, but the result of the movements which lacerate them and cause irritations in the synovial membrane, or else they are called forth by the propagation of the inflammatory process to the neighboring parts.

These experiments and others seem to me to offer only a theoretical interest as we never notice such results in practice. It is possible that joints have become stiff, as for instance in treatment of fractures, through too prolonged immobilization. A true ankylosis, however, I have never observed. In all such cases I have found that repeated light flexion was sufficient to restore the normal condition. In no case was I obliged to resort to my method.

2. False ankylosis of *rheumatic* origin presents numerous varieties. They are all the more obstinate if the process is an old one, and if the attacks have been frequent. These are, however, not unfavorable cases for treatment. When there are no synechiæ or productions of new connective tissue, and the pathological changes are entirely confined to the periarticular fibrous tissue the tendons, and the fleshy parts of the muscles, rectification combined with massage gives results that could not be obtained either by forced extension or by forced flexion alone.

We now come to a series of cases of arthritis of *diathetic* origin occasionally leading to ankylosis. As regards false ankylosis due to gout, the best plan to follow would be to leave it alone. Any movement, no matter how slight, would not fail to stir up the primary disease and soon cause us to repent of not having abstained from such a procedure. The same applies, though to a less extent, to a false ankylosis following a hyperplastic granular synovitis. The information derived from pathological anatomy is not very encouraging. It amply justifies distrust and reserve. The fundamental rule ought to be to leave everything alone rather than augment by our interference the morbid process. When, however, the tuberculosis process has subsided and the patient presents himself with the customary contractions and ankylosis of various affected joints, the question arises: What are we to do? If ankylosis is complete our interference is useless and resection may be necessary.

When the ankylosis is not complete, neither the anatomical conditions nor the etiology furnish any contraindications to our intervention. In these cases of false ankylosis strength and perseverance will often yield unexpected results.

In a word, mechanical interference in the latter is useful only when the primary symptoms no longer exist and when the bacilli may be supposed to have disappeared. To advise noninterference in such cases, because of tuberculous origin, would be illogical, for, if bacteria are no longer present, a relapse or the dissemination of microorganisms is not possible. It may be difficult, however, to determine whether the bacilli are present or not. Among a great many good results, I remember having had local recurrences in two cases (in both of them the hip joint was involved), where I had every reason to believe that the process in question was under control.

Our method is simple. It consists of applying massage and manual reduction of the deformity, produced by the shrinking of the capsule as well as of the periarticular tissue.

Massage is used in various ways, both before and after rectification. Employed in the first for some time it softens the tissues, diminishes their tension and resistance, and gives them a certain flexibility; consequently it facilitates the maneuver employed. After extension or flexion massage in the shape of effleurage is performed for about ten minutes. Massage will then favor the absorption and not fail to remove the swelling often produced through our manipulations.* Besides, it is of real service in secondary atrophies. No procedure is better to stimulate or to regulate the nutrition of the muscles. Its physiological action explains this fact.

*Brisement forcé*, by stretching the retracted capsule or tearing the adhesions, often results in intra-

*Ankylosis produced by arthritis deformans we leave aside, as this is not amenable to the treatment under consideration.

*It is particularly after stretching the retracted muscles that the tumefaction develops to some high degree. But even this is of no consequence, for it will not persist if subsequent massage is faithfully performed. In the lower extremities, for instance, one observes when retractions of the semimembranous or semitendinous muscles or of the biceps exist, that at the beginning of the treatment a considerable tumefaction of the lower posterior part of the thigh takes place after every séance; later on the same phenomena will be produced at the upper part. All this is easily overcome by effleurage or slight true friction.

and periarticular hemorrhages, effusion, and swelling of an inflammatory character. This reaction may become still more pronounced if the joint was the seat of a swelling at the time of the interference. One can advantageously compare the disorders produced by the usual forced stretching to those resulting from a sprain. Absolute immobilization seems indicated. But is this, after all, the antiphlogistic measure par excellence? By no means. It does not facilitate the absorption of blood and liquids; on the contrary it favors the reproduction of stiffness and gives rise to reforming of the ankylosis, if there are lacerated bands, as these have a tendency to produce new adhesions.

It is then in a great many cases preferable to have recourse to a procedure which has demonstrated its utility and which does not contribute to the reproductions of adhesions.

I now come to the straightening of the limb. On the one hand we have people who wish to obtain immediate results; and on the other hand, timid ones who are frightened at the slightest crack and who expect the disappearance even of the pathological adhesions, I don't know how, without any lacerations. The sudden rectification (*brisement forcé*) is sometimes better than the gradual one, sometimes it is not. In cases where the adhesions are extensive or the bands are very numerous and short (*brides serrées*), I prefer the forced and rapid breaking up of the adhesions under anesthesia, to the gradual, progressive, and slowly effected correction of the deformity; and this all the more if the patient is sensitive, timid, and contracts his muscles very firmly at the slightest attempt at correction. But if I admit this, it is understood that this forcible breaking up of the ankylosis has always to be followed for some time by rational massage in order to combat the often enormous swelling (intra and extracapsular) which, under these circumstances, never fails to occur. In other cases, and particularly when the false ankylosis depends more upon a retraction of the capsule, a shortening of the ligaments as well as when muscular retraction is the cause of it, the gradual slow method is much to be preferred. The bands, when they are not too short nor too broad, do not offer a great resistance to the correction. As regards this category of cases, the shrunk capsule, etc., as well as the retracted muscles, certainly yield to the stretching under narcosis; but as soon as the operation is over they retract again to the same extent as before, and the joint remains as deformed as ever. You may apply a plaster of Paris dressing to combat this tendency, as it is usually done, but the pain during the first days, particularly if great resistance had to be overcome, is so great that it is scarcely bearable notwithstanding frequent injections of morphine. And when after some weeks, you remove the plaster of Paris there always remains a tendency to relapse or an ankylosis in extension has developed. Besides, the muscles in the neighborhood of the joint are often in a marked state of atrophy through the long immobilization in which the limb has been kept for weeks.

After each subsequent gradual rectification there is also, of course, more or less pain in and around the joint, proportional to the resistance that is to be overcome, but this pain disappears in a few minutes, as soon as the swelling produced by the maneuver has been removed through massage. This circumstance is due to the removal of the pressure of the liquid upon the nerve endings. A study of the clinical results of this method will tell how much we can expect of the various maneuvers. As I have already mentioned, in cases of marked resistance from swelling, preliminary massage in shape of frictions and also pétrissage ought to be employed for some time. The procedure is but slightly painful, the improvement is decided. The task is simplified, and we shall be in a better position to perform extension or forced flexion. If retractions of the capsule or of muscular origin prevail, then circumstances are less favorable, and correction must be commenced early. It is not necessary to wait until the inflammatory conditions have entirely subsided; in some arthropathies this temporization delays the beginning of the treatment and removes the chance of bringing about a cure in a relatively short time.

Deformities, retractions, and anomalies in the position and functions of a limb may find their cause in (1) the articulation or its vicinity, (2) in the muscles. We have observed joint lesions, thickenings and retractions of the capsule, formations of false ligaments, tendinous synovitis with adhesions of the tendons to their sheaths, myositis with a diminution of the extensibility of the muscles.

While massage of the joints is followed by a progressing amelioration and diminution of the pain and the patient consequently very soon plucks up courage, after the gradual rectification the joint is, during the whole treatment, in a condition of irritability, and is consequently more painful than at the moment when the treatment is started. It is, therefore, important to warn the patient, in order to prevent discouragement, which almost certainly would follow otherwise and before long.

In flexion or forced extension the resistances offered and the state of the osseous system must be taken into account. If we have to do with people in whom this is not properly developed, we must take care not to have the force act on too long levers, so as to prevent fractures.

In false ankylosis the contraindications are not numerous. I know only of senility, weakness, and extreme nervous impressibility. In the last cases, temporization is indispensable. It is useless to begin a treatment which must be interrupted. The invalid must be patient; he must get appropriate medication and his general condition must be built up and then it will always be time enough to begin.

And now let us consider the application of our procedure in the different joints.

*Ankylosis of the shoulder* is not an infrequent occurrence in spite of the normally great freedom of motion of that joint. The affection may, however, be concealed by the compensatory movement of the scapula, and the patient may not become aware of the ankylosis, even though advanced, until the scapula is fixed.* Active interference is nearly always necessary. Bonnet says we should proceed in the same way as in all other articulations; that is, by gentle and graduated movements or else by violent rupture of the adhesions.† The following is my method of procedure: The patient is placed in an armchair of which the back does not extend above his shoulder. I make him sit near the edge so that he may be able to move his

*As generally known, we are not able to lift the arm more than to the horizontal or, a little more, through an exclusive movement in the humeroscapular joint itself. Any more extensive movement in this direction is only obtained through the rotation of the scapula around an anteroposterior axis.

†Bonnet. Traité de thérapeutique des maladies articulaires

arm freely when he has to perform the movements. If, for instance, we have to deal with the left shoulder, we grasp hold of it and hold it steady, by very firm pressure,* at the same time with the other hand we seize the arm, above the elbow. Abduction is then made in the direction of the greatest resistance, that is to say, nearly always from below upwards and backwards. As soon as the resistance is less, I add movements of circumduction (*moulinet*), whose excursion I gradually augment.

If the resistance is considerable, or if quicker results are to be obtained, forced gradual abduction is preferable; this procedure allows of the display of more force. The patient sits on rather a high chair, while the physician stoops over in front of him on the affected side. The invalid leans with his elbow against the physician's shoulder. The operator then crosses both hands and places them on the diseased shoulder in order to fix the shoulderblade. He then rises, lifting up the patient's arm. This procedure, which is more powerful than the preceding one, is also more painful, and gives rise, of course, to more reaction on the joint. If the movements are getting more satisfactory, one may return to the first one.

During the last stage of the treatment, the patient ought himself to make active movements. Those of circumduction (*moulinet*), with or without dumb bells, seem to me to be the simplest and best. It has been claimed that these active movements can provoke inflammatory relapses, but I have never seen any.

Mrs. C., 42 years old, from Lyons, experienced ten years ago, after a stay at the seashore, violent pains in the right shoulder. The pains ceased after a few weeks. The same trouble reappeared without any appreciable cause the following winter, but were soon followed by marked improvement. Gradually she noticed inconvenience in moving her arm, and persistent but not very violent pain. Electricity (galvanization). The pain disappeared almost entirely, and the patient was able to use her arm enough to attend to her household without much difficulty. Until November, 1883, the result remained good. The patient even considered herself definitely cured. At this period a light attack. The movement of the arm became considerably limited, and she complained of great fatigue in it. It became impossible for her to lift anything heavy. The stiffness of the shoulder increased, so that she was unable to continue her work, and even to dress herself.

I saw this patient for the first time in March, 1885. The arm hung down and the forearm was in a position of half flexion. The deltoid and the supra and infraspinatus muscles were somewhat atrophied; there was slight pain on pressure in the scapulo-humeral joint. In immobilizing the shoulderblade the arm could not be moved more than sixty-five degrees from the thorax. When the shoulderblade was not immobilized, the arm could be lifted to a horizontal position, but the patient had difficulty in maintaining it, and could only do so for a short time. The arm was more easily brought forward, although it could not pass beyond the median line. Backward movement extended hardly as far as the great trochanter. She was unable to lift her hand up to her ear. The passive movement had a somewhat wider range. Massage of the joint and the periarticular muscles. The pain on pressure mentioned above disappeared. Forced gradual extension. During the first séances crackling and violent pain radiating into the arm and forearm were reproduced. After seven weeks all this had passed. At this period the articular stiffness was insignificant, and atrophy of the muscles had disappeared. When the shoulderblade was immobilized, she could raise her arm horizontally and maintain it for quite a long time in this position without getting fatigued. She could easily put her hand to the back of her neck, but not entirely as far as the other side of the neck.

*Ankylosis of the elbow.*—In ankylosis of the elbow, I firmly grasp the lower extremity of the arm with my left hand and the forearm a little above the wrist. I then impart gradual steady movements to it in order to increase extension by degrees until its angle exceeds the greatest preceding one. The arm must be kept extended two minutes or more, if the invalid can bear it. If the pain is too acute, recourse is had to effleurage, as usual.

We may also proceed in the following manner: The patient kneels down and puts his extended arm on a padded bench, or, if this is not possible, on an ordinary table; the physician stands at his side. We might also have him sit in an appropriate armchair or sofa so that the arm leans on a flat surface from the shoulder to the elbow. The maneuvers consist in gradually increasing the angle formed by the arm and the forearm, by using more or less force. In order to accomplish this, alternating movements of flexion and extension are necessary, and the patient ought to practise these as often as he can. It is useless to add that here as well as in the shoulder careful secondary massage is indicated.

In a variety more rarely met with, ankylosis in extension, the procedures are the same; the movements must, of course, be made in the opposite direction; if necessary, pronation and supination must be practised as well as flexion. Intelligent and constant participation on the part of the patient is required. The latter must try to contribute to the good result and make certain movements even if they should prove a little painful.

If we have to deal with ankylosis in flexion, I advise simultaneous gymnastic exercises; among others, suspension by the arms, if possible. To do this but a very simple apparatus is needed, consisting of a rope fastened to a ring or hook, which is fixed at a certain height.

Ankylosis in supination or pronation is rarely an isolated affection. If we have to deal with the former, the movements of extension and flexion must be executed with great precision, whilst pronation would be impossible. Rarely does an absolute integrity of the two movements of rotation present itself if the others are seriously impeded. Let us suppose that we desire to remedy the immobilization of the left elbow in supination We take hold of the elbow with the left hand in order to steady it; at the same time we grasp the forearm a little above the wrist, the thumb turned towards the palm, and communicate to the forearm several forced movements of pronation. If ankylosis is formed in pronation, the hands must be placed in the opposite direction.

*Ankylosis of the Wrist.*—Patients easily get accustomed to a diminution of mobility in the radiocarpal articulation; they can endure it better than that of the phalangeal or metacarpophalangeal articulations; stiffness of the wrist is less of a deformity than an inconvenience.

*This precaution is indicated in consequence of the mobility of the shoulder blade, which otherwise follows all the movements of the arm; this is also one of the reasons why this ankylosis is to a certain extent easily tolerated by the patients. Without preliminary fixation it would be impossible to bring about a proper rectification, to tear the adhesions, or to overcome the muscular or capsular retractions.

*Ankylosis of the Fingers (Toes).*—As I have just said, patients more easily become accustomed to ankylosis of the wrist than of the phalanges. This is always regarded as a deformity very difficult to put up with. The straightening is painful because the tendon sheaths, as well as the articulation, are nearly always affected. In all cases repeated interference, active and passive movements are of absolute necessity. I have often seen, when these joints had remained in flexion for a long time, a sort of epiphyseal osteophytes form at the points very remote from each other, and at the same time atrophy of the nearest parts, produced by pressure of these respective opposed surfaces. The same processes are also sometimes observed in the joint of the knee and particularly in that of the elbow. These cases are, of course, not susceptible to our treatment.

In manual reduction and straightening of immobilized fingers in a state of flexion, I employ, besides massage, a very simple apparatus consisting of a little board, pierced by rectangular holes through each of which passes the handle of an India-rubber strap, which is tightened as much as the patient can bear. The apparatus is used at least half an hour a day. During the first moments the pain is rather severe, but with a little good will on the part of the patient, he is soon able to endure it quite well.

All those who have studied the therapeutics of false ankylosis, particularly Bonnet,* Brodhurst, Nussbaum, insist on the difficulty of treating the coxofemoral articulation.

*Ankylosis of the Coxofemoral Articulation.*—Rigidity and muscular retractions are not to be neglected. If the thigh is flexed on the abdomen, which is most frequently the case, the retraction of the rectus femoris and of the psoas is a serious obstacle to rectification. Sometimes this is a more serious obstacle than those which exist in the joint. The patient lies on a properly padded table, so that the external surface of the leg reaches beyond it. The pelvis is firmly fixed by an assistant, the thigh is taken hold of above the knee, and we then proceed as in the other articulations. A great deal of strength is often necessary in order to overcome the resistance. The reaction is not great, unless we have to deal with the retraction of the rectus femoris muscle. Rectification proceeded with in accordance with the precautions indicated does not expose to any fractures.

Simultaneously with flexion adduction may exist but forced extension generally causes it to disappear. If at the end of treatment adduction persists, this is easily overcome by appropriate movements.

*Stiffness of the Knee Joint.*—The patient is seated on a firm bench properly constructed. Let us suppose that we have to remedy the right knee fixed in flexion, which is the most common correction we have to do. With the left hand we seize the thigh above the knee, whereas the right one grasps the leg above the tibiotarsal articulation, so that the lever may be as long as possible to enable us to use sufficient force. Successive movements are imparted to the leg, in order to form its maximum angle with the thigh. In every sitting this procedure is repeated four or five times, and each time we gain a little more. In this as well as in every other articulation we must take care not to abandon the limb directly after the séance, but to maintain it in extension or flexion for some time, one or two minutes or even longer if the patient can bear it. We must then never let the limb drop down, but gently bring it back to the first position; proceeding in this way one saves the patient a most disagreeable sensation. If the irritation is considerable, massage will soon quiet it. Effleurage and slight frictions give excellent results even in cases of very marked reaction.

Forced flexion is performed when the leg is immobilized in extension. It is seized simultaneously with the thigh as we have indicated. The movements are naturally performed in the opposite direction, and we endeavor to render the angle formed by the leg and thigh more acute.

In powerful and robust persons extension and flexion may be performed at the same sitting, especially if but a sight reaction follows each attempt. If the deformity is in flexion, forced extension is made, in the opposite case flexion. But more frequently we are obliged to separate these two maneuvers and make the extension and flexion of the joint at different times. I begin to work on the most pronounced deformity and on the one which will be more difficult to overcome. The same rule ought to be observed in articulations of the leg, the foot, the wrist, the fingers and toes.

When a deformity in flexion has for its cause a retraction of the posterior group of muscles in the thigh, this maneuver is no longer sufficient. In this case, as the leg is flexed, the forced extension must be performed on the shoulder. This procedure, which is very powerful, is more rarely applied than the other.

I apply it as follows: Let us suppose that we have to deal with a false ankylosis of the right knee with flexion of the leg on the thigh. The patient has to lie down on a sofa in such a way that the right half of the pelvis and the corresponding lower limb is a little nearer the edge; the physician himself stands on the right side of the patient and leans with his knee flexed against the edge of the sofa, in such a way that the diseased leg rests by its posterior surface on the physician's right shoulder. The doctor grasps the limb with both hands above the knee, then rises slowly, still holding the ankylosed knee; this maneuver is repeated four or five times at every séance. It is indispensable to immobilize the other leg; without this precaution the patient will move this side, the pelvis will be slightly displaced—the fixation of the thigh not being a complete one—and only an insufficient rectification is obtained.

M. S., 38 years old, a baker. On August, 1882, in lifting a bag of flour he experienced a violent pain in the left gluteal region. The patient was nevertheless able to attend to his business the following days; but the pain reappeared with its former intensity as soon as he was obliged to make an effort to work. He resorted to methodical treatment only in March, 1883. Several vesicatories; the pain only increased; hydrotherapy did not succeed any better. The leg on the affected side began to atrophy; violent pain in the right side of the knee, tumefaction in the region of the right buttock; walking difficult. A surgeon of Bordeaux diagnosticated a muscular rupture in the lumbar region and prescribed the waters of Barèges. The patient stayed there a month, but without much benefit, and at the end of the season the leg had even shortened considerably. Disheartened, he applied to bone-setters. These resorted to violent extension. The application of these procedures was followed by an apparent curvature of the body on the affected side, walking became impossible; the patient could not take a step, and not even sit down without help. His general state of health suffered extremely under

*Bonnet, loco cit.

these circumstances. I saw the patient for the first time in March, 1884. The leg presented marked flexion at the knee and formed an angle of 135 with the thigh. This was flabby and thin. It could not be extended beyond the limit mentioned. Flexion almost normal. Forced extention of the contracture of the leg. This contracture was of a muscular nature and organic; it was rather a shrinking (retraction) of muscular elements, and had its seat in the muscles in the posterior region of the thigh. Pain and tumefaction followed almost immediately after traction in the lower part of the thigh and in the neighborhood of the knee. They were soon alleviated by massage. Thanks to this the pain and swelling were so much relieved after only a sitting (a quarter of an hour) that the patient was able to walk a little. After eight or ten sittings there was no cracking and no tumefaction after the manipulations. Very slight reaction in the knee joint. A fortnight after the beginning of the treatment the patient was able to take rather long walks. After six weeks he was quite cured and walked as well as before the injury. The limping was almost imperceptible. There remained but slight inclination of the body to the left. The atrophy of the muscles of the thigh had disappeared, thanks to energetic massage; no traces of the lumbar myositis remained. Some months later I received a very explicit letter from this patient; the result obtained persisted. There remained only a very slight inclination of the body to the left.

I have treated several cases of stiffness of the tibiotarsal joint with equal success. The maneuvers are very simple and do not require any special description.

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## FOUR CASES OF ESSENTIAL ANEMIA AND THEIR DIAGNOSTIC DIFFERENTIATION.*

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*Acute Lymphatic Leukemia.*—J. C. E., male, was referred to me for examination April, 1904. He is a resident of Nebraska, American, aged 40 years, blacksmith, married, and father of eight children. He never drank to excess, but had used a pound of chewing tobacco per week for fifteen years. His father is well at 76. Mother died at 55 of some liver and stomach trouble. One sister died at 26, two days after confinement, with dropsy and coma; one brother died at 33 from contracting an infection from a glanders horse.

He had typhoid fever at 14 years of age without complications or sequel. Occasional burning sensation in the epigastrium, and eructations had occurred for many years after eating greasy food. In April, 1903, he had la grippe, lasting two weeks, followed by dry catarrh of the middle ear, which was relieved by treatment. In December, 1903, he contracted a severe cold on exposure to a full day's wetting, which lasted four or five days, terminating in complete recovery. Early in March, 1904, a dull, aching pain across lower posterior chest developed, more intense at night, which had extended to lumbar region, and was persistent to the time of examination. Three weeks previously, while duck hunting, he noticed that he was short of breath on exertion and had grown steadily worse. Any physical effort had been attended by increasing fatigue for four weeks, and he had lost ten pounds in weight in that time. He had noticed also dizziness and faintness on exertion. There had been no edema, but for two weeks palpitation was evident on making any physical effort. No diarrhea or vomiting or hemorrhage of any kind had occurred. He had felt slight fever at times recently. On admission to the hospital, April 6, 1904, he was extremely pale, the ears translucent, mucous membrane of the lips and mouth was colorless. There was no icterus or apparent emaciation. There was no complaint of pain, but only extreme fatigue on making any physical effort. The temperature was 97.2 by the mouth, pulse 76, soft and compressible. Enlarged glands in the inguinal, axillary, and the post cervical regions of both sides were pronounced, and the inguinal involvement only had been observed by the patient for several months preceding. The glands were distinctly movable, slightly tender, and separate. The spleen and liver were palpable on deep inspiration, but not much enlarged. A tumor the size of a goose egg could be palpated just above the umbilicus, slightly tender and freely movable. This was not affected materially by inflating the stomach and chemical examination of the stomach contents after a test meal revealed decreased hydrochloric acid and no lactic acid. There was no evidence of heart lesion, though the systolic sound was not strong and a soft, anemic murmur was present. The urinary findings were negative. Two blood examinations were made by Dr. Truelson on different dates, nearly identical in results as follows: Hemoglobin, 23; red cells, 1,232,000; white cells, 385,000; megalocytes numerous, microcytes present, normoblasts present. Differential count of white cells (percentages): Small lymphocytes, 88; large lymphocytes, 8; polynuclears, 3; eosinophiles, 1.

The patient insisted on returning home after being under observation only four days. Later information received from a physician, who had been called just before death, stated that he rapidly became worse, the abdominal tumor grew larger, he had much pain, became slightly icteric, and died in coma June 25, two and one-half months after my examination, and within five months after the first symptom described. Unfortunately, no autopsy was held. In this case the tumor in the abdomen referred to gastro colic omentum. It may have been a gastric was thought to be a mass of enlarged glands in the carcinoma, but the general lymphatic enlargement with the blood picture stamped the case as one of leukemia, and the diagnosis was concurred in at the time by members of the Douglas County Society, before whom the patient was exhibited.

*Spleno-Myelogenous Leukemia.*—A. M. T., American, male, aged 40, railroad engineer, married, was seen in consultation in May, 1904. His father died at 36; cause unknown. Mother is living, at 70. Two brothers died in infancy. One maternal aunt died of cancer of the breast. He had measles and mumps in early childhood; intermittent fever at 11, lasting thirty-five days. At 13 he had right hemiplegia with aphasia, from which he fully recovered in two years. At 18 he contracted a venereal sore, which was said to be syphilitic. It disappeared after five weeks' treatment, and was not followed by secondary symptoms. At 33 he was laid up three weeks, after an injury to the right shoulder. He was then well to about three months previous to my examination, when he had pain and discomfort through the lower left chest posteriorly, aggravated by exercise. He then noticed commencing loss of strength, and a feeling of fullness in the left hypochondrium enabled him to detect a tumor ex-

*Read before the Missouri Valley Medical Society, August 24, 1905.

tending beyond the rib margin. There had been slight epistaxis during the past two weeks, and some headache. He had lost four pounds in weight in six months. He presented for examination May 10, 1904. He was pale, in good flesh, pulse 90, soft and rather feeble, temperature by mouth 99.4°. The heart apex was displaced slightly to the left and upwards. No murmurs were detected. The abdomen was very prominent, the result of an enlarged spleen which extended slightly to the right of the median line at the umbilicus and nearly to the left anterior iliac spine. It was hard, somewhat tender, and the notch could be plainly outlined. A few slightly enlarged glands were felt in either groin; none elsewhere. The urine passed the following twenty-four hours measured two quarts, S. G. 1022. Urea three per cent., albumin absent, numerous hyaline, and a few granular casts were found. Two blood counts were made at forty-eight hours' interval by Dr. Truelson of the Medical Department of the University, with only a slight variation, and resulted as follows: Red cells, 3,244,000; white cells, 295,000; hemoglobin (Dare), 48 per cent. Differential count (percentages): Polynuclears, 55; small lymphocytes, 2; large lymphocytes, 4; transitionals, 4; eosinophiles, 1; myelocytes, 34; megalocytes, microcytes, and normob'asts present.

The diagnosis of splenic leukemia was made and arsenic advised in increasing doses. No results in the size of the spleen being noticeable after two months, the *x*-ray treatment was advised, which was carried out by Dr. Andrews, with the result, after three months, of a reduction in the splenic enlargement of fully one-half, and a blood count on November 28, as follows: Red cells, 3,512,000; white cells, 14,200; hemoglobin, 60 per cent. Differential count (percentages): Polynuclears, 62; small lymphocytes, 18; large lymphocytes, 7; eosinophiles, 1; myelocytes, 12; normoblasts present. The patient left greatly improved, and he was desirous of returning to his occupation. On June 15, three months after a discontinuance of the *x*-ray treatment, he was not so well, and the spleen had enlarged again considerably. No count was made.

*Splenic Anemia with Atrophic Cirrhosis of the Liver.*—J. F. M., American, aged 65, married, retired farmer, was referred to me in the autumn of 1904. His father died at 42, after two months' illness; cause unknown. Mother died at 70 of goitre. One sister died at 40, after confinement. One brother died at 16, of typhoid fever. He had intermittent fever at intervals from the ages of 18 to 21 while residing in a malarial district. This later recurred with bilious attacks frequently during his service in the War of the Rebellion. After the war he resided in Alabama, where it again recurred. He later moved North, where he was again afflicted for two seasons. In 1885 he vomited over a pint of blood, without other symptoms, and with no known cause, and again three weeks before presenting for examination. He was then in fair health until 1896, when he first observed shortness of breath, followed by some pain in the chest, which troubled him for the ensuing three years, and recurred at intervals since. Dyspnea had grown much worse lately. Several times he has passed blood from the bowels, said to have been from piles. During the past eight years he has gradually lost flesh and strength, and there has been increasing discomfort and a full feeling about the abdomen and chest. For four or five years he has been very pale. Latterly fever at times, indigestion and swollen feet have been noticeable. He states that for four or five years he has known of his spleen being much enlarged. He presented himself for examination September 26, 1904. He was very pale and slightly icteric. The abdomen was prominent and edema of the lower extremities was evident. The heart apex was displaced to the left and a systolic murmur heard over the entire precordium and in the neck vessels. There was fluid in the abdomen, the liver dullness was diminished, and the spleen was enormous, reaching past the umbilicus and to the crest of the ilium. The organ was hard, tender, and the outline, with the notch distinct, could be readily made out with the patient lying on the right side, notwithstanding a considerable amount of fluid in the abdomen. The pulse was 116, irregular and soft. There was slight fever. A blood count, made by Dr. Goetz, showed: Red cells, 3,900,000; white cells, 3,400; hemoglobin, 34 per cent.; tendency to poikilocytosis. Differential white count (percentages): Polynuclears, 66; small lymphocytes, 28; large lymphocytes, 5; eosinophiles, 1. A second examination, made three days later by Dr. Truelson, indicated: Red cells, 3,088,000; white cells, 1,100; hemoglobin, 28 per cent. Differential count (percentages): Polynuclears, 33; small lymphocytes, 63; large lymphocytes, 4; poikilocytes very marked; megalocytes present; microcytes numerous. The patient was put upon iron, arsenic, and strychnine, with cardiac stimulants and diuretics, with instructions for absolute rest. He insisted on returning to his home in Iowa, where, I have recently learned, he died about two months after my examination. The diagnosis of splenic anemia in this case was based largely on the enormous size of the spleen, which had been known to be very large for several years, with the blood findings indicating a chlorotic type with leucopenia. The associated apparent cirrhosis of the liver would correspond with the cases described by Banti, and which some authors have endeavored to show present conditions not true to simple splenic anemia, and hence designated them as cases of Banti's disease. True, in this case there was an old heart lesion, as shown by a mitral regurgitation and enlargement of the heart, which, with the interference in the portal circulation by an atrophied liver, might account for a considerable enlargement of the spleen, due to passive congestion; but the slight degree of edema of the legs and the moderate ascites with the clinical history led me to believe that there must have been a prior lesion of the spleen, which I admit was intensified by the hepatic and cardiac complication. It is unfortunate that an autopsy could not have been obtained, as the case might have thrown some light on a subject about which there is much diversity of opinion expressed in recent literature regarding the existence of so-called splenic anemia as an essential anemia.

*Pernicious Anemia.*—R. B., American, male, aged 45, married, janitor. His father died at 79 of senility. Mother at 52; cause unknown. Two brothers died in infancy. He has lived in Nebraska since childhood. He had chills and fever at 10, lasting nearly one year; at 35 was laid up for one month from overwork. He was then well until the fall of 1904, when he noticed commencing fatigue after exertion. He was then said to look pale. He grew gradually worse through the winter, until recently he was so constantly tired and became so weak that he was obliged to give up even light work. For the past three weeks he has had two loose bowel movements of normal color daily. He had lost only about ten pounds in weight. There had been some palpitation and short breath on attempted exertion. He had no stomach symptoms whatever; nor had there been hemorrhages of any kind. He presented for examination April 24, 1905. He was extremely pale, with a slight icteroid color of the skin, and the ocular sclera was pearly in hue. The mucous

membrane of the lips and gums was colorless; the ears were bloodless. There was no apparent emaciation, but the muscles were flabby and the skin relaxed. The spleen could be barely palpated. The liver dullness was normal, and there was no tenderness or abnormality about the abdomen. The heart area was normal, but a faint systolic murmur could be detected over the base. The pulse was 102, soft and weak, temperature by mouth 99.5, urinary examination was negative. A test meal evacuated from the stomach after taken one hour showed no response to the hydrochloric reagent, neither was there lactic acid. Inspection of the bowel movements failed to reveal anything abnormal as to color or composition. A blood examination on two different dates by Drs. Truelson and Goetz resulted, with but little variation, as follows: Hemoglobin, 27 per cent.; red cells, 1,296,000; white cells, 5,000. Differential count (percentages): Polynuclears, 63; small lymphocytes, 32; large lymphocytes, 4; myelocytes, 1; megalocytes and microcytes numerous; poikilocytes well marked. The subsequent history of this case to date with further corresponding blood findings, notwithstanding the administration of iron and arsenic in increasing doses, with a system of forced feeding, which included bone marrow in considerable quantity, corroborated the original diagnosis of pernicious anemia, which was based on the absence of any cause for a relative anemia, the peculiar hue of the skin and the mucous membranes, the symptoms of progressive weakness, and the blood findings.

In considering the differential diagnosis of the essential anemias, it is assumed in the individual case, every possible cause of a relative or secondary anemia should be eliminated; for while it is acknowledged that the blood picture between any relative, and some of the primary anemias, is not always so different as to determine the diagnosis by itself, yet this is true for the most part. Also between the different forms of the primary anemias it is assumed that the clinical history and the physical examination of the patient are of great importance in their differential diagnosis, and it is only when taken into consideration with the blood findings that we may feel reasonably certain as to our conclusions. We know that in splenic leukemia there is great enlargement of the spleen, with occasional slight involvement of the lymphatic glands. In lymphatic leukemia there is general enlargement of the lymphatic glands, with only slight involvement of the spleen. In splenic anemia the spleen is usually enormous. In pernicious anemia the spleen is only slightly larger than the normal, if at all. In Hodgkins' disease there is general lymphatic enlargement, with no change in the spleen. In all of these anemias there is marked pallor, great weakness, bodily and mental torpor, dyspnea on exertion, palpitation, cold extremities, a blood examination one might confound splenic anemia with splenic leukemia and lymphatic leukemia with Hodgkins' disease, and pernicious anemia, with indigestion, and constipation or diarrhea, and possibly hemorrhages, dating back for an uncertain period, so slowly do the symptoms develop, and but for chlorosis or a secondary anemia. My case of splenic anemia was sent to me, with a diagnosis of leukemia, and the case of splenic leukemia, reported above, was pronounced carcinoma and syphilis of the spleen by two different men, respectively. Before the blood examination was made in the case of pernicious anemia (my own) I was inclined to suspect carcinoma of the stomach. I have arranged the following table, which indicates the comparison of blood findings found in the cases herein reported, and which represented the usual relation as laid down in most text-books:

| | Hemoglobin Index | Number of Red Cells | Poikilocytes, Macrocytes, Microcytes | Number of White Cells | Polynuclears Percentage | Large Mononuclear Percentage | Small Mononuclear Percentage | Myelocytes Percentage |
|---|---|---|---|---|---|---|---|---|
| Lymphatic Leukemia | 1 | 1,232,000 | | 385,000 | 3% | 8% | 88% | |
| Splenic Leukemia | 1 | 3,244,000 | | 205,000 | 55% | 4% | 37% | 34% |
| Splenic Anemia | 1 | 3,900,000 | | 3,400 | 66% | 5% | 28% | |
| Pernicious Anemia | 1 | 1,296,000 | Present | 5,000 | 63% | 4% | 32% | 1% |

That variations from these comparisons may and do occur is sufficient ground for not relying on the blood findings alone for a diagnosis, and, as stated above, they are of value only when considered with the clinical history and the physical examination of the case. For instance, Strauss and Rohnstein reported two cases of pernicious anemia in which the enumeration of red cells were over 4,000,000, and yet one of the patients presented with such a degree of weakness as to incapacitate him. Since this paper was commenced I saw a case of splenic leukemia with Dr. J. E. Summers, in which there was enormous enlargement of the spleen without any involvement of the lymphatic glands whatever, and yet the differential counts as made by Dr. Lavender were classically those of lymphatic leukemia as follows: White cells, 152,000; small mononuclears, 86 per cent.; large mononuclears, 10 per cent.; polynuclears, 4 per cent.; myelocytes, 8 per cent.; eosinophiles, 20 per cent.

## FURTHER REPORT OF A CASE OF PRIMARY LUPUS VULGARIS OF THE OROPHARYNX AND NASOPHARYNX, TREATED BY X-RAYS.*

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At the meeting of this association a year ago, I had the honor of presenting a report of a case of primary lupus vulgaris of the oropharynx and nasopharynx, treated by *x*-rays (*Transaction of the American Laryngological Association* for 1904, and the Medical Record, December 24, 1904); some of the members kindly requested that I should report further upon the progress of this case under the treatment then adopted, and I have much pleasure in complying with their wish on the present occasion.

I last saw this patient in May, 1904. At that time the lesions which had shown themselves in the nose, oropharynx and nasopharynx had entirely disappeared. It was not until December of the same year that the patient again presented himself at the Nose and Throat Outpatients' Department of the Royal Victoria Hospital. He came, not that there were any symptoms which needed attention, but merely to report. Examination of the sites of the former lesions, namely the oropharynx, the nasopharynx, and the cartilaginous portion of the septum, showed the local conditions to have remained absolutely healed, and the only indications of their former presence were fine linear cicatrices.

Upon examination of the larynx, the epiglottis was noticed to be swollen and infiltrated, and its surface studded with minute infiltrations, pin-head

*Read at the Twenty-seventh Annual Congress of the American Laryngological Association, Atlantic City, N. J., June, 1905.

in size. At the extreme periphery of the epiglottis these infiltrations stood out individually, but proceeding from this point to the body of the epiglottis they gradually became smaller, and finally merged into the smooth surface of the mucous membrane. The epiglottis was so swollen and enlarged that when lying in a quiescent state, it came in contact with a point directly opposing the posterior wall of the pharynx. In this portion of the pharynx a small ulcer was noticed, in size about 7 mm. wide and 5 mm. broad, and in outline almost circular, the edges of which were infiltrated with small, round, nodular thickenings, in color slightly paler than the surrounding mucous membrane, and corresponding exactly in color with those on the edge of the epiglottis.

The subjective symptoms were entirely negative and the patient was unaware of the newly existing conditions in his throat. There was no question from the appearance of the local trouble that we had the same pathological process as that which existed in the upper portions of the respiratory tract, making itself known in another region.

The application of the *x*-rays was at once begun. They were applied externally through the tissues in the front of the neck corresponding to the parts invaded within. The same precautions were observed in treating this new area of infection as were carired out when applying the treatment to the previously invaded region. The applications were made four times a week, the duration of the application being increased from ten minutes to twenty minutes. This treatment has resulted in definite cicatrization of the right half of the epiglottis. This is proceeding satisfactorily towards the remainder of the epiglottis, and the ulceration on the posterior wall of the pharynx has been so far diminished in size that it measures but 3 x 2 mm.

In the report of this case presented last year, I made a brief note of a patient who was suffering from lupus of the nose which, before coming under observation, had destroyed the greater portion of the nose, and had involved the epiglottis in a similar process. *X*-ray treatment was instituted in this case at that time. I have had the opportunity of seeing this patient quite recently, and am glad to be able to report a complete disappearance of the lesion involving the epiglottis with the result, however, that it has left the epiglottis destroyed to half of its extent.

Whilst I do not care to make definite statements regarding the usefulness of this form of treatment for lupus of the mucous membrane of the respiratory tract, yet I think one may look upon the results obtained in these two cases, with a fair amount of justice, as sufficient to warrant its trial in the place of so many other therapeutic measures, the results of which have been anything but satisfactory.

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## ACUTE PANCREATITIS.

By JOHN G. SHELDON, M.D.,

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This article is not written with the idea of adding to the knowledge of pancreatic disease, but for the purpose of calling attention to certain considerations regarding the disease that are at the present time unsettled, and which are so often unmentioned by those who contribute to the knowledge of diseases of the pancreas. The physicians who reside distant from the centers of medical education are many times at a loss to know the opinions of those who are best qualified to give advice on certain important, but unsettled, considerations in rare and obscure conditions. Many articles leave unmentioned that which we, as "Country Doctors," wish to have discussed.

There are a few considerations that suggest themselves in dealing with acute pancreatitis that may be of importance, but are passed over hurriedly, or not touched upon at all, by many who give advice on pancreatic diseases.

1. Cambridge and Robson have stated that the finding of glycerin in the urine—that is recognized by practically the tests for glycerose—is characteristic of pancreatic disease. Further reports on this observation are difficult to obtain. Carl Beck, in an article published in the *Medical News* of September 9, 1905, states that "in summing up, it becomes evident that there is not one sign which is absolutely pathognomonic for pancreatitis." He does not mention the significance of glycerin in the urine, and we are uncertain that he has disproved the contentions of Cammidge and Robson.

2. There seems to be a difference of opinion regarding the nature of acute pancreatitis in its beginning stages. Theoretically and experimentally, as well as clinically, there is considerable evidence in support of the contention that acute pancreatitis, at its beginning, is dependent upon mechanical conditions, and that the primary changes in the pancreas are entirely chemical, and not the result of bacterial invasion. The experimental pancreatitis produced by Opie, Pearse, Flexner, and Hewlett, suggests that acute pancreatitis, in all stages and all degrees of severity, can and does occur as an aseptic process. The work of Pawlow, who observed that the bile increases the efficiency of the fat-splitting ferment of the pancreas, also supports the mechanical theory of pancreatitis. Hlava has shown clinically that the exudate in a case of acute hemorrhagic pancreatitis contained no microorganisms. While there is support for the belief that infection in acute pancreatitis is to be regarded as a secondary complication, and not as the primary factor in producing the disease, Dr. Beck requests us to realize "that acute pancreatitis is virtually an infectious process not unlike acute appendicitis."

3. The reports of cases of acute pancreatitis are as a rule, quite indefinite regarding the condition of the gall-bladder. I have found the gall-bladder distended and very tense in three out of four cases of acute pancreatitis observed at operation or autopsy. While the condition of the gall-bladder may be of little value in determining the nature of, or the best method for treating pancreatitis, it may be that a tense gall-bladder would favor the mechanical theory of the disease, and suggest that early cholecystostomy might meet the pathological indication in these cases. I have done a cholecystostomy in a supposed case of acute pancreatitis twelve hours after the onset of the symptoms. The gall-bladder was tense and contained dark tarry material that was free from microorganisms. Prompt improvement followed the drainage of the gall-bladder, and the recovery was complete and apparently permanent.

Beck suggests that cholecystostomy may often be expected to relieve acute pancreatitis. While at the present time drainage of the gall-bladder cannot be looked upon as the accepted early treatment of acute pancreatitis, it is possible that cholecystostomy may be the most efficient of operations in dealing with this disease in the very early stages.

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**Ward Rats.**—At Acton, England, recently it was stated that the nurses at the public hospital were afraid to enter some of the rooms on account of the rats and that the rodents terrified the patients at night by sitting on their beds. The matter was referred to a committee "with power to act."

MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

THOMAS L. STEDMAN, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, November 4, 1905.

## THE ARMY CANTEEN.

With each recurring autumn, when the annual reports of the Department Commanders of the Army are made, testimony accumulates in support of the moral value of the post exchange, or canteen, as it is usually called. It is now nearly five years since the efforts of the misguided ladies, who do so much to promote vice through their endeavor to make virtue compulsory, succeeded in bringing about an act of Congress closing the canteens. The policy of abolition has, therefore, prevailed for a sufficiently long period of time to warrant the passing of judgment upon it as a moral force in the army, and the unanimous judgment of those best fitted by observation and experience to express an opinion, is that the closing of the post exchanges has had the most deplorable results. Drunkenness, gambling, sexual immorality, with the resultant venereal disease, infractions of discipline, desertions, and insanity, have all increased since the sale of beer and light wines in the post exchanges was forbidden by law, and the causal relation of the closure of the canteen to the loss of moral tone among the soldiers is undeniable. The testimony of every division and department commander in the army is all one way.

In his report just published, Gen. Grant says that fully 75 per cent. of the 12,042 summary court-martial trials of enlisted men in the Department of the East, during the year, were due to the use of bad liquor, dispensed to our soldiers by persons who conduct dens of vice in the vicinity of military posts. These depraved creatures use every device in their power to induce the soldiers to patronize their places, where those who yield to temptations are frequently drugged and robbed. Gen. Wint, commanding the Department of the Missouri, speaking of the desertions, which furnish about one-third of the general court-martial trials, says that a great majority of them trace their history to drunkenness, induced by the environment of the low dives and vicious gambling and drinking resorts infesting the neighborhood of most of the posts. The evil is even worse in the Philippines, where Gen. Carter, of the Department of the Visayas, has shown most clearly that the hundreds of soldiers who are being brought home insane from the islands are the victims of the abolition of the canteen. Instead of taking pure beer in moderation at the post exchange, they are led by the abolition of the canteen to make use of the poisonous native drinks. Another evil of the abolition of the canteen is that the soldier is cheated and robbed of his earnings in the gambling dens, groggeries, and brothels, which have sprung up around all the army posts of any size. The Paymaster-General of the army reported last year that since the abolishment of the canteen the amount of money deposited with the paymaster's office by the enlisted men, had decreased by nearly two millions dollars.

The Seaman prize of the Association of Military Surgeons, awarded annually for the best essay on "The Prevention of Disease in the Army and the Best Method of Accomplishing that Result," was given this year to Major Jefferson Randolph Kean, Surgeon, U. S. A., for a paper in which he made a strong plea for the reestablishment of the canteen at army posts. He showed by statistics that since the canteen was abolished all kinds of diseases traceable to dissipation have increased in the regular army. The reason, he said, is that low groggeries have sprung up around army posts where soldiers drink to excess and then fall victims to disease.

In contrast to these pictures, all exactly alike, of the fearful evils which have followed the abolition of the canteen feature of the post exchange, is the positive testimony of the good the canteen did when it was permitted to exist. This is found in the statement of Gen. Jesse M. Lee, in his annual report, in which he says that "a well-regulated canteen, where beer and light wines may be sold, conserves discipline, controls and decreases drunkenness and disorders, lessens absenteeism, and to that extent tends to reduce desertion."

The good, but awfully mistaken women, who have brought this calamity upon our soldiers, are unable to deny the damning facts which the generals of the army bring forward each year in their official reports, but still attempt to justify their action by the wicked old shibboleth, "no compromise with vice." Better, they say, that thousands of young men in the army should be ruined, their souls debauched, and their bodies diseased, than that a Christian State should sanction the sale of beer and tobacco. One of their pet arguments is that the soldier should be forbidden to drink. Railways and other great corporations, they say, have made a rule that their employees shall be total abstainers, and the army, they think, can do the same. They forget that among the employees of corporations only those who hold positions of great responsibility, such as the switchmen, train dispatchers, and locomotive engineers, are compelled to abstain from the use of alcohol, and also that men seek employment on the railways and in the various industrial occupations, but that the army seeks the recruit. If total abstinence was demanded of the soldier there would have to be some other system than recruiting devised to keep up the strength of the army.

It is practically certain that a bill will be introduced in Congress this coming winter to restore the canteen, and there is every hope that it will pass, despite the opposition of the curious alliance of the whiskey dealers and the ladies of the W. C. T. U. These are the only enemies of the enlisted men in the army, so far as we know, while on the side of morality are all the officers of the line, the chaplains, and the members of the medical corps, the Women's Army and Navy League, and all who believe in persuasion rather than compulsion as an efficient moral force.

## INOPERABLE CARCINOMA OF THE UTERUS.

The combat against cancer of the uterus occupies a prominent position in the foreground of gynecological endeavor, but in spite of all the study and attention which the subject has received and the many therapeutic efforts which have been made to overcome the dread disease, we must still admit that whatever knowledge we possess of the nature and extension of the affection is lamentably insufficient for our purposes. But although the search for the solution of the problem has not been crowned with complete success, further efforts should not be abandoned, for the good results obtained with operative measures in many cases, show that the hope of cure is not an impossible one, and there is ground for the belief that any cancerous particles which may have remained after what must necessarily be an incomplete operation, can undergo a process of degeneration which renders them innocuous. Surgery has been favored with an increasing measure of success in this condition, as the technique has been perfected and methods for the early recognition of the growth have become more generally known. But the hope which is held out to that class of patients who can be operated upon at an early period, is entirely lacking in the prognosis which is delivered to those in advanced stages who are declared "inoperable," and who must drag out their increasingly miserable existence, a burden to themselves and those about them. What to do for these afflicted women has remained a problem of gynecological practice. After being abandoned for a time, the idea is now again gaining ground that some palliative operation should be resorted to even in advanced cases, ordinarily considered inoperable. This aspect of the question is exhaustively discussed in a recent article by Chrobak, of Vienna (*Wiener klinische Wochenschift*, No. 38, 1905), in which he deplores the treatment usually accorded to the latter class of patients and combats the rather prevalent idea that palliative measures in an advanced case are futile, and that a sufficient quantity of morphine will alone afford the desired relief to the sufferer. It may be said with a great deal of truth, perhaps, that the latter opinion is often governed by the personal convenience of the physician. In advocating such palliative measures as curettage and the application of caustics to the interior of the uterus, repeated if necessary, together with appropriate local and constitutional treatment, Chrobak in no way deprecates the radical operation; but he asserts that no comparison as to results can be drawn between series of cases treated by one or the other measure, and furthermore it is not fair to compare the cases treated at the present day by palliative means with those of a former generation, as many of the latter would undoubtedly have been subjected to radical operation with our present day knowledge of the subject. The suggestions made by Chrobak may well be studied and followed, for such endeavors to alleviate the pangs of the inevitably fatal termination of these "inoperable" cases, will redound to the credit of the physician who puts them into execution, and will also quiet his conscience in having provided all that is possible for the euthanasia of the unfortunate woman.

### The Significance of Balantidium Coli.

There still seems to exist at the present day considerable obscurity regarding the pathogenic importance of the *Balantidium coli* in man, and if mentioned at all in recent text books, it is usually referred to as an accidental invader in certain cases of diarrhea or dysentery, and its injurious influence is doubted. Later investigations make it appear probable, however, that this parasite is capable of causing a specific diarrhea, not infrequently of a serious nature. R. P. Strong, director of the Biological Laboratory in Manila (Bulletin No. 26, Bureau of Government Laboratories, Manila), has collected 117 cases from the literature, and the study of these should afford material for more definite ideas regarding this infusorium than we have hitherto been favored with. In his own case (a soldier inmate of the hospital in Manila, who died from the effects of the disease), a very careful clinical history and pathological examination were obtained, and taking the results together with what is already known of the condition, the author seems quite within bounds in assuming that the diarrhea which is associated with the presence of *Balantidium coli* in the stools, is due to this parasite. Moreover, the diarrhea will be found to persist until treatment is directed immediately against the organism. An interesting point which may explain the mode of infection is the fact that 25 per cent. of the patients in the above list gave a history of having come in contact with pigs or of having eaten the raw flesh of the latter in fresh sausages. In addition to this, the parasite has often been found with the hog as a host. The large intestine in patients who had succumbed to the disease, showed at autopsy ulcerative processes similar to those of amebic dysentery, and more careful histological study of some of the cases has also disclosed an invasion of the coats and vessels of the colon. Whether this protozoan is capable of producing a primary erosion of the walls of the gut has not as yet been conclusively demonstrated. If an erosion is present from another cause, however, the parasite is evidently capable of continuing the process of producing, in connection with the bacteria which accompany it, more or less characteristic pathological lesions.

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### The Need of Recreation.

A well-known financier some time since gave utterance to the statement that recreation was a needless luxury, a waste of time and money, and conferring no benefits mentally or physically. This expression of opinion on the part of the man of money naturally gave rise to much discussion, and the subject has been debated with considerable vehemence from every conceivable standpoint. It is superfluous to say that the consensus of opinion was against the views of the financier, and it was pointed out in both medical and lay journals that experience entirely controverted the assertion that recreation was useless. Indeed, the fact is too self-evident to need any argument that every man who works with his brains and leads a more or less sedentary life cooped up amidst the noise and turmoil of a great city, requires at least once in a year a respite from his nerve-wracking or monotonous labors. The wear and tear and stress and strain of modern business life in cities are exhausting to a high degree, and there are few who can endure them for long without incurring serious injury to health. The mental powers become worn, the body suffers in unison and unless a timely rest be taken, there will inevitably be a general break down. The wise man,

therefore, recuperates his fagged nervous system and his overworked body by means of a periodical change of scene and air. The physician in particular is by virtue of his calling a martyr to his profession. A busy medical practitioner is unable to call a minute his own, and is often compelled literally to snatch his rest whenever and wherever he can. The normal man or woman who lives amid the artificial conditions of modern civilized life will some time receive due warning that mental and physical powers are at high tension, and if further strained will give way, and complete collapse will be the result. The best plan is to take rest and recreation at the first symptoms of nervous exhaustion, but this course is seldom followed. So long as an individual remains at the scene of his work, he will continue at the treadmill, and thus the wisest procedure is at once to forego all business, and to seek fresh air and pastures new, in order to give the tired brain and impaired digestive system a chance to recover their equilibrium. To the ordinary person, as opposed to the mere money-making machine, an adequate amount of rest and recreation is more than a need, it is an absolute necessity.

### Education of the Unfit.

It is, of course, rank heresy to say anything in disparagement of the system of education—we might say overeducation—which prevails in this day and country. We are told that the public schools lie at the foundation of America's greatness, and in every municipal election in New York the stock reproach of the outs against the ins is that the latter have failed to provide adequate school accommodation for the children of the poor. But it may well be doubted whether our common school educational system is not, carried to its present extreme, productive of at least as much harm as good. We do not question the value of the three Rs, but how far beyond that the average child should be carried in his studies is a matter for grave consideration. In his recently published text book of psychiatry, Stewart Paton dwells upon the irrationality of our present system and he holds that there are numbers of children "seriously injured mentally and morally by a schooling ill adapted to their individual needs and necessities." "Every one admits," he says, "that it is the duty of the physician to warn those with weak hearts or lungs not to overtax those organs. Is it not equally important that the mental welfare of a community be safeguarded? Only some men are born to be educated; how many more, unfortunately, have thrust upon them an education which is disastrous not only to themselves, but also to the community at large!"

**Antidiphtheritic Vaccination.**—Bandi and Gagioni, speaking of the brevity of the immunity that is conferred by the injection of antidiphtheritic serum for prophylactic purposes, notwithstanding the experiments of Bandi with the bivalent serum, which have increased the curative as well as the preventive power of the serum, assert that they have attempted the preparation of a vaccine against diphtheria which shall confer a lasting immunity, that shall be effective. They conclude, from their experiments, that we can obtain in man and in animals by vaccination an immunity both antibactericidal and antitoxic against diphtheria without producing any harmful results. This immunity is constantly increased, the blood showing spontaneously a certain specific action against diphtheria. The immunity conferred by vaccination against diphtheria is more enduring than that conferred by prophylactic injections of antidiphtheritic serum.—*La Riforma Medica.*

## News of the Week.

**Dr. Bulkley's Lectures on Diseases of the Skin.**—The governors of the New York Skin and Cancer Hospital announce that Dr. L. Duncan Bulkley will give a series of clinical lectures on diseases of the skin in the Out-Patient Hall of the Hospital, Second Avenue and Nineteenth Street, on Wednesday afternoons, commencing November 1, 1905, at 4.15 o'clock. The course will be free to the medical profession.

**The Association of Life Insurance Medical Directors of America** held their Sixteenth Annual Meeting in New York City on Wednesday and Thursday, October 25 and 26, at the Academy of Medicine. Besides the general business, special papers were read as follows: "The Significance of Albumin and Casts When Found in the Urine of Apparently Healthy Applicants for Life Insurance," by Dr. Edwin Wells Dwight; "The Heart from an Insurance Standpoint," by Dr. Arthur Pell; "Albuminuria," by Dr. Thos. C. Craig. In addition to these papers the pamphlet entitled "Indications for Selection" was thoroughly discussed. The annual dinner of the Association was held on the evening of October 26 at the St. Regis Hotel. Special attention was given to this feature by Mr. Hahn, and it was a fitting close to a successful meeting.

**Yellow Fever.**—For the first time since yellow fever appeared in New Orleans the noon bulletin of October 28, covering the sixteen hours preceding showed that there were no new cases and no deaths. Dr. White and all the officers of the Marine Hospital Service were presented to Governor Blanchard at the St. Charles Hotel on Saturday, and afterward to Mayor Behrman at the City Hall. The ceremony was incidental to the departure of many of the surgeons from the city. The Governor has appointed Dr. White as colonel of his staff. In Panama there have been a few cases of yellow fever recently. Three men have died, and there are still several down with the fever.

**Consolidation of Charity Journals.**—After November 1, *Charities* of New York and *The Commons* of Chicago will be merged. The combined weekly journal will be more or less of a co-operative undertaking among those who know conditions first hand and are shouldering such movements as housing and child labor reform, the prevention of tuberculosis, and the social utilization of public schools. The editorship will be in the hands of Edward T. Devine of New York, and Graham Taylor of Chicago. To develop the educational work along national lines, a publication committee has been organized with Robert W. de Forest, former Tenement House Commissioner of New York, as chairman, and including Jane Addams and Margaret Dreier Robins of Chicago; Jacob A. Riis, Frank Tucker and Robert S. Brewster of New York; Daniel C. Gilman, Baltimore; Robert Treat Paine, Arthur F. Estabrook, Joseph Lee and John F. Moors of Boston; Simon N. Patten, Philadelphia; and S. W. Woodward, Washington.

**The Consolidation of "Climate" with the "Journal of Tropical Medicine."**—With the advent of the new year, the *Journal of Tropical Medicine* will issue four numbers annually, devoted especially to health and travel in warm countries. This is essentially the field formerly covered by *Climate*, a paper formerly edited by Prof. Chas. F. Harford, of Livingston College, who has been compelled to discontinue his journal because of the new public duties which he has undertaken.

**Erection of a Building for Chicago Physicians.**—The question of the establishment of a permanent medical home and library for the physicians of Chicago and Cook County was discussed at a meeting of the Physicians' Club, held October 23. Dr. Chas. L Dana of New York, the invited guest of the club, gave a brief history of the organization of the New York Academy of Medicine, and offered suggestions relative to the establishment of a similar organization in Chicago. After some remarks by Dr. Nicholas Senn, with reference to the establishment and maintenance of a medical library in such a club, a general discussion followed. It is proposed to make the building self-supporting from the rents received for private offices of physicians and surgeons, and at the same time to supply a place for the extensive and valuable library of the Chicago Medical Society, lecture and meeting rooms, club features, and rooms fitted up to take care of emergency cases and minor surgical work. Dr. Senn offered to be one of twenty to subscribe five thousand dollars each for the project. Dr. Daniel R. Brower proposed that the number be increased to one hundred supplying at once the means for beginning work. The trustees of the John Crerar Library, whose spokesman was Dr. E. S. Andrews, offered to take care of the medical library in the new building that will be erected on the lake front, and also to supply meeting rooms for medical societies.

**A Portrait of Dr. John Redman Coxe** has been presented by a grandson of the same name to the Medical Department of the University of Pennsylvania. Dr Coxe was born in Trenton, N. J., September 16, 1773 and was a student under the tutelage of Dr. Benjamin Rush. He was appointed Port Physician at Philadelphia in 1798, and he was for five years one of the physicians to the Pennsylvania Hospital. He was also a Physician to the Philadelphia Dispensary and Professor of Chemistry in the University of Pennsylvania. He was Professor of Materia Medica and Pharmacy in the University from 1818 to 1835. He was also a Trustee of the University and one of the founders of the Philadelphia College of Pharmacy.

**Bequests to Philadelphia Hospitals.**—By the will of David Teller of Philadelphia the sum of $250 is bequeathed to the Jewish Hospital. By the will of John Joseph Alter of Philadelphia the sum of $50,000 is devised to the Hahnemann and the Jefferson Hospital each, for the establishment of a John Joseph Alter Memorial, the character of which is left to the discretion of the trustees of the hospital. In addition the sum of $10,000 is bequeathed to each of the two hospitals named, for the endowment of two free beds, and also the sum of $10,000 to the University Hospital for the endowment of two free beds. By the will of Frances E Loeb the sum of $500 is bequeathed to the Jewish Hospital and to the Jewish Maternity Hospital. By the will of the late Samuel B. Seidenbach of Philadelphia the sum of $500 is bequeathed to the Jewish Hospital and the sum of $250 to the Samaritan Hospital

**A New Hospital Car.**—Recently a new hospital car was exhibited in Chicago by the Southern Pacific Railroad. This car can be transformed very easily into a parlor coach, and when it is not in use as a hospital car all of the berths and beds and the operating table are lowered beneath the floor, where they are stored. The floor sections of the berth space come up and form the head and footboards for the berths. The sections can be made up in single or double berths, and in place of the ordinary arrangements brass bedsteads may be substituted. Both lower and upper berths are provided with steel springs and the best mattresses. There is ample ventilation for both upper and lower berths, and either bed can be raised or lowered to any height desired. When the beds are in use the chairs and baggage are stored in the spaces beneath them.

**Patriotism vs. Humanity.**—As an instance of the intense earnestness of those who are struggling for liberty in Russia and of their hatred of the brutal Cossack defenders of the Government, it is reported that over two hundred physicians met in Odessa on Sunday last and unanimously resolved to refuse to aid any soldier, Cossack or military or civil official who is injured in fighting the people.

**Officers of the Chicago Gynecological Society.**—At the twenty-seventh annual dinner of this society, held at the Auditorium Annex October 20, the election of officers resulted as follows: *President*, Dr. Frank T. Andrews; *Vice-Presidents*, Drs. Joseph B. De Lee and Chas. E. Paddock; *Secretary*, Dr. Henry F. Lewis; *Treasurer*, Dr. Chas. B. Reed; *Pathologist*, Dr. Gustav Kolischer; *Editor*, Dr. Rudolph W. Holmes, *Councilor*, Dr. Franklin H. Martin.

**Chicago Surgical Society.**—The following officers were chosen at the annual dinner of this Society, which was held October 13: *President*, Dr. D. A. K. Steele; *Vice-President*, Dr. D. W. Graham; *Secretary*, Dr. Wm. Hessert; *Treasurer*, Dr. Frederick A. Besley; *Members of the Council*, the Secretary, the Treasurer, and Drs. L. L. McArthur, E. Wyllys Andrews, and A. J. Ochsner.

**The Tuberculosis Exhibition.**—The American Museum of Natural History has given the use of a large exhibition hall to the National Association for the Study and Prevention of Tuberculosis and the committee on tuberculosis of the Charity Organization Society for the American Tuberculosis Exhibition to be held from November 27 to December 9.

**Agnes Memorial Sanatorium.**—Not approving of the present policy of the institution, the entire Medical Board, consisting of Drs. Arnold Stedman, W. H. Bergtold, Carroll E. Edson, J. A. Wilder, and L. B. Lockard, resigned from the Agnes Memorial (Phipps) Sanatorium, Denver, Col.

**A Reception to Dr. von Noorden.**—The Medical Club of Philadelphia held a reception on October 25, in honor of Dr. Carl von Noorden of Frankfort, Germany.

**Resignation of Philadelphia Health Officials.**—Dr. Edward Martin has resigned the position of Director of Public Health and Charities in the city of Philadelphia. Dr. Charles B. Penrose has resigned as a member of the Philadelphia Board of Health. He is a brother of Senator Penrose, the leader of the Stalwart Republicans of Pennsylvania, between whom and Mayor Weaver of Philadelphia an interesting political conflict is going on.

**Dr. Josiah Calvin McCracken,** well known as an athlete and football player, has been selected by the Christian Association of the University of Pennsylvania to help establish a medical school in Canton, China. In this work he will be aided by Dr. A. H. Woods, who has been in Canton for some time, taking part in the work of the Canton Christian College.

**The Philanthropic Hospital** of William's Bridge, New York City, recently chartered by the State Board of Charities, was dedicated a few days ago in the presence of a large gathering of the medical profession and others interested. The old Jerome Hall, at Briggs Avenue and Maple Street, was

leased and remodeled, and it was this building that was dedicated. It is a frame structure, and has accommodations for twenty patients, with a house staff of six physicians and six nurses.

**The Ravenswood (Ill.) Hospital** was recently incorporated with a capital stock of $50,000. It is the intention and purpose to maintain a hospital and training school for nurses. The names of the incorporators are Drs. Geo. W. Green, Geo. N. Bussey, and Ernest A. Fetherston.

**A Long Island Sanatorium Association.**—The State Board of Charities has been asked to approve of the incorporation of the Long Island Open Air Sanatorium of Brooklyn, formed to furnish hygienic treatment for consumptives and to encourage work for the control of tuberculosis on Long Island.

**A Ruse to Pass Quarantine.**—A steerage passenger on a French liner some weeks ago was sent back to France because he had trachoma. Having heard that the inspection of cabin passengers was less strict, he took passage at Cherbourg on an American liner, his family being in the steerage while he came in the first cabin. His scheme was successful, for the quarantine officials passed him with the other first-class passengers on simple inspection. But he then went to the immigrant station on Ellis Island to get his family and was recognized by several of the inspectors who had refused him admittance before. He was detained and will be sent back again with his wife and children.

**Vaccine Virus Not the Cause of Tetanus.**—Dr. Henry A. L. Ryfkogel of San Francisco, in his report of the coroner of Oakland on a case of tetanus following vaccination, says that an examination of vaccine points taken from the same package as that whose use was followed by the tetanus showed that the virus was pure and free from germs. Both cultural and inoculation experiments were made without results.

**Sued for Graft.**—A physician of Spokane, Wash., has been sued for damages in the amount of $10,000 as a result of skin-grafting. The suit is brought by the man who furnished the pound of flesh, or, more exactly measured, 150 square inches of skin. It is alleged that the surgeon promised to remove only two or three strips, an inch wide and three or four inches long, but that, owing to the apparent willingness of the subject, he removed the entire graft from him, without waiting to anesthetize other persons who had volunteered to share with him in the sacrifice.

**Obituary Notes.**—Dr. J. Howard Taylor died at Philadelphia on October 24 at the age of 80 years. He was born at Kennett Square and was a brother of the late Bayard Taylor, the poet and traveler. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1852 and served in the Federal Army during the Civil War, retiring with the rank of major. Subsequently he was appointed Physician to the Municipal Hospital, retaining this position until he was appointed Quarantine Physician at the Lazaretto by Governor Curtin. Later he became a Medical Inspector of the Bureau of Health, and he continued his connection with the Health Department until his death.

Dr. Anne Ceridwen Rees of Union Hill, N. J., died suddenly October 19 of acute double lobar pneumonia. Coming from Wales, in 1893, she was graduated from the Woman's Medical College in 1898 and later practised medicine with conspicuous success. She was a pupil and protégée of Watcyn Wyn, a celebrated wit of Wales, and was herself a contributor to Welsh periodical literature.

Dr. William Titus of Newark died suddenly from apoplexy on October 28. He was 60 years old, and was born in Hackettstown, N. J. He received his education at Pennington Seminary and Jefferson Medical College, Philadelphia.

Dr. Giles Mebane McAden of Charlotte, N. C., died last week in this city of pneumonia. He was born in Graham, Alamance county, N. C., in 1867. He was prepared for college at Bingham Military school, and studied medicine at Baltimore Medical College, graduating in 1887 with high honors. After completing his college course he sailed for Europe, where he studied for six months. Dr. McAden's health never permitted him to practise his profession, although he always took a lively interest in medicine.

Dr. Vernon G. Culpepper of Norfolk, Va., died suddenly of apoplexy on October 15, at the age of 49 years. He was a graduate of the University of Virginia, and had practised in Norfolk for a quarter of a century.

Dr. Norman B. Scott of Hagerstown, Md., died on September 28, of old age. Dr. Scott was born at Bruceville, Carroll county, Md., May 8, 1819. He spent one year in the University of Pennsylvania, after which he entered the University of the City of New York, and was graduated from that institution in 1844, with the degree of doctor of medicine. Immediately after his graduation Dr. Scott went to Hagerstown and began the practice of his profession, which he carried on continuously for 50 years, retiring in 1894.

## Correspondence.

### THE INTERNATIONAL CONGRESS OF TUBERCULOSIS.

(From Our Special Correspondent.)

Paris, October 10, 1905.

The impressive opening of the International Congress of Tuberculosis took place in Paris at the Grand Palais on October 2. The President of the French Republic presided. The most brilliant representatives of the political and scientific world were among those who attended. Dr. Herard, President of the Congress and Dean of the Academy of Medicine, gave the opening address, in which he traced the history of the struggle against tuberculosis in different countries and explained the different lines of work of the Congress. Thirty-three countries had responded to the invitation from France and had sent their delegates. In turn the following men gave addresses: Schjerning of Germany, Williams of England, von Schrotter of Austria, Beco of Belgium, de Gouvea of Brazil, Rousseff of Bulgaria, Espina y Capo of Spain, Beyer of the United States, Hutyra of Hungary, Baccelli of Italy, Davel of the Argentine Republic, Heinsen of Sweden, Schmidt of Switzerland, Babes of Roumania, Raptchinski of Russia, Siah-Cmun-Tsit of China and Sponck of the Netherlands. Professor Maurice Letulle, General Secretary of the Congress, explained the organization of the Congress and the methods of its work. In his eloquent address he declared that the Congress had presented to all peoples the idea of the unity of all races in their fight against tuberculosis, the worst of human maladies. He demonstrated the absolute duty, which is incumbent on every civilized nation, of struggling against this dire disease. Finally, the President of the Republic delivered an address in which he expressed, in the name of France, thanks to the Sovereigns and chief rulers of the various countries represented, and best wishes to all of the visiting delegates.

The Congress was a great success for its organization was perfect, being the outcome of long preparation. The "National Committees" had been organized so that they could clearly represent their countries on this question. The French territory had been divided into "regional committees" for the same purpose. The Congress was divided into four sections: Medical pathology, presided over by Professor Bouchard; surgical pathology, Professor Lannelongue; preservation of infants, Professor Grancher; preservation of the adult, Professor Landouzy and Senator Paul Strauss. The four sections met simultaneously, each

in its own apartment. There were seven meetings for the discussion of the reports and the presentation of the communications. On the next day the work of the Congress began in the four sections. The number of communications was so incredibly great that the names as well as the work sent in had to be passed over.

In the first section, medical pathology, after the address of Bouchard, the question of the biology of the bacillus of Koch and of the paratuberculous bacilli was discussed. Professors G. Ferre of Bordeaux, Courmont of Lyons, Doctor Lydia Rabinowitsch of Berlin, and Professor Behring of Marburg, presented the results of their researches and observations. The two sections of medical and surgical pathology united to listen to the communications concerning the relations of human and animal tuberculosis.

At the meeting in the afternoon, which was presided over by von Leyden, Albert Robin spoke concerning the constitutional and individual conditions predisposing to tuberculosis and the means of modifying them. His experiences have led him to think that while conditions antagonistic to tuberculosis, for example arthritism, diminish the respiratory changes, on the contrary, respiratory changes are increased in all tuberculous subjects. Arloing and Laulanie, Charrin and Tissot, moreover, gave the results of their experiments with animals by which they endeavored by the administration of suitable medicaments to lessen these changes. The results of these workers, however, were not always in accord with those of Robin. Consequently, before drawing definite conculsions it was decided that all of these authorities undertake again control experiments, reporting the results at the next Congress.

In the section of surgical pathology, Professor Lannelongue presiding, Professor Arloing of Lyons, Dr. Mazyck Ravenel of America, and Professor Kossel of Giessen, presented their reports on the comparative study of the diverse kinds of tuberculosis. After the discussion of these papers, the sections of internal and external pathology voted almost unanimously on the absolute necessity of prophylactic measures against bovine tuberculosis, and called the attention of the public authorities, which for the time being have been influenced by the theories of Koch, to the importance of renewing their former vigilance and of redoubling their care in the fight against animal tuberculosis.

The third section, which discussed the protection of the infant from tuberculosis, was presided over by Professor Grancher. A. B. Marfan of Paris, and O. Heubner spoke on this important subject. Afterwards Professor Vallee of Alfort reported an entire series of experiments in relation to the origin of tuberculosis of the tracheobronchial ganglia in cattle, concluding that this affection is almost always of intestinal origin in the calf and that consequently a strict surveillance of milk, which is so often full of bacteria, is necessary.

The fourth section, which was concerned with the protection of the adult, and social hygiene, was presided over by Senator Paul Strauss and Professor Landouzy. Millerand, President of the Commission of Social Assurance of the Chamber of Deputies, and Professors Brouardel, Peyrot, and Emile Cheysson, of the Institute, and members of numerous mutual aid associations of all countries spoke. The appearance of these men, a new element in the Congress of Tuberculosis, had a profound influence on the trend of the discussion.

The subject of life assurance and mutual aid in the struggle against tuberculosis was discussed. Edouard Fuster of Paris, gave a brilliant résumé of the subject in the name of France. He believed that the object of these associations for the workingman should be to prevent the disease. The meeting in the afternoon was devoted to the reports presented by Romme of Paris, Newsholme of Brighton, and Sternberg of Vienna, concerning the etiological factors of tuberculosis and the economical conditions in the social etiology of tuberculosis. The domestic origin of the disease from its various points of view—unhygienic dwellings, alcoholism, and so on, were discussed.

After these meetings the members of the Congress were received at the Hotel de Ville by the Municipality. Henri Russelle, Vice-President of the Municipal Council, assisted by Barbier, President of the General Council, Lepine, Prefect of Police, and others, presided over this reception. The exchange of ideas at this meeting was most helpful. Later the delegates went to the various soirées which were given by their French confreres.

On the second day of the Congress, the first section had so much work on hand, that it was obliged to divide itself and form another section on therapeutics, which held its meetings in a special hall and was presided over by Professor Gilbert and Professor Roger.

The relation of social problems was the subject of discussion in the fourth section, especial attention being paid to the rôle of dispensaries and of sanatoriums in the antituberculous war, and the hygiene of the tuberculous who are massed together. The technical sections were of equal importance. At the first section, that on medicine, the question of the early diagnosis of tuberculosis by new methods was discussed. The speaker, Doctor Achard of Paris, insisted on the greater importance of the older methods of diagnosis, notably, auscultation, inspection, and the like. Radiodiagnosis was most valuable, also, but the absolute sign was the presence of Koch's bacillus, determined by means of the microscope or by the inoculation of animals. Afterwards two reports were read on the rôle of dispensaries and sanatoriums for this disease. Courtois-Suffit and Laubry of Paris, concluded that the sanatorium ought not to be considered as the chief instrument in the antituberculous war. It ought to serve the purpose of sheltering those threatened by tuberculosis, that is, it ought to be a sanatorium for preservation but not for cure. The existence of the sanatorium was of little service unless residence in it was preceded by local measures which would change the life of the poor, that is, general hygienic measures which provide air and light. Other reports on this subject were presented by Sophus Bang de Silkeborg and Beco of Brussels.

In the second section, surgical, ileocecal tuberculosis was discussed in the papers of Doctors Roux of Lausanne, Depage and Pinchart of Brussels, and (préservation scolaire) A. Demoulion of Paris. In the third section the scholastic prophylaxis was the object of discussion (preservation of the infant). Very interesting papers were read by H. Mery of Paris and Ganghofner of Prague.

On the fourth day at four o'clock the President of the Republic in the presence of a large number of delegates dedicated the Emile-Loubet Dispensary founded at Paris, for tuberculous patients, by the individual subscription of 140,000 mutualists. At half after eight in the evening the delegates met at a theatrical performance at the Theatre du Chatelet which was given by *le Matin*.

Thursday was entirely given up to excursions. The delegates made up various parties, some visiting the sanatorium of Bligny, others going to Berck-sur-Mer, others to Ormessen, and still another group accompanied by the President of the Republic went by a special train to visit the antituberculous sanatorium of Monigny-en-Ostrevent, built according to the plans of Calmette. The members of the sporting columns of the political papers together with the members of the Antidust League organized an excursion in automobiles in order that the delegates might observe the various methods of laying the dust by means of tar and oil which have been made use of on the thoroughfares of Paris and its environs.

Friday evening a banquet of four hundred and fifty covers was given to the delegates, Dr. Herard, President of the Congress, Ruau, Minister of Agriculture, Casimir-Perier, and Léon Bourgeois being present.

Finally on the afternoon of Saturday, October 7, the Congress closed with an impressive meeting held at the Grand Palais which was presided over by Dr. Herard. It was at the beginning of this meeting that Professor von Behring made a sensational communication on the cure of tuberculosis by a new remedy. This had to do with a curative principle depending upon the impregnation of living cells of the organism by a substance taking its origin in the virus of tuberculosis which the author named TC. When TC became an integral part of the cells of the animals treated by it and when it was metamorphosed by these cells the author designated it by the name TX. In the bacillus of tuberculosis TX or rather TC preexisted as an agent endowed with fermentative and assimilative qualities. A fundamental fact was that TC, not reproducible, possessed nevertheless the power of giving rise to a tubercle which, however, formed in this way did not become caseous or soften. TC could be elaborated in vitro so as to make a remedy which could be applied without danger in human therapeutics.

After the votes of different sections were taken Professor Baccelli, former Minister of Public Instruction in Italy, thanked, in an eloquent speech, the organizers of the Congress and the representatives of the public powers for the reception which had been given in France for the foreign delegates. The Congress decided that its next reunion should take place in Washington in 1908.

That evening the President of the Republic gave a dinner at the Elysées in honor of the members of the Congress, the dinner being followed by a very brilliant reception. On the next day, October 8, the *Journal* offered to the members of the Congress the use of a special train, "Paris-Côte d'Azur" which carried almost two hundred delegates, both French and foreign, to visit the sanitary establishments and sanatoriums in the interior of France. Finally, in order to place the public in touch with the works of the Congress, practical conferences in social hygiene were carried on every day in the afternoon at the International Exposition at the Grand Palais, where was organized an exposition comprising everything that had to do with tuberculosis,—its history, its nature, its prevention, and its treatment. This exposition was officially inaugurated by the

President of the Republic on the opening day of the Congress. This exposition comprised a scientific section with admirable exhibits from the collections of the faculty of medicine of Paris, from the Depuytren Museum, from the Museum of Natural History, from the Veterinary School of Alfort, and from the Pasteur Institutes of Lille, Paris, and Nantes. Likewise, the Universities of Munich, of Anvers, and of Birmingham, sent very interesting exhibits. It was indeed a veritable museum of tuberculosis which gave the opportunity of studying step by step the work of masters of all countries. Of especial interest were the admirable exhibits from the laboratories from Munich and Berlin. There was, besides, a section relating to prophylaxis devoted to the leagues and societies of propaganda, works of social hygiene. Another section was given up to the improvements that have been made in relation to domestic hygiene. And finally an industrial section was devoted to alimentation and to the cleansing and disinfection of public establishments and to the improvement of the methods of transportation in relation both to railroads and to hotels. This exposition was most important and spoke with eloquence to the observer.

## SEVENTY-SEVENTH CONGRESS OF GERMAN NATURALISTS AND PHYSICIANS.

(From Our Special Correspondent.)

TENDON TRANSPLANTATION—ILEUS—GANGLION—VARIOUS ABDOMINAL OPERATIONS—INGUINAL HERNIA—GALLSTONES—RENAL TUBERCULOSIS—OPERATION ON THE PITUITARY BODY—RADIOGRAPHS OF THE BLADDER.

MERAN, October 10, 1905.

THE seventy-seventh annual congress of German Naturalists and Physicians, held at Meran, Tyrol, on September 24 to 30 was not so well attended as many of its predecessors. At last year's meeting at Breslau an attendance of over 3,000 was registered, but only about 1,400 visitors were present at the Meran sessions. This was, no doubt in large part due to the remote situation of this beautiful little health resort, which is the smallest city in which a meeting of the society has ever been held. The number of papers read was, as usual, very large, and only some of the more important will be mentioned here.

In the section on surgery Prof. Adolf Lorenz of Vienna spoke of the indications for tendon transplantation. He said that the measure was not one to be undertaken lightly, for it was first necessary to know exactly which muscles were irreparably paralyzed and which ones might, to some extent at least, recover. This could be decided at once, and Lorenz therefore advised that attempts be made first to restore the normal form of the contracted and paralyzed limbs, and that every muscle susceptible of improvement be restored to its function. Only after this had been done was it possible to pick out the permanently weakened muscles and to consider the advisability of a tendon transplantation. The operation itself was extremely simple. The restoration of form to the damaged limb and the operation, should be two entirely distinct acts, often separated by an interval of months. Lorenz had often had it happen that patients had had their expectations so far surpassed by the bloodless procedure of correction by manipulation that they have declined the tendon transplantation. In partial palsies of the upper extremity, however, particularly of the hand, the transplantations have a very broad field.

Prof. Hofmeister of Stuttgart reported on the results of early operation in complete intestinal obstruction. Of twenty-seven patients operated on the first day twenty were cured, and of sixteen patients operated within the first three days none died. The most important factor in the treatment is putting the patient in the surgeon's hands as early as possible.

Dr. Küttner of Marburg spoke on the prognosis and treatment of ganglion, and said that excision, incision, and crushing by a blow all gave about the same results. In the discussion Dr. Lexer expressed himself strongly in favor of excision, which is always practised at von Bergmann's clinic in Berlin. Dr. Ronzi of Vienna discussed the results obtained by Bunge's method of forming amputation stumps. In twelve cases of amputation below the knee done in this way at von Eiselsberg's clinic the stumps were all found insensitive to pressure or percussion, and the results were equally favorable in eighteen amputations through the thigh. Dr. Harberer of Vienna spoke on the treatment of sarcoma in long bones. On comparing the results in cases that were treated conservatively and by mutilating operations it was found that simple excision was as satisfactory as amputation.

Professor Wilms of Leipzig discussed the mechanical factors in post-operative intestinal obstruction. For a proper comprehension of the different forms ileus must be divided into paretic and mechanical varieties. The first is seen in extensive atomy of the bowel, but for paresis of shorter stretches kinking or twisting with valvular closure must also be present. Knowledge of the mechanical factor is often of greater importance, as in those cases of mechanical atomy simple enterostomy may give relief. Dr Hartle of Graz spoke on blunt injuries of the intestine. A case of especial interest was one of avulsion of a portion of the small intestine, treated by intestinal resection and followed by recovery. Another case was one of rupture of the spleen, caused by falling on the abdomen. Suture of the spleen was followed by recovery. A great rarity reported was a retroperitoneal injury of the duodenum. Dr. Brenner of Linz described three cases in which, at a second laparotomy performed for other causes from one to three years later, he was able to assure himself of the complete cure of gastric ulcers for which a gastroenterostomy had previously been done. He concluded that gastroenterostomy is as valuable a measure in the treatment of indurated ulcers as resection of the lesions. Brenner performed twenty-one resections of ulcers with 28.5 per cent. mortality. Of the survivors, 65 per cent. remained well over a year later. Of thirty patients treated by gastroenterostomy, fourteen remained well a year later. He considers that gastroenterostomy should be performed first, and only if this proves ineffectual should resection be resorted to. In a second communication the same author took up the radical cure of inguinal hernia. In the period from 1892 to 1903 Brenner operated on 1,080 men and 108 women for inguinal hernia, usually bilateral, so that the number of operations was about 2,000. He used his own modification of the Bassini operation. The period of convalescence was usually seventeen days, and the mortality, including operations in strangulated hernias, was .9 per cent. The number of cures, that is, nonrecurrence in two years or more, was, in men, 91.8 per cent., and in women 95 per cent., or 92 per cent. for both; a figure midway between Bassini's claim of 90.1 per cent and Kocher's of 92.5 per cent.

Dr. Fink of Carlsbad reported on 385 cases of gallstones treated by the usual Carlsbad cure. In most instances he found that there was not only disease of the biliary passages, but also of the liver itself. He pointed out the effectiveness of the Carlsbad waters in the treatment of these cases, and expressed the opinion that operation was indicated only when the Carlsbad cure had proved ineffectual, when there was empyema of the gall bladder, or when chronic obstruction of the duct existed. Dr. Guleke of Berlin described some interesting experiments performed at the clinic of von Bergmann. These led to the conclusion that the cause of death in acute pancreatic diseases was due to an intoxication depending on the formation of poisonous degenerative products in the organ itself. The insertion of a pancreas into the abdomen of another animal in a short time gave rise to severe general symptoms and death. He had also succeeded in producing an immunity in the animals against this pancreatic intoxication.

Dr. Goldner of Vienna, in discussing the occurrence of traumatic inguinal hernia, expressed himself as believing in the possibility of its occurrence, and formulated the following conclusions: Inguinal hernia is usually congenital, or, in older cases, it is the result of slowly progressing weakness of the muscles. Only very rarely is it the result of direct trauma, which is then really to be regarded as an injury to the abdominal wall. Dr. Preindelsberger, in reporting a very large number of vesical calculus operations, stated that the procedure to be employed depended entirely on the nature of the individual case and the consistency of the stone. He performed most of his operations under spinal anesthesia, and was very well satisfied with the results. In the discussion, Drs. Hirsch of Vienna and Dr. Defraceschi of Rudolfswert, also described very good results with spinal anesthesia.

Professor Zuckerkandl of Vienna demonstrated twenty-three tuberculous kidneys removed by operation. He called attention to the frequency with which the renal disease is complicated by tuberculosis of the ureter, and to the interference with healing of the wound caused by the ureteral stump if left behind. He, therefore, recommended the routine excision of the ureter and described the technique of the operation in detail. In a second paper, Zuckerkandl described twenty cases of perineal prostatectomy, and said that prostatectomy is now the only certain method of relieving all the forms of urinary retention due to hypertrophy of the gland. Drs. Lichtenstern and Katz of Vienna reported on observations undertaken to determine the value of phloridzin in the functional diagnosis of renal affections. In testing the appearance of phloridzin diabetes they found that healthy and diseased kidneys reacted similarly.

A more purely theoretical subject, since it dealt with studies in the cadaver, was presented by Dr. Schlosser of Innsbruck, who considered operations on the hypophysis. He believed that there were cases in which an operation on the hypophysis might come in question. While the normal gland is not accessible, the enlarged pituitary body in acromegaly projects, downward and forward, and would be easier to reach. Such an operation would be promising,

since it is known that in acromegaly the enlargement is due to an adenomatous and not to a sarcomatous change. The approach is easiest from in front. If the optic nerve is atrophic the orbit may be cleared out, and thus plenty of room be given, but even if the nerve is intact the inner wall of the orbit may be chiseled away, and the contents of the cavity be pressed outwards, so that even in these cases the access to the gland would be good.

Dr. Voelker, of Heidelberg, presented some radiographs of the bladder that were of exceptional clearness and interest. They were obtained by injecting an organic silver solution into the viscus before making the exposure. In this way he obtained one beautiful series showing the normal form of the organ, another of different stages during the act of emptying the bladder, and finally a series showing unusual distortions of the organ in women having pelvic affections. Voelker even succeeded in throwing the solution into the ureter, and so obtained pictures of the renal pelvis. In two cases of floating kidney curvature and dilatation of the ureter could be distinguished.

## OUR LETTER FROM THE PHILIPPINES

(From Our Special Correspondent.)

MANILA, P. I., September 15, 1905.

SINCE the letter of September 7 there has been a rapid decline in the number of cases of cholera occurring in the city of Manila. On September 8, there were nine cases, from which the number has gradually dropped until two days ago, since which time there has been an entire absence of the disease.

Probably one of the most satisfactory results obtained by the fight made against cholera, was the eradication of the disease from Bilibid prison by the application of sanitary rules. The conditions which confronted the health officials, when they took charge of the institution, were very discouraging. Between August 23 and September 1, there had been from two to five cases of cholera daily. The prison is built upon low ground, and after there has been a heavy rainstorm at a time when the tide is high, a good portion of the prison grounds is under water. There are no flush closets for the use of the prisoners, and most of the latrines consist of open tubs placed in the sleeping quarters of the inmates. Flies were plentiful. The circumstances were such that it was difficult to issue the food to the inmates in other rooms than those in which they had their sleeping quarters and performed their toilets. The latrines contained disinfectants, yet it was possible for infected flies to pass from the latrines to the food, during the time it was served. The health officials decided to attempt to combat the disease almost entirely by waging warfare upon the flies. Each of the latrines was screened, and large sheets of sticky fly-paper were hung about the interior. Entrance could be had only by passing through a screened vestibule fitted with screen doors placed at each end. In that way, all the flies which were likely to convey infection were confined to the latrines, and in addition, this element of danger was soon removed by their falling victims to the fly-paper. As an extra precaution, the latrines located in the yards were protected in the same manner.

In addition, all the bamboo bunks were scrubbed with a lye solution, and afterwards soaked with a one to one-thousand solution of bichloride of mercury. The walls were thoroughly whitewashed. The prisoners were bathed in a bichloride solution, and all their body clothing, blankets, and other textiles with which they came in contact, were immersed in a bichloride solution. A cholera hospital was improvised, and that was also thoroughly screened. After these measures had been carried out, no further cases of cholera occurred.

The Manila water supply was threatened a number of times during the past week on account of cases of cholera being discovered in the water-shed. Fortunately, however, the casese were detected in time, isolated, and the stools properly disinfected. The great danger to which Manila is exposed by having the water-shed thickly populated, has again been brought forcibly to the attention of the public by the cholera epidemic of the past few weeks. The present condition of affairs is a constant menace, not only on account of cholera, but on account of typhoid fever and other water-borne diseases.

A circumstance which may throw some light on the origin of the present outbreak, is the fact that the last case of cholera during the former outbreak, occurred April 18, 1904, at Malabi, Laguna, while among the very first cases, this time, were those which occurred at Jala Jala, Rizal, which is significant because the two places are separated by a distance of less than ten miles.

The Manila Medical Society held its first monthly meeting since the adjournment which took place last April on account of the hot season on the evening of September 11, at the Saint Paul's Hospital. The evening was devoted to the informal discussion of the cholera situation, and was opened by Dr. V. G. Heiser. Drs. R. P. Strong and Paul Freer, Colonel Byrne, Commissioner Worcester, Dr. Wilkinson, and others participated in the discussion. The history of the present epidemic was given briefly, the substance of which was about the same as that already stated in previous letters.

Dr. R. P. Strong, the director of the Biological Laboratory, read a paper upon cholera vaccine. He stated that the preparation and manufacture at the local laboratory differed from all others heretofore produced, in that it caused practically no local reaction, and gave a much higher degree of immunity. The duration of the immunity is estimated to be about six months. In order to test this serum practically, one-half the inmates of Bilibid prison are now undergoing vaccination with the anticholera vaccine, and in the event that there should be another outbreak of cholera in that institution in the future, it is hoped some conclusive evidence may be obtained as to the efficacy of this vaccine in human beings. So far there has been no test made in human beings.

## THE ETIOLOGY OF TABES.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR:—In the issue of the MEDICAL RECORD of October 21 there appears an article on the Etiology of Tabes, etc., by Dr. F. von Raitz, which contains so many statements that are not in accord with accepted fact that I am constrained to ask you to allow me space to correct some of them. The writer undertakes to speak authoritatively on the subject of the etiology of tabes. What his experience has been to warrant the presumption I do not know, nor am I able to infer from a reading of the article. He says, "The apparent establishment of tabes is, therefore, not a natural consequence of progressive science built on pathological facts, but a result of dogmatic ruling." I agree with him that the relationship of syphilis to tabes is not built on pathological facts. It is built on actual facts. I am familiar with the tabes-syphilis question and I know of no dogmatic statements concerning it that are not based on enormous experience. Erb and Fournier are the two writers who speak most dogmatically about it, and each of them has had an enormous experience. The latter bases his statements on a study of upward of 1,000 cases, while the former has had probably the widest experience of syphilis of any physician in the world.

The writer of the article further says, "Those who accept syphilis as the cause of tabes have no difficulty in finding syphilitic evidence in everybody who has tabes." This statement is far from the fact. I am one of those who accept syphilis as the cause of tabes, and yet I often encounter great difficulty, indeed the greatest difficulty in finding any evidence of syphilis in about one case out of every ten that I encounter. Dr. von Raitz is sure that "the actual cause of any disease is not determined by opinions and theories but by pathological facts alone." I suppose he would have us believe that in such a way the cause of diphtheria, of yellow fever, of syphilis itself, and almost numberless other diseases was established, but he should furnish some reason why this should be believed more than his say so. Again he says, "I believe that no one of those who make syphilis responsible for tabes has ever examined a syphilitic cadaver, perhaps not even a tabetic cadaver, and all that modern writers on tabes say is quotation." Such a statement is too absurd to be believed by anyone. I for example am a modern writer on the subject of tabes and that Dr. von Raitz may be purged of the above quoted opinion, I may say to him that every year since 1893 I have examined not one but many syphilitic and tabetic cadavers, and to my personal knowledge many of my fellow neurologists have had similar and larger experience, an experience which they would probably consider an essential before they spoke or wrote on the subject. Such speaking or writing would otherwise be considered no less effrontery in themselves than it is in others who discourse on the matter as if they had had experience that would entitle them to an expression of opinion. I shall not encroach upon your space to the extent that would be required to point out the scores of fallacies that exist in the article in question on the way in which tabes flows out of syphilis. It might be profitable to do so if nearly every paragraph did not contain a statement without the slightest foundation in fact. For instance, "Syphilis everywhere presents itself as a blood disease." In what, I should like to ask, is the reaction or constitution of the blood in an individual who has had syphilis different from that of the individual who has not had syphilis? Is there any book on hematology that describes syphilitic blood? Has anyone ever claimed that the syphilitic virus *per se* causes tabes? I never have heard of anyone who has made such a claim. Again he says, "Inquiry into the previous histories of tabetics teaches us that many tabetics have practised coition excessively." Does it? If it does, I

should like to ask the constitution of "us." It is barely possible that my experience, based upon a study of some 400 individuals with tabes, may entitle me to speak. If it does I should like to say that such inquiry on my part gives no such information. And while we are on this subject I clamor for enlightenment: what constitutes "excessive coition?" A gentleman of my acquaintance, 50 years old, considers that he has been very temperate in that direction, about once a day for forty years. Another, 43 years old, tells me he thinks that about eighteen times a year is about the figure. Both of them are healthy, vigorous men. Then again "Sexual impulses descend from the brain to the center of ganglionic cells in the gray matter, and from those cells along the nerve fibers of the posterior columns, through the posterior nerve roots to the genital apparatus." This is so alluring that I hesitate to touch it, but in view of the fact that those of us who are engaged in the study and teaching of physiology and neurology have been led to believe that the posterior roots and the posterior columns convey impulses upward only, *i. e.* toward the brain, I am constrained to check the inhibitory impulse that I had on first reading it.

But we must leave this portion of the article, even though it contains attractive statements (not original with the writer) as, "All matter is chemical, and life in its various forms of existence, is nothing but the result of chemical action," to come to the real motive of the author's paper, viz., that tabes is not infrequently due to trauma; "How a simple fall can cause injury to the cord and consequently tabes, is not difficult to understand." To which I reply it seems to be difficult to me. I bring an open mind to the subject, and that may account for the difficulty. But when I recall that there are only approximately twenty-one cases of tabes on record in the world's literature which deserve to be considered at all from this point of view, according to the consensus of opinion of those who ought to know most about it, viz., those who devote their best efforts to a study of the disease, perhaps I am not presumptuous in assuming that many other neurologists have a similar difficulty. "That traumatism is being recognized as an etiological factor of tabes, is proven by a few cases awaiting compensation for damages by the court." There is a delightful naiveté about this, which appeals to me. Were it not that I am the "prominent neurologist" referred to in the writer's description of one of these cases, I should say nothing against the proof "of the traumatic origin of tabes." The case is still within the jurisdiction of the court, therefore I do not feel free to discuss it in the public prints. I wish, however, to deny emphatically that I advised the company in whose vehicle it is claimed the woman was injured to make compensation for inflicting the disease which she had when I examined her, viz., tabes, and for the adequate reason that I did not and do not believe that the fright and shock which she was said to have received had anything to do with initiating that disease. No more did I believe that the Mrs. B. of Dr. von Raitz's text who was "spirited" away to prevent her appearance in court according to the suspicious lawyer of Miss H., and who was very kindly sent to me for examination by Dr. von Raitz, owed her tabes to the fall on the sidewalk from slipping on a banana peel, and for excellent and adequate reasons which I do not feel called upon to relate here.

The individual who believes that the Argyll-Robertson pupils, the tendon-jerks, and the sphincteric symptoms of tabes can develop and reach a very complete stage in three weeks, has a conception of tabes that transcends my understanding. He likewise, in my opinion, has had very little real experience with the disease. If the history of a fall or an injury is all that one wants to be convinced that tabes flows from such accident, what more illustrious instance could one ask for than the following: A gentleman of large affairs in the city, whom I have known professionally for fifteen years, was thrown by the sudden jolt of a car on the elevated railway to his back and with such violence that he was laid up for a fortnight. An insurance company paid him for two weeks' total disability. I saw him the day after the accident. He had two bruises over the lumbosacral spine and complained of being very sore. When he learns a month or a year hence that he has tabes, why shouldn't he attribute it to the injury, why shouldn't Dr. von Raitz attribute it to the accident if he is consulted by this gentleman? There are many reasons why I should not look upon it as being due to the accident, the most important being that I have had him under treatment for tabes for upward of three years. The fact that he has the disease is known to his family but for reasons that I do not feel called upon to specify here, he is still in ignorance of it.

I have trespassed upon your space, so I shall draw gently to a close. I say gently, for were I to do so abruptly I should neglect the opportunity to say that there is such a disease as pseudotabes following diphtheria, malaria, typhoid fever, and other infectious diseases, but so far as I am aware its existence of occurrence has heretofore never been used as an argument in favor of the occurrence of tabes from sexual excesses and irregularities! But then if I were to close less abruptly I should have something to say about the case of Miss Ida F., whose history is related upon p. 652 of your journal, and whom I saw (at least I saw a lady of 40 who bore that name) several years ago in consultation with the late Dr. C. S. Elebash. I think I know the cause of her tabes, and as Dr. von Raitz asks the question "was diphtheria, typhoid fever, or excessive masturbation the real cause," I answer: "None of them was. The man with whom she had sexual intercourse when a girl died of general paresis, and that disease didn't come from diphtheria either!

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## Progress of Medical Science.

*Boston Medical and Surgical Journal, October 26, 1905*

**A Review of the End Results in Cases of Exophthalmic Goiter Treated Surgically.**—T. W. Huntington reports nine cases. Eight of the patients are still living. An analysis from the standpoint of end results has brought out the following facts: Exophthalmus was present in seven cases. At the present time it is absent in four, and notably lessened in three. The average duration of the disease prior to operation in the first series was eleven months, in the second twenty-eight months. Hence, it may be inferred that permanent deformity from this cause may be expected in long-standing cases. Tachycardia disappeared after a few weeks in every case. The same statement may be made in reference to abdominal psychic manifestations, undue excitability and associated nervous phenomena. Recurrence of thyroid hypertrophy was noted in one case necessitating a third operation thirty months after the second. It may be that a more radical removal of the right lobe originally would have obviated the final procedure. Reestablishment of normal structural conditions as manifest in muscle repair, increase in weight and strength, and resumption of normal blood conditions has been uniformly slow. While in each case progressive improvement in these respects has been noted, two patients have been disabled to such an extent that they will never regain their wonted standard of health.

**Mercuric Cataphoresis in Diseases of Women.**—Case reports are given by F. B. Carleton. He coats the positive electrode with mercury, making it aseptic before each treatment. The patient should take a saline douche an hour or two before coming for treatment. The author claims that the medicinal agent from the electrode is carried directly into the diseased parts. We obtain, therefore, a double effect; first, the sedative, stimulating and tonic effect of the electric current *per se*; and second, the antiseptic and astringent effect of the oxychloride of mercury, which is forced into the tissues in its nascent state. Cases reported include uterine subinvolution, painful ovaries, prolapsed uterus and adnexa, cystocele vaginal atony, endometritis, etc.

*New York Medical Journal, October 28, 1905.*

**Abdominal Incision for Tuberculous Peritonitis.**—This subject is discussed by S. Lloyd, who finds on looking up the histories of twenty-one cases with which he was familiar, that seventeen were discharged cured—that is at the time of their dismissal from the hospital there were no signs of tuberculous disease present, and their physical condition had improved so much that they could be classified as cured. Four of these patients, however, had been from the author's own private practice and—although dating back only two years—they had been under observation and remained well. Such a statement is impossible, naturally, with ordinary hospital patients and the ultimate outcome of the other thirteen he is unable to answer for. One was discharged improved, being taken from the hospital by his parents before he was thoroughly satisfied that the operation had been successful. All of these cases were of the miliary type. The chronic tuberculosis cases were but four in number—two patients died and one was discharged unimproved, the latter at the time of his leaving the hospital was showing marked symptoms of general tuberculosis. Two of the patients were treated medicinally—one was cured and the other died.

**The Treatment of Hay Fever.**—L. Weigert Sterne deduces from the reports on the use of Dunbar's serum conclusions which lead him to advocate the use of bicarbonate of sodium, in powder (or saturated solution), alone, or with the addition of one grain of cocaine to the drachm. This is to be used as a snuff whenever the symptoms appear. The solution may be used in a nasal douche

or throat atomizer. Irritable eyes may be bathed with the same solution. General hygienic and dietetic rules should be observed.

*Medical News, October 28, 1905.*

**The Diagnosis and Treatment of Anemia.**—Harlow Brooks describes the chlorotic and secondary anemias, discussing their respective causes and clinical courses. In speaking of treatment he lays special stress upon the need of fresh air and sunlight. In the warm months, children can go about with almost no clothing. To the foregoing carefully supervised exercise may be added, except in those instances in which we find renal or cardiac changes. Here rest and quiet are indicated. Change of habitat and climate is desirable in many cases. The gastroenteric tract must be carefully regulated. Gastric atrophy or dilatation are often present, calling for lavage and associated local measures. Predigested foods may be required with intestinal medication. Nitro-muriatic acid has yielded excellent results in some cases of pernicious anemia. Abnormal fermentation in the bowel should be checked, as we thereby limit the transformation of certain amounts of iron in the food into the insoluble iron sulphide. Saline aperients assist us in this direction. The diet of each individual case must be made the object of careful study. Foods rich in albuminous iron should be selected. Milk as an exclusive diet is not advised. Strictly medical treatment is often disappointing. The kind of iron is of secondary importance so far as concerns chlorosis and the simple acute secondary anemias. Inorganic preparations have given the author the best results. Mercury and arsenic are often valuable adjuvants in severe and chronic cases. The author has never seen any benefit follow oxygen inhalations.

**The Gopher; A Possible Substitute for the Guinea Pig.**—S. W. Hewetson makes a preliminary report on the subject of using the gopher instead of the guinea pig for animal experimentation in tuberculosis, as in certain parts of the country they are more easily obtained than are the latter animals. A series of inoculations was made and its results analyzed. The author says that his work distinctly proves the susceptibility of the gopher to tuberculosis, and places in the hands of medical men residing in the gopher belt an additional aid in the diagnosis of obscure cases, be they renal, pulmonary, or glandular. Its use would be limited to cases in which the presence of tubercle bacilli could not be demonstrated with the microscope, owing to their being present in small numbers. To obtain quicker results the injections might be made in larger amounts directly into the peritoneal cavity. If this were done, however, a certain percentage of the test animals would probably die from acute septic conditions, the mortality from this cause depending on the virulence of the associated infection. It is to be hoped that further experiments will show that the gopher possesses the same happy susceptibility to other diseases as he displays toward tuberculosis.

**Mammary Syphilis, with Involvement of the Axillary and Supraclavicular Glands Simulating Cancer of the Breast.**—A case is reported by E. Beer, whose patient was a married woman of thirty-five years. Four months previously to coming under observation she had noted a mass in the left axilla and a few weeks later a similar mass in the upper half of the left breast. When seen there were noted also other nodular enlargements above the left clavicle, in the right axilla and above the right clavicle. The diagnosis of cancer was naturally suggested, but the masses were everywhere softer than cancer, the masses adjacent to the breasts were unusual in such a condition, while it was found that the posterior cervical lymphnodes was also enlarged. Syphilis was thought of, and this suspicion was confirmed by a pretty positive though meager history of specific infection. Consequently mercury was given hypodermatically and the iodides were given internally in increasing doses. In one month the breast had become normal and the general condition had in every way improved. In another month nearly all the glandular swellings had disappeared.

*American Medicine, October 28, 1905.*

**Certain Complications and Sequels Met in Operative Cases of Laryngeal Diphtheria.**—B. Franklin Royer attributes sudden death during attempts to intubate in certain cases to reflex apnea. A cause of acute stenosis after extubation not usually given he proves to be atony of the cricoarytenoidei postici muscles. Autoextubation he believes is caused by pressure paralysis of the cricoarytenoidei laterales. Case histories are given typical of many complications with illustrations of ulcers due to pressure sloughs or trauma. One illustration shows a condition not previously described. This histological study of a section of a larynx almost closed by chronic stenosis shows infiltration of the perichondrium with cartilage cells thus tending to make stricture a cartilaginous one. In considering the treatment Dr. Royer says but little can be done for reflex apnea. The courses of treatment open for the other conditions are: (1) Persist with intubation; (2) insert large tubes, allowing them to remain for long intervals of time; (3) when autoextubation becomes dangerous and large tubes are not retained, do tracheotomy; (4) intubate frequently while the tracheotomy tube is being worn in order to prevent stricture stenosis; (5) with chronic stenosis due to contracting scar tissue, practise wide dilation with persistent intubation; (6) consider Röntgen-ray treatment as a possible adjunct in softening scars causing chronic stenosis; and (7) avoid, if possible, tracheotomy as a means of curing a patient of a tube habit.

**Frequency and Etiology of Acute Nontuberculous Pneumonia in a General Hospital.**—William Travis Howard, Jr. based his study upon a series of 550 consecutive autopsies, which cover a period of about seven years. All doubtful cases and all cases of simple bronchitis are excluded. The diagnosis in every case is based upon microscopic as well as macroscopic examination. The pneumonias are classified according to the usual custom into croupous or lobar, and broncho or lobular. The 550 consecutive autopsies furnish 195 instances of acute non-tuberculous pneumonia, an incidence of from 35 to 45 per cent. Of these cases 76, or about 61 per cent. occurred in individuals with acute infectious processes. Of 43 autopsies in typhoid fever cases in this series, in 22 there was bronchopneumonia and in 5 croupous pneumonia. Of 81 patients with peritonitis from all causes, 36, or 44.4 per cent. had pneumonia.

**Hyperchlorhydria.**—J. A. Lichty asserts that about one-third to one-half the patients suffering from digestive disturbance have hyperacidity. Not all cases of hyperacidity are necessarily of the class designated hyperchlorhydria. Patients with hyperchlorhydria are usually neurotic, and these cases do not yield rapidly to treatment. They differ in this respect from cases of chronic gastritis, which may have a hyperacidity in the early stage of the disease, but later develop a subacidity. The diagnosis of hyperchlorhydria should be made only after chronic gastritis, ulcer of the stomach or gallstone have been absolutely excluded. It is not possible to make an absolute diagnosis without examining the stomach contents. This must often be done several times. In considering the treatment it is necessary to recognize at least two classes of patients. One class includes those advanced cases in which there is usually a splanchnoptosis, a dilated stomach, emaciation, and prominent nervous symptoms. In these cases an absolute or modified rest treatment is indicated and will accomplish most satisfactory results. The other class includes those early cases in which the patients are still well nourished and have scarcely any symptoms but those referred to the stomach. They are usually relieved without adopting any extreme measures.

*Journal of the American Medical Association, Oct. 28, 1905.*

**The Ocular Origin of Migraine.**—George M. Gould notes the confusion that exists in regard to the conception of migraine in the literature and is especially severe on the neurologists and others who have not accepted eyestrain as its general prevailing cause. Of all atypical diseases, he says, migraine is, by all odds, the leader. This is, first, because its cause, eyestrain, is of a thousand different kinds and intensities, and second, because vision is so bound up in some way with almost every physiological activity, every psychic and bodily function, that the symptoms produced by its derangement are most multiform. The infinitely varied morbid cause or seed is planted in an infinitely varied soil. He gives the history of the eyestrain theory of its causation, and quotes from a large number of writers who have reported cures of the condition by correction of ocular defects by proper fitting of glasses. He says: "I could give the details of perhaps a thousand cases of 'migraine' or sick headache cured by glasses. I should say that 90 per cent. of cases are immediately curable, and a large proportion of the rest curable in time, and as soon as the secondary systemic functional effects have been overcome. A few cases are incurable, because these secondary effects have become organic or too chronic to allow any cure. There are also rare cases in which mental reaction has become impossible."

**Respiratory Movements of the Bronchi.**—Incited by observations in patients of active movements during operations, E. F. Ingals has investigated the subject experimentally on animals and in the literature. He finds that there is a regular respiratory movement of the bronchi during respiration, most marked in the larger tubes in young animals, and gives clinical observations bearing on the action of the bronchial muscles in the

production of the physical signs and their modifications, supplementing these by reports of experiments on dogs. He thinks the action of remedies may be profitably studied through the bronchoscope on the living animal and refers to the statements and findings of Einthoven and of Dixon and Brodie bearing on this point. His studies are not yet completed.

**The Psychoses of Heart Disease.**—W. House calls attention to the mental disturbances associated with cardiac disease, which, he thinks, have been rather neglected by authors of text-books, the heart disease being regarded either as a complication of the insanity, or, the organic symptoms predominating, they either overshadow the slight mental ones or so disable the patient that he can be readily cared for in the wards of a general hospital where psychic derangements are considered as only secondary and subordinate to his bodily ailment. In the severer cases this may do no harm, but in the slighter ones it is bad, as the mental disorder which should be attended to is likely to be overlooked. He recognizes four principal types, more or less shading into each other, as follows: 1. Panicky conditions alternating with some depression and irritability, without active delusions or hallucinations. In such cases the patient is usually terrified by the consciousness of cardiac sensations and irregularities. 2. Delusive symptoms based on misinterpretations of local cardiac phenomena, such as pain. 3. Active hallucinations and delusions from circulatory disturbances involving sensory organs. 4. Dementias from secondary lesions of the brain. Case histories illustrating the different types and the relation of the heart lesions to the mental symptoms are given. It is not contended that the heart disease was the sole cause in every case, but rather that it was the exciting cause, except wherein the cardiac troubles were rather the effect, and especial emphasis is given to the relationship of mental improvement to the treatment directed to the heart trouble. During a residence of nearly two years in a large state hospital the author observed but few of these cardio mental cases, and the inference is that they are more often treated by the internist than by the alienist, and their psychic side has thus been minimized.

**Typhoid Perforation.**—From a study of the subject, R. H. Harte concludes that perforation is a much more common accident in typhoid fever than is generally supposed, it being the cause of death in one out of every three or four fatal cases. It occurs most frequently between the fourteenth and twenty-first day of the disease, and does not appear to be more common in the severest than in the mildest types of the disorder. The ileum is its most frequent site, the majority of perforations occurring within from 12 to 18 inches of the ileocecal valve. The next most common localities are the appendix and the cecum. In a large percentage of cases, pain is present, though it may be only transitory. In about half the cases the onset is sudden, severe, and with increasing intensity, localizing itself in the right iliac fossa. Tenderness and rigidity are present to a greater or less extent in all cases. The latter, Harte considers a most valuable sign, never absent except in patients with very large and pendulous abdomens. If perforation is suspected, the temperature should be taken every hour to verify any marked variation in this symptom. Distension is a late symptom, usually noticed some hours after the perforation has occurred. Obliteration of liver dullness is not regarded as a reliable sign. The study of the leucocytes is of little use, though occasionally their increase may make the diagnosis more positive. The differential count is of no practical value. Before making a positive diagnosis, pain caused by pleurisy, pneumonia, cholecystitis, acute gastrointestinal indigestion, iliac thrombosis, appendicitis, peritonitis, renal calculus, distended urinary bladder, or even a hemorrhagic exudate into the abdominal muscles must be carefully considered, as any of these may simulate perforation. Nature may sometimes close perforations, but the only rational course when they occur is surgical intervention. No case is too desperate for operation, as the worst are sometimes saved. In case of doubt, when symptoms point to perforation, the safest course is to operate. Even when no perforation is found, patients, as a rule, seem benefited by operation. With the diagnosis once made, Harte knows of no other condition, except possibly hemorrhage, in which speed in operating is so important, as in this. Everything should be prepared beforehand so that there may be no delay when once the knife is taken in hand.

**A Philippine Fever.**—Two cases of a somewhat temporary febrile affection suggesting typhoid or malaria and the discovery of a peculiar organism associated with it are reported by H. D. Bloombergh and J. Morgan Coffin. The fever was accompanied with general malaise and in one of the cases with marked muscular pains. It started with chills, but sweats were lacking. The organism was found in the red blood cells. It is a motile hemocytozoon, approximately 2.5 microns long one micron broad, unpigmented, and refractive like the malarial parasite. Its movements are of two kinds, the first depending on its rotation on one or other of its two axes, and the other an independent movement from one position to another within the cell. The motion ceased after several hours' observation and in specimens kept over night a few narrow ring-shaped bodies were found. This parasite was probably first described by Asst. Surgeon H. M. Smith, U. S. A. (Surgeon General's Report, 1904), and the reason it has not been more generally recognized in the peculiar transient fever that occurs in some portions of the Philippines without the presence of the malarial parasite, is its small number in the blood. Smith's cases were reported under the head of estivomalarial fever though he remarks on the peculiarities of the organism and its possible distinctness.

*The Lancet, October 21, 1905.*

**Total Alopecia Following the Use of Cantharides.**—A man who had on his head a patch of what appeared to be tinea, was directed by P. F. Barton to apply the B. P. liquor vesicatorius. About one week later the patch treated became surrounded by a swelling which, in the course of a week, extended over the entire scalp and face, which pitted deeply on pressure. In two days more there was a slightly raised rash from head to foot, and blood in the urine. In the course of a few weeks the hair began to fall out, first on the head, then on the body, involving the axillary and pubic regions, until it was entirely lost. Later the nails fell off. Eight months later the nails had reappeared but there was no sign of returning hair. The general health had been poor all the time. The hair bulbs had not been destroyed and it was expected that the hair would grow in due time. Both before and after this particular case the bottle of liquor vesicatorius had been in constant use and with perfectly normal results.

**The Pathology and Prevention of Secondary Parotitis.**—This topic is considered exhaustively by R. H. T. Bucknall, who notes that secondary parotitis is distinguished from the primary disease or mumps in the following particulars: (1) It invariably occurs as a complication during the course of some other malady; (2) it is not contagious; (3) it not infrequently suppurates. A long list of diseases is enumerated in the course of which this complication may arise, and its symptoms, course, and termination are briefly sketched. The author refers to the following theories of etiology: (1) Pyemic or embolic; (2) heat degeneration; (3) toxin excretion; (4) sympathetic; (5) diet infection. He finds that the observations of recent years tend to confirm the theory last named, and reports six personal cases as additional evidence. He concludes, therefore, that secondary parotitis is invariably due to an infection of Stenson's duct, dependent on a septic condition of the mouth, and that its onset may be prevented by attention to the following details: (1) The mouth should be carefully cleansed and rendered aseptic before operation, and at the commencement of long febrile illnesses; (2) the anesthetic apparatus should be sterile; (3) the mouth should be regularly cleaned, especially after every attack of vomiting; (4) the bowels should be opened early and food by the mouth, and especially solid food, should be given as soon as possible; (5) opium should not be given unless absolutely necessary; (6) the head should not be placed too low nor the binder fixed too tightly while dorsal decubitus should be given up as soon as possible.

**On the Discrimination of "Physiological Albuminuria" from that Caused by Renal Disease, and on the Means of Checking the Albuminuria Where it Occurs Independently of Such Disease.**—This study has been made by A. E. Wright and G. W. Ross. Their technical methods are described. The discrimination between the two forms of albuminuria is estimated on the basis of the "excretory quotient," which is an expression of renal efficacy obtained by dividing the salt content of a patient's blood into the salt content of his urine. The quotient is arrived at by collecting from a patient who has just emptied his bladder a sample of blood and as soon afterward as may be possible a sample of urine. Progressive dilutions are made of the serum and urine thus obtained, and each of these solutions is mixed (by a method described in the paper) with blood in the proportion of two volumes of the diluting fluid to one of blood. The "excretory quotient" is then obtained by dividing the minimum dilution of the urine which effects complete hemolysis by the minimum dilution of the serum, producing a like result. The application of this plan to physiological albuminuria cases always shows a quotient of two or above. The same results can be obtained with healthy persons and contrast in a marked

manner with those derived from cases of renal disease. The condition in physiological albuminuria arises from a lymph transudation into intact urinary tubules. This supposition wins support from the consideration that the conditions which are favorable to the occurrence of serous hemorrhage in general—to wit, increased hydrostatic pressure in the capillaries of a particular region, and diminished blood coagulability—are favorable also to the appearance of albumin in the urine in the cases we have here in view. The authors state that the appearance of albumin in the urine in physiological albuminuria is influenced by active exercise, by nervous disturbances, and by the assumption of the erect posture; and we may note that under all of these conditions the hydrostatic pressure in the renal capillaries would be increased. They further recall the fact that a condition of diminished blood coagulability was found in many of our cases of physiological albuminuria; and that the output of albumin in cases of physiological albuminuria can, as is shown in the next section of this paper, be restrained by increasing the coagulability of the blood. It must be left for future experiment to determine whether in physiological albuminuria, as in urticaria, the exudation can be increased by the ingestion of decalcifying and lymphagogic agents. They further believe that the use of the calcium salts to increase the coagulability of the blood will also check the output of albumin in these physiological cases. They refer to the practical bearing of all these observations on the matter of candidacy for life insurance, and summarize by saying that when it is found that a patient possesses a normal excretory quotient, and that his albuminuria can be abolished by diminishing the hydrostatic pressure on the renal capillaries and by increasing the coagulability of the blood, there is every reason to conclude that the kidney is free from organic disease and that life is no more endangered than it would be if the patient were the subject of urticaria.

*British Medical Journal, October 21, 1905.*

**A New Operation for Moderate Short Sight.**—Ernest E. Maddox tried the pressure-massage treatment on a boy, sixteen years old, with only temporary benefit. The patient was training for Woolwich, but failed to pass his examinations on account of his ocular defect. After repeated requests from the boy, the writer undertook the operations which he had suggested. These consisted in flattening the cornea, first in one meridian and then at right angles. Without chloroform, the writer began with the most difficult meridian, namely, the horizontal. He first dissected up a conjunctival flap, and threw it over the cornea. He then introduced a triangular iridectomy knife between the reflected conjunctiva and the sclera, and entered the anterior chamber. The operation was extremely delicate, for the peripheral nature of the incision in the very nervous and mobile eye, made the iris prolapse again and again, especially after the incision was enlarged above and below with a probe-pointed knife, which was the next stage of the operation. Only a very large incision is capable of producing a regular flattening of the cornea. At last the iris was reposed and the conjunctival sutures inserted so as to exert considerable traction on the flap. Healing was painless and uneventful. The second operation was far simpler than the first. The incision was made with an ordinary cataract knife, downward. The healing was equally successful. The patient, after a term of study, successfully passed his examinations.

**Remarks on the Pathology of Bradycardia.**—John Hay gives the history of a patient who was healthy until he was twenty-six years old, when he suddenly lost consciousness. He complained of "breathlessness on exertion and attacks of unconsciousness." Later he suffered from extreme cardiac failure. The writer noted the following facts: The apex beat was situated well outside the nipple line, slow, heaving, and forcible in character, twenty beats per minute. Pulsations or small beats, numbering fifty or sixty per minute, occurred regularly over the third left interspace, just to the left of the sternum. Synchronous pulsations occurred in the veins of the neck. Definite systolic retraction in the third, fourth, and fifth left spaces were noted. Cardiac dullness (deep) extended seven inches to the left, and two inches to the right of the middle line. A systolic murmur was heard at all areas, loudest and harshest over the cornu of the right ventricle. It was conducted to the left and well heard along the vertebral border of the scapula. No sounds were audible accompanying the small pulsations mentioned above. The pulse varied from seventeen to thirty per minute. Auricular contractions occurred twice or thrice as often as the ventricular, the cause of the bradycardia being "heart block." Examination of the heart after death showed two marked changes besides the hypertrophy and dilatation of the chambers. Stretching of the auricular canal (the part normally within the auriculoventricular groove), and separation, or rather attenuation of the bond between the bases of the valves (tricuspid) and base of the ventricle. The writer states that normally the ventricle responds to a stimulus spreading down to it from the auricle; if by any means the ventricle is cut off from this normal periodic stimulus it tends to initiate its own stimulus and to take on a rhythm different from, and independent of, the auricle. The term "heart block" is applied to this condition. When the stimulus for ventricular action arises in the ventricle itself, there is a slow rhythm. The result of "heart block" is consequently a bradycardia. In this case the writer believes that the block occurred at the attenuated part of the ventricular wall situated at the base of the ventricle at its junction with the auricular canal. He thinks that the dizziness and fainting were due to a temporary cessation of ventricular contraction.

*French and Italian Journals.*

**Necessity of the Examination of the Ears and Rhinopharynx of School Children.**—Armand Lévy, from his extensive work in this line is greatly impressed with the necessity of these examinations. He calls attention to the importance of breathing freely through the nose. Only too true is the saying that when the nose is stopped in infancy the ears will be closed in old age. Statistics show that a large number of children suffer from lesions more or less closely associated with the auditory and the respiratory apparatus. These lesions are too often ignored. The writer has had occasion during the last year to examine systematically seven hundred and ten school children between the ages of four and thirteen years inclusive. Intervention was indicated in the following various cases: Seventeen children had hypertrophy of the tonsils; forty-four, adenoids; five children were affected with both of these lesions; one had dry pharyngitis. Fifty-four children were troubled with wax in one ear; nineteen in both ears; eight had suppurating middle ear trouble; of these, one had perforations; thirty-two other children presented various lesions of the middle ear more or less recent, while one had internal ear trouble. In other words, 26.9 per cent. of these children suffered from lesions of the ear and rhinopharynx.—*La Presse Médicale*, September 27, 1905.

**Treatment of Articular Tuberculosis.**—A. Broca presents certain conclusions on this subject. Medical treatment is indispensable. Nevertheless a continuous sojourn at the seashore is not necessary. Superficial synovial lesions are treated by injections of a ten per cent. solution of iodoform in ether and by relative immobilization of short duration. Osteoarthritis is treated by complete immobilization in the position indicated. Immobilization is the basis of treatment of these lesions, although one may have recourse to various adjuvants. Operation will prove exceptional. Resection is preferable to synovectomy. Suppurating white swellings should be subjected to puncture and to injections of iodoform and ether. The writer does not favor very strongly irritating injections. The dangers of infection call for generous openings of the bony foci with drainage. The correction of faulty positions should be made only after every infectious focus is suppressed. Immobilization should be discontinued only after the disappearance of all pain, whether spontaneous or not. Too great effort to move the joints should not be made.—*Gazette des Hôpitaux Civils et Militaires*, September 23, 1905.

**The Treatment of Tics by "Reeducation."**—Beutter declares that the only rational treatment in the case of tic is "reeducation." Tic, as Brissaud has shown, is preeminently a motor disorder due to a defect in cortical control,—to an insufficiency of volition. The principle of Beutter's method consists in gradually bringing into control the muscles which have been acting involuntarily. This control is both positive and negative; that is, the patient decrees that these muscles at times shall be active and at other times quiescent. In order to attain this end it is necessary that the subject learn to maintain a "photographic" immobility of progressively increasing duration. When the patient has reached the point where he can voluntarily reproduce his tic he has become master of it, and is cured. These exercises are taken daily at certain hours under the direction of a physician or an intelligent person. At times the patient may practice by himself before a mirror. If any cause of this affection be discovered, it must be treated besides. This method of treatment has been followed with the happiest results in these unfortunate cases. *La Presse Médicale*, September 23, 1905.

# Book Reviews.

Diseases of the Anus and Rectum. By D. H. Goodsall, F.R.C.S. (Eng.), Senior Surgeon to the Metropolitan Hospital, late Senior Surgeon to St. Mark's Hospital for Fistula and Other Diseases of the Rectum; and W. Ernest Miles, F.R.C.S. (Eng.), Surgeon to the Gordon Hospital for Diseases of the Rectum, Surgeon to the Cancer Hospital, Brompton; late Senior Assistant Demonstrator of Anatomy at St. Bartholomew's Hospital Medical School, and House Surgeon to St. Mark's Hospital for Fistula and Other Diseases of the Rectum, etc. In Two Parts (illustrated). Part II. London, New York and Bombay: Longmans, Green & Company, 1905.

Part II. of this work is devoted in the main to the more serious surgery of the rectum—the various forms of ulceration, the benign and malignant growths, and stricture—while prolapsus, invagination, foreign bodies, pruritus, and syphilis each have a chapter. The work is distinctly well done and valuable, devoid of padding, and strictly scientific in its conception and execution, and though rather practical than original, perhaps none the less useful on that account. Attention can be given to only a few points, such as the classification of stricture as "the linear or annular stricture and the tubular stricture," which is decidedly more practical than scientific. The practical division of carcinoma into "those cases in which extirpation is praticable and those in which it is not" cannot be too highly recommended to the practitioners of to-day, and the various operations are well described. We cannot forbear quoting the following as showing the gradual triumph of scientific observation over prejudice and ignorance: "We have already mentioned that a large number of strictures of the rectum are set down as syphilitic when they are really due to infective ulceration, and have given our reasons for this opinion. Still there are many observers who support the opinion that the condition known as the *syphilome ano-rectal* of Fournier is the most frequent cause of stricture of the rectum. To our minds, this opinion has been based entirely upon the analogical reasoning that because syphilis produces connective tissue hyperplasia in other organs, it must necessarily do so in the rectum. . . . Though we do not deny that such a form of stricture may exist, we nevertheless state that we have never seen an instance in which the syphilitic origin of a stricture was beyond dispute."

Exercises in Practical Physiology. By Augustus D. Waller, M.D., F.R.S. Part II. Exercises and Demonstrations in Chemical and Physical Physiology. By Augustus D. Waller and W. Legge Symes. London, New York, and Bombay: Longmans, Green & Company, 1905.

The title exactly describes the contents of this little book. The subjects treated are: The Blood, Circulation, The Carbohydrates and Salivary Digestion. The Proteids and Gastric Digestion, Fat and Pancreatic Digestion, Milk, Bile, Muscle, Urine, and Respiration. There are numerous illustrations and tables and the book should prove useful in the physiological laboratory.

The Eye. Its Refraction and Diseases. Diseases of and Operations upon the Eyeball and Its Adnexa. By Edward E. Gibbons, M.D., Assistant Surgeon of the Presbyterian Eye, Ear, and Throat Hospital; Demonstrator and Chief of Clinic of Eye and Ear Diseases in the University of Maryland, Baltimore. Vol. II. New York: The Macmillan Company, 1905.

The concluding volume of this treatise is one of 632 pages. It is beautifully printed and fairly well illustrated although the views of the fundus oculi that have been inserted are hardly up to the standard that we expect in such a work. Sufficient and well-chosen illustrations enhance the value of a work on diseases of the eyes that is intended, as this one is, to be used by the student and general practitioner.

The text is divided into twenty-five chapters, of which the first three are devoted to "Embryology and Anatomy." These are followed by a chapter on the "External Examination of the Eye." The diseases of the different parts of the eye and its adnexa are then considered in proper order. Then follow chapters on "Ophthalmic Migraine," "Associated Diseases of the Eye and Ear," "Eye Lesions in General Disease," "Operations on Animals' Eyes Methods of Preserving Eye Specimens." The descriptions of ocular conditions are brief and to the point. Authors are quoted, but there is no bibliography. The text evidences a wide knowledge of the theory of ophthalmology and of clinical ophthalmology as practised by others, but discloses a lack of personal experience. The treatment of that portion of ophthalmology which has to do with physiological optics can be accomplished satisfactorily and creditably by one whose practical experience is limited, but clinical ophthalmology, as clinical medicine, can well be written of only by one whose personal experience has been extensive.

The work is commendable in that it gives evidence of much study on the part of the author but it presents nothing in advance of works already published.

A Manual of Organic Materia Medica and Pharmacognosy.—An Introduction to the Study of the Vegetable Kingdom and the Vegetable and Animal Drugs, comprising the botanical and physical characteristics source, constituents, pharmacopeial preparations, insects injurious to drugs, and pharmacal botany, by Lucius E. Sayre, B. S., Ph.M. Third edition, revised. With Histology and Microtechnic by William C. Stevens. With 377 illustrations. Philadelphia: P. Blakiston's Son & Co., 1905.

Part I. of this book of nearly 700 pages gives a classification of drugs wherein are given physiological action and therapeutic application, titles of the newer remedies with structural formulas, properties, and dose, maximum and minimum, a list of synonyms, sources, characters etc.

Part II. gives a description of organic drugs derived from the vegetable kingdom arranged according to familiar or natural orders. This is the most valuable part of the book, as it gives sources, varieties, description, adulterants, constituents, action, and uses. This portion of the book has been rewritten, and a description of a large number of the newer remedies has been added. One prominent feature of this part of the work is that only those remedies are presented which are prescribed and dispensed to any considerable extent by physician or druggist. Minimum and maximum doses are given rather than an average, as in the last pharmacopeia.

Part III. gives a description of insects injurious to drugs, while Part IV. gives the elements of plant histology and microtechnic, a thoroughly interesting and instructive section, especially to the druggist. The chapter on powdered drugs has been rewritten, and gives information which will be of great interest to students and instructors in schools of pharmacy. The illustrations are abundant. Finally, a copious index is given with cross references—a feature to be commended in books which treat of such a variety and number of subjects. The classification is up to date, but would be found complex and tedious were it not supplemented by the copious index.

The Medical Epitome Series. Practice of Medicine. A Manual for Students and Practitioners. By Hughes Dayton, M.D., Principal to the Class in Medicine, New York Hospital, Out-Patient Department; Clinical Assistant in Medicine, Vanderbilt Clinic, College of Physicians and Surgeons, Columbia University. Series edited by Victor Cox Pedersen, M.D. New York and Philadelphia: Lea Brothers & Company. 1905.

This little manual is the latest volume of the "Epitome Series." By the exclusion of diseases of the nervous system and of the larnyx and pharynx, sufficient space has been obtained to treat the more important of the infectious diseases at greater length and in more detail than is usually done in books of this class. As a rule the student will find all the essentials of any given disease, including definition, chief synonyms, etiology, pathology, symptoms, diagnosis, complications, prognosis, and treatment.

Practical Massage in Twenty Lessons. By Hartvig Nissen, Instructor and Lecturer in Massage and Gymnastics at Harvard University Summer School; Director of Physical Training, Brookline Public Schools; Author of "Swedish Movement and Massage Treatment," "A, B, C of Swedish Educational Gymnastics," "Rational Home Gymnastics," etc. With 46 original illustrations. Philadelphia: F. A. Davis Company, 1905.

This is a simply written but thoroughly practical manual of massage. The first ten lessons contain instructions for the various manipulations suitable for different parts of the body, the eleventh lesson considers general massage as a substitute for exercise, and the remainder of the book is devoted to the application of massage in the morbid conditions susceptible to this form of treatment. The descriptions are concise, but adequate; the illustrations make up in clearness for what they lack in execution, and the true function of massage as a secondary but not a primary therapeutic agent is kept constantly before the reader. A little more space might with propriety have been allotted to the discussion of massage in sprains and fractures in view of the important part that this treatment now plays in such conditions; but, as a whole, the book is very satisfactory, and may be recommended to those who do not require one of the larger works.

# Society Reports.

## MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

*Thirty-first Annual Meeting, Held at Indianapolis, Indiana, October 10, 11, and 12, 1905.*

THE PRESIDENT, DR. BRANSFORD LEWIS OF ST. LOUIS, IN THE CHAIR.

(*Concluded from page 721.*)

**The Present Status of the Surgery of the Stomach.**—Dr. W. D. HAGGARD of Nashville delivered this, the address in surgery. A discussion relative to operation for stomach lesions now was similar to that in regard to appendicitis twelve or fifteen years ago. Then only the desperate cases were submitted to operation; it was so now with many stomach cases. This, however, must yield to the logic of results, and in a short time the profession generally would advise early operation as they now well-nigh universally did in appendicitis. Improved technique, low mortality and satisfactory end-results would inevitably do away with the empirical treatment of occult intractable stomach troubles. The typical indication for operative interference was obstruction of the pylorus from an open or cicatrized ulcer causing dilation of the stomach, with stasis of food. The short-circuiting operation of gastroenteric anastomosis found its ideal indication here, and had given the most beneficent results. It was the *fons et origo* of the present group of drainage operations, as well as other gastric procedures, and was altogether the most perfected and satisfactorily employed operative device. The other complications of ulcer requiring operation were pointed out as (1) perforation; (2) hematemesis of chronic ulcer; operation was advised in repeated acute hemorrhage or in constantly recurring small hemorrhages. Other indications were found in the following groups of cases; (3) obscure and persistent stomach symptoms with a long history of dyspepsia culminating in hemorrhage, after it had been controlled by medical means and the patient put in the proper condition for operation; (4) cases of chronic intractable dyspepsia, even without dilation, which failed to yield to proper medical treatment, and were not due to a general visceral ptosis. Aside from malignancy, chronic ulcer and its complications furnished most of the indications and the majority of cases. It was not impossible that the bulk of cases of inveterate dyspepsia was really due to ulcer. That it was found post-mortem so very many more times than it was recognized clinically was a reproach not so much to diagnostic measures as to failure to properly apply them. Dr. Haggard quoted Moynihan as saying that he did not know any operation in surgery which was more successful or which was attended by better or more striking results than gastroenterostomy for chronic ulcer of the stomach. It was in duodenal or pyloric obstruction that gastroenterostomy found its most striking indication and attained its highest efficiency. The many various methods for performing gastroenterostomy gave a feeling of wonder at the ingenuity displayed. The relative safety of the operation even by varying technique was illustrated by Robson's results, namely, over two hundred cases with a mortality of 3.6 per cent. The posterior operation had largely supplanted the anterior, because of the avoidance of the loop around the transverse volon and the mischief it caused. The anterior operation was reserved for malignancy, where the speediest technique was the best, where the stomach could not or should not be delivered freely and the operation was palliative in its intent. The Murphy button could be employed in gastric and intestinal surgery on account of its rapid insertion; while the McGraw elastic ligature found its best scope in such cases if an immediate opening was not required. The posterior operation without the loop, with a longitudinal incision from one to three inches from the duodenojejunal angle, gave almost complete immunity from the vicious circle. A most logical operation for gastric ulcer was that proposed by Rodman of excising the ulcer-bearing area by a pylorectomy. This stopped the possibility of hemorrhage, removed the lesion and cicatrices. This removed also all of the ulcers, as they were usually multiple, and situated in the antrum pylori, which was also the cancer site. It removed any coexisting duodenal ulcer in the first two and a half inches. The most crying need was some means for the early recognition of cancer of the stomach. Until the magic and immunizing therapy which would convert malignancy into benignancy was discovered, extirpation was the only resource in such cases. One-third of all carcinomata were in the stomach.

**Blood Poisoning Emanating from the Nose and Pharynx.**—Dr. J. HOLINGER of Chicago stated that microorganisms of the nose and pharynx were formerly considered harmless. A great many diseases could be directly traced to them. Fatal cases of blood poisoning occurred, but were not very frequent. This statement in the paper was substantiated by the histories of two cases. The speaker said that Dr. Schwarzenbach had shown that a number of general diseases, such as acute and chronic articular and muscular rheumatism, sciatica, etc., could be traced directly to general infection from the pharynx with streptococci. He proved this statement by showing that with the decrease in the number of streptococci in the pharynx all general symptoms diminished and disappeared. He had the advantage of practising in the mountains, where these infections were only sporadic and epidemic. In the city these were constant, general, and endemic. The connection between acute rheumatism and tonsilitis was well known. The tonsil received its lymph from the nose and pharynx and might therefore become secondarily inflamed in cases of infections located in the nose and pharynx. There was a difference in the course of the disease, whether the infection dated from the nose and pharynx, or directly from the tonsils. The most striking example was diphtheria. All know the seriousness of diphtheria starting from the tonsils and the lymphatics of the nasopharynx, while diphtheria of the nasal mucous membrane was a rare but comparatively innocent disease. Histories of cases were given by the author where chronic rheumatism of many years' standing, which had been treated with all kinds of medicine, massage and *x*-ray, disappeared when the suppurative processes in the nose and its sinuses were cured. The mixed infections of tuberculosis of the lungs and bones might be avoided, in the opinion of the author, if the pharynx and nose, whence they started, were treated. The treatment was simple; very little was accomplished by sprays. Washes with boric acid solution were used in the nose, and in the pharynx paintings with solutions of iodine in iodide of potassium and glycerine. Difficulties were often experienced in locating a suppuration of the nose or nasopharynx; then the experience and skill of the specialist came to the rescue.

**Cancer of the Rectum.**—Dr. E. B. SMITH of Detroit, Mich., pointed out the recognized radical operations required in cancer of the uterus and cancer of the breast, saying that to the practical working surgeon when operating it mattered not so much whether the cancer was due to a parasite or to a tissue fault as it did to feel and to know that all tissue involved was being extirpated. The modern treatment for cancer consisted of the following: Internal medication of arsenic, *x*-ray, local application of arsenic and zinc, Coley's fluid—the mixed toxins of the streptococcus of erysipelas, and the bacillus prodigiosus; resection of nerves at the site of malignant neoplasms; ligation of blood-vessels supplying blood to the parts, and extirpation. The author made a special plea for extirpation in the treatment of cancer of the rectum as being the only procedure that would give hope of a cure. He touched on colotomy as the operation of necessity rather than the operation of choice, and urged an examination in all cases where the rectum was involved, as in cases of hemorrhoids, where there were bloody stools, where there was painful defecation, and where there was

constipation, and advised a microscopical examination in all cases when a neoplasm was discovered. The author showed that the extirpation of a part or the whole of the rectum by the Kraske method was the ideal operation, but should be practised only by those who have had experience in capital operations.

**The Surgical Management of Injuries of the Peritoneal Viscera Resulting from Violence Applied to the Abdominal Wall.**—Dr. John Young Brown of St. Louis, Mo., called attention to the dismal mortality in such cases, and emphasized the importance of their early diagnosis and prompt surgical treatment. He reported a series of six cases which had come under his personal care during the past eighteen months, in all of which abdominal resection was done. Of the six cases one recovered and five died. An analysis of the cases led to one conclusion, namely, the importance of early diagnosis and prompt surgical treatment by abdominal section in all cases of abdominal contusion, in which there were present the slightest symptoms pertaining to injury to peritoneal viscera. If one waited until the classical symptoms of peritonitis were present surgery promised little.

**Intraperitoneal Tuberculosis.**—Dr. F. F. Lawrence of Columbus, Ohio, read a paper on this subject, in which he drew the following conclusions: (1) Intraperitoneal tuberculosis is frequently a local disease; (2) it probably occurs much more freqently in the female than in the male; (3) in a large majority of cases it is primarily visceral and the general peritoneum is secondarily involved; (4) the surgical treatment is rational, sometimes agreeably surprising in results, and again bitterly disappointing; (5) in this, as in many other surgical conditions, early diagnosis and early operation will bring more certain results; (6) in this condition the greatest obstacle to overcome is the idea that it is a secondary condition; (7) no case of intraperitoneal tuberculosis should be denied the benefits of operation, no matter how extensive, so long as there is no positive pulmonary or pleuritic involvement, for the reason that some apparently hopeless cases fully recover; (8) when there is a tubercular peritonitis, a sequel of tubercular tubes, ovaries, or appendix, the primary focus should always be removed; (9) in these tubercular cases the mesenteric glands have not been fond frequently involved, and when they are operation accomplishes very little good; (10) in tubercle of tubes and ovaries the adhesions are usually firm, sometimes, though not usually, very vascular, and not infrequently involve loops of the small intestine; hence the greatest care is necessary, to avoid serious injury to bowel, and at the same time separate completely all adherent surfaces and provide complete drainage; (11) drainage is the great factor in recovery, when properly carried out.

**Pyloroplasty with the McGraw Ligature.**—Dr. J. Henry Carstens of Detroit said that many cases with disturbances of digestion could not be diagnosticated or relieved by medication. These should be subjected to an exploratory celiotomy. Gastroenterologists should not treat patients for months and years if they could not make a positive diagnosis or cure the patient. After reasonable efforts the patient should be sent to the surgeon for relief. The McGraw ligature was a valuable means of relieving stricture at the pylorus and the resulting dilatation of the stomach. This method of operating was easy and quick; the danger was very small, and the operation was preferable to those heretofore used in benign contractions at the pylorus. It was a great deal better than gastroenterostomy, as one restored as nearly as possible the normal condition. Quite a number of gastroenterostomies had been reported, with a most gratifying result in some of the cases, but the difficulties encountered, the trouble with the vicious circle frequently called for a double operation. The McGraw elastic ligature method should be the operation of choice. He concluded by saying that (1) many stomach troubles were due to mechanical means; (2) these cases could only be relieved by surgery; (3) many cases could not be properly diagnosticated in the present state of our knowledge; (4) obscure cases that had been subjected to various modes of treatment without benefit should receive the benefit of an exploratory celiotomy.

**Ovarian Cystoma.**—Dr. L. P. Luckett of Terre Haute, Ind., reported a case of ovarian cystoma upon which he had operated. The tumor originated from the left ovary, was attached by a broad pedicle which was tied off in sections. The uterus and right ovary were found to be normal. The fluid and tumor were estimated to have weighed between seventy and eighty pounds. The patient made an excellent recovery.

**Surgical Treatment of Nephritis.**—Dr. Alexander Hugh Ferguson of Chicago presented a further report on the surgical treatment of this disease. He reported seven cases upon which he had operated, with two deaths.

**Vesicovaginal Fistula.**—Dr. Maurice J. Rosenthal of Fort Wayne, Ind., discussed the subject of closure of ureterovaginal and vesicovaginal fistulæ, and reported a case. He concluded by saying that a considerable area of scar tissue and vaginal mucosa might be inverted into the bladder without producing ill effects. Ureteral fistula embedded in scar tissue might be inverted into the bladder and continue to discharge its urine without becoming stenosed. Even large vaginal fistulæ, where part of the bladder walls were lost in scar tissue from a previous hysterectomy, might be successfully operated by the operation of denudation and suture through the vagina without disturbing the relations of the bladder or any adhesions of pelvic viscera which might have formed in the scar.

**Sprained Ankle.**—Dr. Robert Carothers of Cincinnati read a paper on this subject, in which he drew the following conclusions: (1) No one is exempt from a sprained ankle, although some are more prone to it than others; (2) that in severity a sprained ankle will range from a trivial accident to one of extreme severity and everlasting; (3) that the outer side more often than the inner side of the ankle is the seat of trouble; (4) that the diagnosis which is ordinarily made with ease is at times made with difficulty, and occasionally an *x*-ray examination is required to make the diagnosis certain; (5) that the treatment by immobilization with a plaster-of-Paris cast is unsatisfactory, and at times injurious; (6) that the treatment instituted by Cotteral, the so-called adhesive plaster strappings, advising and urging the patient to walk on the injured foot, the early removal of these straps, followed by massage, gives the most satisfactory and best results; (7) that the old cases are to be, under anesthesia, converted into acute sprains and treated in the same manner.

Dr. David C. Peyton of Jeffersonville, Ind., reported an interesting case of pyemia following an operation for appendicitis.

**Appendicitis.**—Dr. R. E. Haughton of Richmond, Ind., followed with a paper on the history, differential diagnosis, pathology, etiology, and medical and surgical treatment of this disease. He presented a brief history and plea for an abatement of the use of the knife in place of treatment by remedies, in view of the statistics and results.

**Shall the Profession or the Laity be Responsible for the Death Rate in Appendicitis?**—Dr. J. C. O'Day of Oil City, Pa., said that every physician, when confronted with a case of appendicitis, should frankly tell the patient the nature of his trouble; explain to him, honestly and candidly, the disposition of his disease; that no one could tell what an inflamed appendix would do, and that there was no safety till the offending organ had been removed. If the patient then decided to defer operation, he, not the surgeon, would be responsible. If this were done, he thought we would hear no more complaints of, Why did not the physician advise operation before it was too late?

**Sarcoma of the Anterior Segment of the Globe.**—Dr. O. Tydings of Piqua, Ohio, presented a brief history of a patient upon whom he had operated for the removal of melanosarcoma of the anterior segment of the globe. The diagnosis of melanosarcoma was

confirmed by reliable miscroscopists and pathologists. Five days after the removal of the tumor the patient dropped out of sight and the speaker did not see him again until the following August. There was no recurrence; the cicatrix was smooth; the lone pigmented spot, not larger than a pin point, which the author took to be the remains of an old hernia of the iris, was still present, but absolutely quiescent. The patient's vision, which, when he first saw him, was right eye, 20/40, and when operated upon 20/200; left, 20/30, was now 20/20 in each eye. So far as the author had been able to examine authorities, the case stood alone. Primary melanosarcoma of the cornea was rare. Nine cases had been reported of sarcoma of the cornea by different authorities. None of these cases, however, according to an English authority, was above suspicion.

**Extraperitoneal Rupture of the Bladder Complicating Fracture of the Pelvis.**—Dr. JOSEPH RILUS EASTMAN of Indianapolis said that injuries of the pelvic bones were attended with more or less risk to life, which did not ensue solely from the damage done to the bones themselves, but arose usually from the injuries done to the viscera of the region involved. Formerly death occurred in a large percentage of cases of rupture of the bladder. The mortality was naturally much higher in those cases in which a tear of the peritoneum made possible the entrance of urine into the peritoneal cavity. However, extravasation of urine through the pelvic connective tissue in cases of purely extraperitoneal bladder rupture also formerly caused a high mortality rate. This mortality rate had been decidedly decreased by modern methods of dealing with shock and free and rational bladder drainage. The immediate and characteristic symptoms of the injury were intense pain in the abdomen, collapse, and great irritation of the urinary reflex, with ineffectual attempts to void urine. Inability to void the urine was usually present, whether the peritoneum was torn or not. If the peritoneum was injured, peritonitis of the sthenic type developed duly. As the injury usually occurred while the bladder was full, an area of dullness and tenderness was to be found over the bladder, extending irregularly beyond the normal limitations of bladder dullness, and a large amount of bloody urine might usually be withdrawn by catheterization. In the three cases described by the author, the treatment consisted in combating shock, chiefly with normal salt solution and adrenalin, in the removal of clot, suture of the rent in the bladder, appropriate bladder drainage, rest, and the application of a bandage in such a manner as to prevent movement of the pieces of bone which were broken off.

The following papers were also read: "Note on Bone Tuberculosis, with Report of a Case," by Dr. W. W. Vinnedge, Lafayette, Ind.; "Post-Operative Acute Dilatation of the Stomach, with Report of a Case Following Nephropexy," by Dr. A. E. Halstead, Chicago; "Treatment of Tuberculosis of the Cervical Lymphatics," by Dr. H. C. Sharp, Jeffersonville, Ind.; "Visceral Ptosis; Its Surgery," by Dr. Earl Harlan, Cincinnati, Ohio; "The After-Treatment of Gastroenterostomy," by Dr. Charles A. L. Reed, Cincinnati, Ohio; "Cysts of the Mesentery, with Report of a Case," by Dr. L. G. Bowers, Dayton, Ohio; "Perforating Ulcers of the Duodenum, with Report of a Case," by Dr. M. A. Austin, Anderson, Ind.

**The Patent Medicine Evil.**—The following preamble and resolution were unanimously adopted by the Section:

*Whereas*, The medical profession keenly realizes the great and increasing public evil, moral, mental, and physical, arising out of the support given by the public press to the so-called patent medicine interests, leading to the pernicious practices of self-drugging, narcotic habituation, and alcoholic excess; be it

*Resolved*, That the Mississippi Valley Medical Association commends and frankly indorses the attitude adopted by *Collier's Weekly* and the *Ladies' Home Journal* in giving publicity in the articles by Samuel Hopkins Adams, Norman Hapgood, and Edward Bok, respectively, to truthful exposure of the nefarious practices and unscrupulous methods of the so-called patent medicine concerns

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MEDICAL SECTION.

**What is the Present Conception of Bright's Disease?**—Dr. G. W. MCCASKEY of Fort Wayne, Ind., read a paper on this subject, in which he said that the only possible justification for the use of the term was an historical one, and while its meaning must, in a sense, change with the changing views of pathology, yet the primary groundwork which constituted the historical basis on which it stood should be kept constantly in view. He presented a brief inquiry as to the character of the group of morbid states and symptoms originally described by Bright. The investigations of Gull and Sutton on the relation of arterio-capillary fibrosis as a cause of contracted kidney were the most important steps in broadening the views entertained concerning Bright's disease. They demonstrated the systemic or hematogenous character of one clinical type of the disease, which naturally stimulated thought and investigation with reference to other types along the same lines. In spite of the advances in pathological doctrine, in spite of the mutations of opinion and classification, one could not but be impressed by the close resemblance between the views entertained to-day and those of half a century ago concerning what might be called the gross features of Bright's disease. For the purpose of a broad general view of the subject, the author divided the causal conditions into six classes: (1) The acute infections; (2) chronic infections; (3) chemical poisons introduced into the circulation, of which lead may be taken as a type; (4) the influence of cold; (5) the products of perverted gastrointestinal function, and especially intestinal putrefaction; and (6) the products of perverted metabolism.

**The Combined Method of Treatment in the Arrest and Cure of Tuberculosis.**—Dr. H. B. WEAVER of Asheville, N. C., stated, among other things, that in order to wage a successful warfare against tuberculosis and prevent its spread, the method which was pointed out by nature consisted in increasing, as far as possible, the organism. All efforts, therefore, should be directed toward that goal. As only two per cent. of tuberculous patients were treated in sanatoria, that method could not now bring the desired relief. Ninety-eight per cent. of patients were treated in their homes. Therefore the general practitioner, as remarked by Osler, was, after all, the man behind the gun in this warfare, and to him, and through him, we must look for ultimate success. Tuberculosis would only then be vanquished, when it shall have become possible to strengthen the organism and assist with specific powers which will render it immune against the disease.

**The Treatment of Tuberculous Pleurisy with Effusion.**—Dr. THEODORE POTTER of Indianapolis submitted for consideration the following propositions: (1) That the profession had gone too far in accepting the general principle and following the general practice that pleural serous effusions, unless they showed a tendency to early absorption, should be removed; (2) granting that in the majority of such cases pleurisy was the dominant feature and removal of the fluid the proper procedure, and that such removal would probably tend to arrest the pleural tuberculosis, which was usually present, nevertheless the best results ought to be obtained by dealing with each case upon its own merits; (3) in cases in which the pleurisy was the sole or dominant feature, the removal of the fluid was the proper treatment; and in proportion to the accuracy of differentiation between the pleural and the pulmonary disease would be the promise of good results by removal of an effusion; (4) in cases in which tuberculosis of the lung was evidently or probably the overshadowing feature, a conservative course as regards the removal of a serous effusion was the proper one. In some cases the fluid had best be left to nature to take care of, with the hope that

the compression, immobilization, and physiological quietude of the tuberculous lung might tend to arrest the disease. In other cases of this type the removal of the fluid should be undertaken only upon a deliberate judgment, after due consideration.

**Tuberculosis in General Practice.**—Dr. HUGH A. COWING of Muncie, Ind., said that in his relation to tuberculosis the general practitioner should exercise great care in physical examination; he should strive to make an early diagnosis; he should carry a life-saving knowledge into the tuberculous home, improve its hygiene, and teach sanitation; he should employ the pure-air treatment. The method would vary to suit the individual case and condition; he should cooperate with health boards and report cases; he should count the cost before sending the patient to a health resort; he should study health resorts and sanatoriums and visit them, if possible; he should oppose quack consumption cures, and quack doctors who "cure consumption"; he should influence the press for sanitation; he should fight patent medicines; he should expose Christian Science and kindred fads that rob the consumptive of his chance for life; he should endeavor to seek legislation for sanitary advancement; he should help to popularize the consumptive sanatorium and health farm. Membership in a society for the prevention of tuberculosis would make the physician's work more effective.

**The Management of Neurasthenics.**—Dr. H. A. RODEBAUGH of Columbus, Ohio, said that an individual became neurasthenic only after having suffered from some of the psychoneuroses, the latter having been caused by traumatism, by disturbed metabolism, or by peripheral nerve irritation. Heredity, occupation, or environment could hardly be considered etiological factors without further specification. Neurasthenia should be considered a mental rather than a physical disease. Mental symptoms often persisted after removal of all physical causes, and could only be relieved by psychic treatment. Mental hygiene was both preventive and curative. The neurasthenic should be taught that a healthy mental attitude conduced to bodily health.

**Autointoxication.**—Dr. D. L. FIELD of Jeffersonville, Ind., read a paper on this subject. After referring to the theories and definitions of autointoxication by Bouchard and others, the author said that the part played by the intestinal emunctories in the elimination of certain poisonous substances was attested by the commonly fetid stools of persons who frequented autopsy rooms. The fetid character recalled the putrid odor of the emanations from the cadaver. If poisonous products had been absorbed, an effort should be made to destroy them. The liver had the power of arresting poisons. It withdrew them from the intestines and eliminated or destroyed them. One should, therefore, stimulate its action by proper therapeutic measures. If the poisons had escaped the liver, they should be eliminated by the skin, the lungs, the intestines, and the kidneys. If all these attempts failed, one should have recourse to certain antidotes which tended to counteract the physiological effects of the poisons which menaced the system. As a striking example, he mentioned the antagonistic properties of poisons in atropine and pilocarpine. The strength of the patient should not be neglected, so that he might have time to eliminate the poisons. Sometimes it was only necessary to keep a patient alive a few minutes more in order to save him. We could not provide him with radical force, and what was required was active force. Thus one was led to administer stimulants which might awaken the forces remaining latent.

**Some Remarks on the Pathology of Epilepsy.**—Dr. MARC RAY HUGHES of St. Louis, Mo., showed that each epileptic stage had a distinct pathology, and the entire category for classification of epilepsy, including the psychical varieties, had one common pathology or gross structural change, and that this structural change, whether idiopathic or organic, had to do largely with the movements of the centrifugal and centripetal mental forces as they were found in the psychical equivalent of epilepsy—dual consciousness, obliviousness, and allied states of mental eclampsia.

**History and Treatment of Epilepsy.**—Dr. JOHN W. SELMAN of Greenfield, Ind., after recounting at length the history of this disease, said that every physician acknowledged that the great cause of epileptic convulsions was the sudden liberation or explosion of nerve force which swept everything before it. Epilepsy and other diseases might exist together, and for this reason the prognosis and diagnosis were to be carefully formed and given. January 2, 1905, a man, twenty-eight years old, was brought to him who was having epileptic seizures five and six times a week. There was no aura. Like a flash he was in hard convulsions. The general appearance of the patient indicated great anemia, malnutrition, with diarrhea. The author at once used subcutaneous injections of decinormal saline solution, with the bitter tonics and arsenic, and at the expiration of ten days a great change in his condition was noticeable, and in three months he returned home, apparently well. The causes of epilepsy were toxic, reflex, and traumatic. The treatment of the disease was as various as the disease was variable in its forms and phases, and it should in nearly all cases resolve itself into three divisions, consisting in the removal of any exciting cause, in the checking of the convulsive tendency already set up, and in the prevention of any further attacks by suitable drugs or other measures of relief. The treatment was governed largely by the case and was medicinal or operative, according to the causal factors at work. In idiopathic epilepsy medicinal means should be followed, while in a case resulting from traumatism, the depressed bone, abscess, or tumor should be removed.

**The Cigarette; Its Relation to Mental and Nervous Diseases.**—Dr. W. B. FLETCHER of Indianapolis quoted extensively from articles by physicians and prominent laymen on the cigarette habit, and said that he had sometimes asked himself if the members of the medical profession were not largely responsible for the widespread prejudice against the cigarette. It was so much easier to agree with the grief-stricken mother in assigning the cause of the loved one's downfall to the innocent habit of cigarette smoking than to say to her frankly the real cause which examination had revealed, or which had been imparted under the seal of professional confidence. In the past twenty-two years he had examined over twelve hundred cases of nervous disease and insanity brought to the Central Hospital for the Insane, or in his private practice, where the cause of the malady was given by their friends as the cigarette habit. In not one case had he reason to believe that tobacco had anything to do with the causation of the disease. They were all young men, and some of them insane without doubt. Some of them smoked cigarettes to excess, but their insanity was a cause of their excess, and not the excess the cause of the insanity. Many of them were simple cases of hebephrenia, with a cigarette attachment, so to speak. One poor fellow, sixteen years of age, and at the time in acute mania, had been severely punished by his father to "beat out the cigarette habit." After three months he recovered and proved to be an unusually bright and truthful boy. He acknowledged that he had smoked three cigarettes in his life just before his mind gave way from overwork in the harvest field. Some of the cases were tuberculosis of the brain, but he thought he was safe in saying that fully ninety per cent. were young fellows reared in idleness, who had acquired other habits of vulgar and vicious companions which were reducing their vitality and sapping their brain, and the cigarette was used as a cover by patient, parent, and friends as a scapegoat, or an excuse to hide their shame.

**A Plea for More Moral Restraint for Students in Medical Colleges.**—Dr. JOHN M. BATTEN of Downington, Penn., said there were three classes of students at medical colleges: (1) Those who had good morals, were industrious and ambitious, and had a high ideal objective point. (2) Those whose morals were questionable, were not as in-

dustrious as they should be, were lacking in ambition, and consequently their ideal objective point was only mediocre. This class of students was easily led into evil habits. (3) Those who might have plenty of means furnished them for necessary and other expenses. Their ideal objective point in life was not high. Their morals were corrupt, and they had not been taught the value of economy. This class of students schemed to do evil, and endeavored to corrupt others with whom they associated. He thought no medical college should have a charter that could not and would not provide for sufficient moral protection over the students who attended such institution.

**The Tonic Alterative Action of Copper and Arsenic in Primary and Secondary Spanemic States.**—Dr. GEORGE F. BUTLER of Chicago said that arsenic had a very decided action on tissue change, and markedly affected the glandular, nervous, respiratory, and cutaneous systems. Copper was reputed to be a violent poison, yet, except so far as its toxic effects as a foreign body in the eye were concerned, this repute was decidedly undeserved. Copper was recommended as an alterative tonic useful in epilepsy, chorea, and other spasmodic conditions, especially those connected with debility, by the older authors, and later therapeutists sustained this old repute of copper. Several authorities were quoted to the effect that the drug, in small doses, stimulated both the heart and the capillary circulation, and was a general nerve tonic. As to the preparation to be employed, all agreed that while copper sulphate was of value, it had at times unexpected dangerous untoward effects when the point of saturation was reached. These effects, through the influence of the drug on the vascular system, often took the direction of cardiac neuralgias and pseudoanginas. The double salts of copper in small doses exerted a cardiac action similar to that of digitalin, strophanthus, helleborein, etc. Hare preferred copper arsenite. He had found that under its use digestion and nutrition improved. It was superior to Fowler's solution in chorea and similar neuroses. In toxemic conditions, like secondary malarious manifestations, with the resultant pallor, copper and arsenic were of decided value. Cases in which the periodic tendency had disappeared improved decidedly under copper and arsenic, whereas quinine and iron were worse than useless. The influence of arsenic was very marked on chronic rheumatism and so-called rheumatic gout, neuralgias of various sorts, in tic, and hemicrania, as well as in angina pectoris, chorea, epilepsy, and asthma. In certain of the gouty bronchites, at the onset of phthisis, in imperfectly cleared-up pneumonic lung consolidation, arsenic acted sometimes with remarkable efficiency. The influence of both drugs on the liver, whose double functions were so necessary to the tissue changes of the system, showed that both played a part in assisting assimilation, and at the same time destroying waste products.

**The Claims of the Adolescent.**—Dr. FRANK P. NORBURY of Jacksonville, Ill., said that the claims of the adolescent for recognition by the medical profession were genuine, not hypothetical, and involved three important considerations: (1) Physiological—a study of growth, development, sex differentiation. (2) Psychological—normal and morbid, involving honest endeavor of the physician to see the real needs of the individual. (3) Pedagogical—training and treatment to go together. All of these considerations showed that a demand existed for qualified men to consider earnestly the problems of mind and body of this period.

The following papers were likewise read: "Heads and Tails," by Dr. T. B. Greenley, of Meadow Lawn, Ky.; "Simple Eye Conditions That Should be Familiar to Every Physician," by Dr. Mark P. Stevenson, of Akron, O.; "Some Interesting Problems in Urinary Diagnosis," by Dr. Arthur R. Elliott of Chicago; "Concerning Hepatic Uremia and Its Treatment," by Dr. Alfred C. Croftan of Chicago; "Enterotoxismus (Auto-Intoxication) from Meat," by Dr. Fenton B. Turck of Chicago; "The Leucocytes in Pertussis," by Dr. F. S. Churchill of Chicago; "Remarks on Poliomyelitis," by Dr. Hugh T. Patrick of Chicago; "Demonstration of Sleep-Inducing Method," by Dr. J. B. Learned of Northampton, Mass.; "Some Rare Sequelæ of Syphilis," by Dr. Henry J. Scherck of St. Louis, Mo.

**Officers.**—The following officers were elected for the ensuing year: *President*, Dr. J. Henry Carstens, Detroit, Mich.; *First Vice-President*, Dr. Joseph Rilus Eastman, Indianapolis, Ind.; *Second Vice-President*, Dr. H. H. Grant, Louisville, Ky.; *Secretary*, Dr. Henry Enos Tuley, Louisville, Ky., reelected; *Treasurer*, Dr. S. C. Stanton, Chicago, reelected. Hot Springs, Ark., was selected as the place for holding the next annual meeting.

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## NEW YORK STATE MEDICAL ASSOCIATION.

*Twenty-second Annual Meeting, Held in New York City, October 16, 17, 18, and 19, 1905.*

(Special Report to the MEDICAL RECORD.)

THE PRESIDENT, DR. J. RIDDLE GOFFE, IN THE CHAIR.

(*Concluded from page 715.*)

**The Radical Removal of Cancer of the Stomach.**—Dr. WILLIAM J. MAYO of Rochester, Minn., said that there certainly was no truthfully recorded example of a cancer of the stomach cured by medical means, yet these cases were treated by medical men, were sent into the medical wards and subjected to treatment which must result in 100 per cent. mortality. Cancer of the stomach was the most frequent form in which this disease was found in the human body, at least 30 per cent. of the total. Since 1900, great improvement in technique had lowered the mortality to less than ten per cent., and exploratory incision in suspicious cases gave the diagnosis. Dr. Mayo gave a report of eighty-one gastric resections with a mortality of 14.5 per cent., including early operations. Thirty-four patients were operated upon in the last thirty months, with a mortality of 8 per cent. In twenty-five consecutive operations there was but one death, a mortality of 4 per cent. As to relief, he said that eleven cases had been operated upon too recently to be of statistical value. There were five who failed to live six months. Thirty-eight lived six months to a year, and twenty-four were alive now. Twenty-one lived from one to two years, and thirteen were alive now. Ten lived from two to three years, and eight were alive. Four lived from three to four years, and three were alive; as only sixteen were operated upon more than three years ago, this gave 25 per cent. living three years. One was alive and well after four years and ten months. In regard to the clinical symptoms of most value in early diagnosis, he said traces of blood and reduction of hydrochloric acid were of some importance. The history of past ulcer was not against later diagnosis of cancer, as ulcer often degenerated into cancer.

Dr. JOHN B. DEAVER of Philadelphia suggested that the internist should witness all stomach operations, and with the surgeon familiarize himself with the living pathology. The diagnosis of gastric carcinoma might be approached in three ways: by means of its symptoms, by a physical examination, and by laboratory methods. The most valuable laboratory methods were the examination of the stomach contents and the blood. He believed that the absence of hydrochloric acid or the presence of lactic acid was an extremely fallacious sign of cancer of the stomach. He did not think blood examinations were of any but confirmative value. The absence of normal hyperleucocytosis was considered by some almost a pathognomonic symptom, but he did not think it justifiable for a surgeon to base treatment on no stronger evidence than that. He relied more on the character of the vomitus and the progressive emaciation. Unless the disease was well advanced the presence of a tumor had come to be no longer sure evidence of the existence of carcinoma. To his mind an exploratory laparotomy

was less objectionable in this class of cases than in any other. Nevertheless he was opposed to the doctrine of some surgeons "when in doubt as to diagnosis, do an exploratory laparotomy." He believed that every case of gastric indigestion not promptly cured by diet and suitable drugs would be found to be due to lesions of the gall-bladder, of the pancreas, or of the stomach itself. He agreed with Dr. Mayo that only when gastric carcinoma was operated upon in the precancerous stage could we expect a radical cure. He said that he would limit partial gastrectomy to very few cases if not encountered early. Total gastrectomy he considered beyond the pale of legitimate surgery. Gastroenterostomy was, in his opinion, the operation of choice for patients with advanced gastric carcinoma; neither did he limit it to cases where pyloric obstruction was present.

Dr. Willy Meyer of New York said that the subject of gastric carcinoma was one of burning interest because if not diagnosticated and treated at the proper time the patient was bound to go to the grave. He asked what we could do regarding the early diagnosis. We had heard of the chemical examination and of the subjective signs, the clinical examination of these patients, etc., but they told us but little. If one waited until the tumor could be palpated, one made the same mistake that was formerly made in waiting for tumor formation in cases of appendicitis; it was too late. Tumor formation in gastric carcinoma meant generally that the condition was too far advanced to bring help by operation. Therefore, the suggestion offered by Dr. Deaver was advisable. His own cases showed eighty gastroenterostomies, and but five gastrectomies. Among the five latter, there were four recoveries and but one death, this occurring in a young man suffering from specific disease, and only two days before the operation he had a severe hemorrhage. Of the four recoveries, over two years had elapsed in two. The carcinomas that were found in the posterior wall of the stomach were the deceptive ones. They presented no symptoms. If in doubt, palpation should be tried during anesthesia.

Dr. Mayo said that the good medical men of the future would go to the operating room so as to see just what the conditions were during life. The operation as advised by him he did not believe to be more difficult than an hysterectomy.

**Carcinoma of the Intestinal Tract.**—Dr. James P. Tuttle read this paper. (See page 728.)

Dr. Arpad G. Gerster of New York said that while he indorsed nearly all that Dr. Tuttle had stated, there were some remarks to which he took exception. The fact that the malignancy of the carcinoma decreased as the growth approached the anal aperture, was for a long time known, while carcinoma of the stomach and small intestines was more malignant and more inclined to cause metastasis than if it involved the sigmoid or rectum. Self-medication was more common in this country than anywhere else. Dr. Gerster did not believe that we were justified in opening the stomach just because the patient complained of subjective symptoms alone. As involvement of the gastrointestinal tract extended lower down, the diagnosis became more and more easy. He indorsed what was said regarding instrumental examination of the rectum, and said that many obscure conditions of the intestines would be found by this means. Operative treatment of carcinoma involving the lowest part of the intestinal tract gave excellent results. He told of a patient he had in 1880 upon whom he had operated for cancer, removing eleven inches of the rectum. Relapse occurred four or five months after operation, and was again operated upon and had remained well until today. He cited a number of cases in which radical operation for rectal carcinoma and of the sigmoid flexure had been done, and which resulted in a long continued immunity from the disease, and in a perfect cure in some. Every endeavor should be made to arrive at an early diagnosis and then resort to radical measures, not only removing the cylinder of diseased tube, but the lymphatic glands as well.

Dr. Tuttle differed with Dr. Gerster in the statement that carcinoma became less and less malignant as it descended the intestinal tract. That was true up to the lower end of the bowel, near the anal margin, where one met with the most malignant type one had to deal with. There were 90 per cent. of recurrences when carcinoma was operated upon at this point. Carcinoma of the small intestines he said was rather rare, while sarcoma was more common.

**A New Aid in the Treatment of Malignant Tumors.**—Dr. C. Am Ende of New York called attention to a paper that he had already presented upon superior results obtained in the treatment of a series of malignant tumors by combining with the Roentgen rays, internal administration of thyroid extract, which could be administered in larger doses without producing thyroidism. While the tumors of the patients previously presented had been more or less superficial, that in the case now reported was deep seated. The patient, aged 62, at the end of February, after previous establishment of an artificial anus for complete obstruction, was found to have an inoperable tumor involving the sigmoid flexure and upper rectum. The treatment consisted of Roentgen rays and radium, 7,000, in capsule three times a week; half an ounce daily of the thyroid fluid extract, injected into the transverse colon, and for the last two months fluorescin in one-half grain doses. The mucoid discharges had long since disappeared; the rectal pains had ceased, the tumor protruding into the rectal canal had disappeared almost entirely, as also had a neoplasm in the iliac fossa. The patient's general health was better than for some years past; this might be due to continuous outdoor work and more exercise. The feces had been passing the natural way for some time, but the closure was delayed in order to continue the administration of the fluid extract by injecting it into the colon.

**Cancer of the Uterus.**—Dr. C. P. Noble of Philadelphia said that the most striking facts concerning cancer of the uterus were: (1) that it was a common disease; (2) in a large number of cases the disease had passed the curative stages before the patient was brought to the surgeon, and (3) that in cancer of the cervix the methods of treatment usually employed had failed to cure more than ten per cent. of the patients subjected to radical operation From his experience and a study of statistics, he had been led to believe that not more than 20 per cent. of cancers of the uterus, when seen by the American surgeon, were operable. The family physician and lay public should be educated as to the importance of the early diagnosis of this disease. The greatest hope now lay in the early diagnosis and treatment of the disease by radical operation. There was a general agreement that the results of hysterectomy for adenocarcinoma of the corpus uteri were very favorable, from 60 to 75 per cent. of permanent cures having been obtained by methods hitherto in use. He said that in his own work, excluding patients who died as a result of operation, there had been 17 per cent. who had remained well at the end of five years or longer. This was based on only twenty-three cases. Dr. Byrne of Brooklyn reported 367 cases operated upon with the galvano cautery, without operative mortality. One hundred and fifty of these were carcinoma of the cervix; 219 both body and cervix, and in eight cases the disease was confined to the corpus uteri One hundred and fifty-one cases were lost sight of during the first year. Nineteen remained free from the disease from ten to eighteen years, and twenty-two for five years or more; thus, upon the five year basis, 19 per cent. were cured. The Germans claimed better results. It was hoped by some operators that a much more extensive removal of the papametria, together with the pelvic glands, would give the same improvement in results in operations for cancer of the uterus as had been effected in operations for cancer of the breast. While the five year estimate of the radical operation had not elapsed, sufficient recurrences had already taken place to discourage many from adopting the operation, especially as the primary mortality was about double that of the typical hysterectomy. A recent study of

literature showed that in 364 cases of cancer of the uterus, including cases both of the body and of the cervix, in which the pelvic glands were studied, in 27.7 per cent. glandular involvement had occurred. In his own experience with the radical operation, its higher primary mortality and the impossibility in his judgment of actually removing the pelvic lymphatics, led him to abandon the operation some years ago. It had been well recognized clinically that invasion of the parametria was present in a large percentage of cases. From a study of statistics it was evident that unless the parametria as well as the cervix was removed in over one-half the cases, operation would be useless. For some years he had adopted the Byrne principle and had operated for cancer of the uterus by abdominal section, applying heat by means of the Downes' electrothermic clamps. The method had given gratifying results with one exception, the burning of the ureter or bladder, which had occurred five times, resulting in necrosis and fistula. To avoid this he intended to dissect out the ureters and free them from the broad ligaments before removing the parametria by means of the Downes' clamps. This method offered a number of positive advantages, the most marked being: (1) The absence of troublesome venous oozing, particularly as the operation approached the vaginal plexus. (2) The leaving of a dry field. (3) The freedom from pain subsequent to the operation. (4) The theoretical advantage in the prevention of implantation. In conclusion, he said that it seemed to him that until some revolutionary discovery was made through which, by means of serum therapy or otherwise, cancer might be eradicated, the greatest prospect in improvement lay in teaching the profession and the public the necessity for the early recognition of cancer of the uterus, and its immediate subjection to operation, and the application of the principle of Byrne to whatever operation might be adopted for the removal of the uterus, together with the parametria.

Dr. C. C. Frederick of Buffalo said that as a result of his experience with carcinoma of the uterus, he had come to the conclusion that patients were not seen early enough, nor were they sent early enough to the surgeon. Often they were kept too long under observation and local applications. The crying need to-day in carcinoma of the uterus was the same as in carcinoma elsewhere, and the people should be educated to seek advice of the family physician early, when there was hemorrhage or an abnormal discharge; the family physician, likewise, should be taught to recognize the condition in its early stages. With regard to the various methods advocated, for a long time in his early experience he did the abdominal operation. The pelvic glands he did not remove because such a course, in his opinion, was not destined to give results commensurate to the dangers involved. The recurrences, when the uteri had been entirely removed, were in the scars or in the vaginal tissues, immediately adjacent to the scar. Therefore, to remove the pelvic glands, outside all other questions involved, was advisable, because the lymphatics in the immediate neighborhood of the cicatrix were the ones in which recurrences occurred. He had lately inclined to the vaginal method of operating, using the cautery and clamp, and he believed that the principle of burning carried out in a modified way was likely to give the best results. The vaginal method had many advantages over the abdominal. The cautery and clamp method had the great advantage, in that reinfection was prevented. He was opposed to the radical operation performed in cancer of the cervix when done indiscriminately.

Dr. H. N. Vineberg of New York said that in dealing with the large number of people at the dispensaries, he was struck at the comparative immunity from cancer of the uterus, and that among 1,500 or 1,600 patients examined, one would not find more than one or two cases here. He tried to explain this comparative immunity, and it occurred to him that, as a rule, these women nursed their children, and had involution fully carried out. That might account for the increase of such cases amongst the better classes where nursing was becoming more and more out of fashion. Every obstetrician should see that involution was fully carried out, and in order that this should be done, the patients should be kept under observation for several weeks. He said that the Germans cauterized the disease one or two days before the radical operation was performed.

Dr. Charles P. Noble of Philadelphia spoke of the relation between laceration of the cervix and cancer, and his experience led him to believe that there was a certain amount of relation between the two conditions. Up to the present, he had seen but two cases of cancer of the cervix in virgins. One of these cases was a remarkable one. At operation, a large gland was found over the common iliac vein, and it was thought the patient would die, but she lived five years. He advised that every woman who was approaching the age of fifty should have her cervix repaired or amputated, and that was all that could be done in the way of prophylaxis.

**Carcinoma of the Larynx.**—Dr. John N. Mackenzie of Baltimore, M. D., read this paper. He said that there was no chapter in the whole book of laryngology that needed more careful revision than the chapter on cancer of the larynx. He called attention to two phases of the cancer question, which, in view of the unsettled state of the subject, seemed of most pressing and immediate importance. In the present state of our knowledge, there were three methods of diagnosis, the naked eye method, thyrectomy, and the microscope. The second was often included with the first. Taken all in all, he considered the first method by far the most practicable and satisfactory of the three. For some time past he had become more and more impressed with the possibilities of naked eye inspection. Bloodgood, in a careful analysis of over 13,000 cases of tumor at the Johns Hopkins Hospital, came to the conclusion that it was possible, in the majority of cases, to recognize the character of the growth by the naked eye appearance alone. From this study it was also shown that it was not only possible, as a rule, to differentiate the benign tumors from the malignant at the exploratory incision, but to recognize in the malignant the different groups of varying malignancy, and in the benign growth which had a tendency to become malignant. It was difficult, if not impossible, to satisfactorily depict the appearance of tumors by means of language. He was sure that much of the material for surgical pathology could only be correctly described when it was fresh: it could not be painted because in a few seconds a freshly cut surface was greatly changed. Color photography might be employed with great benefit in describing the appearance of fresh specimens. He said that he could not insist too strongly on the application of the naked eye method of diagnosis in the case of malignant tumors of the larynx. Every resource and refinement of clinical diagnosis, including the exclusion of syphilis by the iodide and tuberculosis by tuberculin, should be resorted to before an appeal to the microscope was made. Every tumor of the larynx, no matter how benign it might appear, should be examined with the greatest possible care, and especially in the case of growths of a suspicious character. Some of the most fatal diseases make their appearance in the larynx in the guise of benignity. In speaking of the partial extirpation of laryngeal cancer for microscopic examination, he said that his objections to the indiscriminate removal of tissue for examination were: (1) that it subjected the patient to autoinfection; (2) that it stimulated the local growth of the cancer; (3) that the method was often inconclusive, misleading, and sometimes practically impossible. If ulceration had already taken place, a portion of the growth could be taken, if skillfully removed. He thought that the general sentiment of laryngologists was that attempts at incomplete removal of malignant growths of the larynx had little or no stimulating effect upon the disease. In view of the established and glaring fact that cancer elsewhere in the body was stirred into greater activity by incautious manipulation of the local lesion, it seemed well nigh incredible that any difference of opinion should

exist in the case of cancer of the larynx. In the light of his own experience, he did not hesitate to say that cancer of the larynx behaved in exactly the same way under incautious manipulations. As to the question of direct inoculation of the laryngeal tissues by constant contact of opposing broken or unbroken surfaces, he could only say that, while not denying the possibility of its existence, where the foul discharge from a cancerous mass might come in contact with an eroded surface, he had never met with an authenticated case of the kind in literature, nor had he seen this accident in practice. He said that the difficulties in the way of microscopic diagnosis of cancer of the larynx were multitudinous. He wished to state decidedly that he did not repudiate the microscope, but thought it should be a last resort in doubtful cases. No one would advise a radical operation without a certainty of diagnosis. If microscopic examination was necessary, then let the patient and surgeon be prepared for immediate operation. The indications for operation depended upon the size, the situation and extent, and upon the character of the growth. A specially malignant type of growth, no matter what its size or appearance, no matter whether it was situated inside the larynx or outside, would demand the most drastic surgical procedure, while in the case of a less malignant and dangerous tumor, a less radical operation might be called for. Laryngologists had hitherto committed the common error of grouping together all malignant and quasimalignant laryngeal growths. The finer anatomical differentiation of malignant laryngeal tumors was a fertile field for future research. He did not believe that any other than the most radical operation should be undertken in cases in which the disease was medially situated. An incomplete operation would be especially hazardous in cases where the disease apeared as an infiltration. He very emphatically condemned operations through the natural passages and subhyoid pharyngotomy. Two lines of study presented itself, viz., (1) the relative malignancy of tumors of the larynx, and (2) the determination of the glandular involvement in the case of various kinds of tumors, as well as various situations of tumors. Investigations along these lines must determine the means of future operative procedure. Whatever operation be done it should always be borne in mind that we were dealing with cancer. No matter how minute the original lesion, the area of possible poisoning was boundless, and if the slightest doubt existed as to the character and circumscription of the growth, the complete operation should be performed. He said the chief objections that had been urged against the radical operation were that: (1) it was a ghastly method of procedure, which produced terrible mutilation of the patient; (2) it was full of unavoidable dangers; and (3) there was a hopeless destruction of function. He thought there were dangers in all capital operations, but in careful hands they were largely, if not wholly, preventable. Whatever operation was done, we should always bear in mind that we were dealing with *cancer,* and that no matter how minute the original point of infection might be, the area of possible poisoning was practically boundless, and that, in the slightest doubt as to the character and circumscription of the growth, complete operation should be done.

Dr. D. Brysjn Delavan of New York, in discussing this paper, said that the results of the surgical treatment of cancer of the larynx had sometimes been exceedingly brilliant, but more often they had shown a degree of failure at once disheartening and surprising. He dealt, in his discussion, only with those operations intended to effect the radical removal of the disease, thyrotomy and partial and complete laryngectomy. He did not think that there were any serious differences of opinion as to the main principles which should govern the surgical treatment of cancer of the larynx. He thought a differential diagnosis should be made by every possible means, including examination for tuberculosis and a short course of potassium iodide. Diagnosis through the aid of the microscope was most desirable, if the histological conditions were such that a correct diagnosis could be made by this means. Repeated attempts to remove the growth, whether for purposes of diagnosis or for treatment, were to be strongly condemned. The most important question apparently now at issue, was as to the choice between partial removal of the larynx and complete laryngectomy. In every department of surgery it was being urged that cancer should be early diagnosed, and early operated upon, in order to obtain the best results. He contended that cancer in its early stages were confined to the interior of the larynx, and certain superficial cancers in their early stages were curable. One argument in favor of limited operation in suitable cases, was the overwhelming weight of statistics. Recent general statistics assume that about 15 or 16 per cent. of patients operated upon remained well over a period of three years. In thyrotomy, with the removal of the diseased soft parts, the permanent cures in general were estimated at about 44 per cent. He said save the patient, if one could, by means of the less serious operation; if not, save him even at the expense of radical and complete removal of all offending tissues, but, at any cost save him. If the treatment of every given case was studied in the light of what had already been proven, and announced by those of best experience, and if it were managed in strict accord with well established rules, fewer patients would be sacrificed to shock, to sepsis, and to pneumonia. In his experience many beginners had neglected to study the easily obtainable classics on this subject. Laryngeal operations of this class were difficult at the best; they were not at all of the same class with ordinary surgical procedures. They never had been and probably never would be within the reach of the average operator. The history of laryngectomy showed that operators had improved with experience. Surgical measures seemed to be our only reliance in cases of cancer. Such operations might be done, but only by men of experience, and under such rules and conditions as were most likely to save the life of the patient, and to bring to him a maximum of comfort and usefulness.

Drs. Emil Mayer and Robert C. Myles of New York also discussed the paper.

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## MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

*Fifty-fifth Annual Meeting, Held at Scranton, September 26, 27, and 28, 1905.*

(Special Report to the Medical Record.)

(*Concluded from page 718.*)

THIRD DAY—THURSDAY, SEPTEMBER 28.

**Observations on Cancer of the Head and Neck, with an Analysis of 110 Operative Cases.**—Dr. George W. Crile, Cincinnati, presented a detailed report of one hundred and twenty-eight operations in one hundred and ten cases. He believed that the same method of procedure should be instituted in these cases as was followed in cases of cancer in other parts of the body, and the regional lymphatics should be completely dissected, sufficient tissue being removed to insure the destruction of all the infected glands. He also exhibited a number of photographs and diagrams illustrating the course of infection and the mode of operation.

Dr. Robert H. M. Dawbarn, New York, recommended complete extirpation of the growth, even removing a portion of the deep jugular vein, if involved. In order to avoid tying vessels as much as possible, and the consequent danger of embolism, he suggested the cording first of the lower extremities for ten minutes and then the upper extremities; for the purpose of keeping infection from the lungs the foot of the bed should be raised. The patient should not be allowed to sit up until he could drink a glass of water without coughing. In some instances it was necessary to divide the operation, on account of the extreme weakness of the patient.

**A New Intestinal Bobbin.**—Dr. JOHN G. CLARKE, Philadelphia, reported his experiments with this device on dogs and illustrated its practical application. He claimed as one of the most important points in favor of its use, shortening of the time required for the operation.

Dr. WILLIAM L. RODMAN, Philadelphia, believed that whenever possible mechanical devices should be done away with; he, however, thought the bobbin presented was superior to the Murphy button, as it was less likely to cause intestinal obstruction. It would be of value in an end-to-end anastomosis of the intestines.

Dr. ROBERT H. M. DAWBARN, New York, believed the device to be superior to the Murphy button, and expressed his intention to try it in posterior gastroenterostomies, which he believed to be about the only cases in which mechanical devices were justifiably employed. In experiments upon dogs, he said, we must consider the greater resisting power of the intestinal walls, and remarked that the hog's intestines more closely resembled the human viscera.

Dr. REED BURNS, Scranton, said that nothing was better than the suture, except in cases of end-to-end anastomosis, in which he had found the Murphy button entirely satisfactory.

Dr. J. C. O'DAY, Oil City, said that if one could place the ends of the intestines in perfect apposition one had accomplished the desired result, no matter what means might have been used to attain that end, and while not favoring too free use of mechanical devices, he believed there were cases in which nothing but the Murphy button would give satisfactory results.

Dr. EDWARD MARTIN, Philadelphia, attributed the preferences for the different mechanical devices, in a large measure, to the experience of the individual operators, and believed that the suture would continue to be the most generally used.

Dr. CLARKE, in closing, stated that the presentation was but an incomplete report, and that he hoped to present further results, including those of experiments on hogs, in the not distant future. In all cases sutures should be employed in conjunction with the intestinal bobbin.

**Wandering Gallstones.**—Dr. WILLIAM L. ESTES, South Bethlehem, read this paper, in which he stated that cases of indubitable perforation of this organ are comparatively rare, and referred to the work of Mayo Robson, Mayo, Maclaren, and others, showing the relative frequency of these cases and other diseases of the gall-bladder. He stated that if the ulceration was slow, and the patient survived the first septicemic condition, the stones would burrow in the direction of the least resistance and might be found in almost any part of the posterior portion of the right abdomen. The symptomatology was fully discussed, and among the prominent factors mentioned were severe pain, tumor, disturbance of gastric and intestinal function, jaundice present only in the early stages, or absent entirely, with general symptoms of septicemia.

**Surgery of the Gall-Bladder and Ducts.**—Dr. J. MONTGOMERY BALDY, Philadelphia, in this paper referred to the limited knowledge of the pathology and diagnosis of disease in these regions. He believed that in many instances too radical treatment had been instituted, reporting as illustrative to this point a case in which the gall-bladder and part of the cystic duct were removed, after which the patient's condition cleared up and remained so for slightly less than a year, when she again returned to the hospital with the same symptoms as before; another operation was performed and intestinal adhesions were broken up; five months later she again returned, suffering from jaundice and the other symptoms, and after rest in bed for a couple of weeks without operation, the symptoms disappeared. In conclusion, he stated that he believed the gall-bladder was too frequently removed upon slight symptoms, and that he felt in the future drainage without removal would be more frequently resorted to.

Dr. WALTER S. STEWART, Wilkes-Barre, urged early diagnosis, the removal of gallstones from the bladder, and the establishment of drainage. He reported a case, in which, in doing an operation for ventral hernia, he incidentally examined the gall-bladder and common duct, and found stones in both of them; these were removed and the wound was closed without drainage, on account of the other operation, and the patient made a good recovery.

Dr. CHARLES P. NOBLE, Philadelphia, reported two cases of wandering gallstones, one of which gave a long-standing history of gallstone colic, rendering the diagnosis easy; in the other, upon operation, the stone was found between the stomach and gall-bladder.

Dr. Estes, in closing, stated that in many instances the abscesses in these cases were attributed to some other than the true condition, as was the case with the first case reported by him, while in the other the diagnosis was comparatively easy on account of accidental discovery of bile.

**Decompressive Operation in Inoperable Brain Tumors.**—Dr. HARVEY W. CUSHING, Baltimore, referred in detail to the various methods employed for the removal of brain tumors, and felt that the bone should not be removed entirely, as, if it was, in a short time there would be a protrusion through the opening frequently resulting in paralysis of a more or less extended type. The chief end to be attained was to relieve the pressure and still leave some sort of a covering to keep the brain within the cranium; the most favorable site for the operation was the intramuscular temporal region.

Dr. ROBERT H. M. DAWBARN, New York, believed that it was best not to remove the bone entirely, but to prevent the edges growing together, by placing a piece of non-irritating tissue between them. When he found it necessary to remove the bone, he had covered the opening with a specially prepared celluloid, which would not be absorbed, is a nonirritant, and formed a protection against trauma, as well as cold.

**Direct Fixation of Fractures.**—Dr. JOHN B. ROBERTS, Philadelphia, while believing that in ordinary instances outward appliances were sufficient, referred particularly to the extraordinary cases, and discussed in detail the various methods employed in the fixation of fractures, including wire, catgut, bone ferrules, metallic plates, etc. For transcutaneous fixation, he had at first used ordinary wire nails, but afterwards devised a surgical nail with a sharp point; for the open fractures, or closed fractures which had been explored, he thought better results would follow the use of staples or plates.

Dr. GEORGE W. GUTHRIE, Wilkes-Barre, stated that his experience with direct fixation had been chiefly in cases of delayed union, and he preferred an end-to-end fixation and the insertion of a silver wire, which could be allowed to remain.

Dr. CHARLES E. THOMPSON, Scranton, reported several cases of direct fixation, and referred particularly to one, in which a fracture of the femur was united by means of a wire nail, and the man became able to walk around, and it was supposed union had taken place, but upon his death, eighteen months later, from another cause, autopsy revealed the fracture ununited, the ends being held together only by the nail.

Dr. DEFOREST WILLARD, Philadelphia, believed that direct fixation should be employed in all cases where it was necessary in order to bring the fragments of the bone into direct apposition, and believed that the method should be decided by the individual case.

Dr. JOHN S. NILES, Carbondale, referred to the fact that in the mining regions, many of the men were not seen until several hours after they had been injured, when they were in a very unsanitary condition; the surroundings were equally unsanitary, and in only rare instances could operation be performed under aseptic conditions.

Dr. ROBERT H. M. DAWBARN, New York, stated that in the cases referred to by the last speaker, he would wait for twenty-four to forty-eight hours before effecting a union, in the mentime disinfecting the wound by means of bichloride of mercury, etc.

Dr. Roberts, in closing, concurred with the last speaker in regards to the advisability of disinfecting the wound. He also suggested that direct fixation immediately following the injury might in some instances prevent bony union by causing bone necrosis.

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GENERAL SESSION.

THIRD DAY—THURSDAY, SEPTEMBER 28.

**How May the Scientific Meetings of County Societies Be Made More Profitable?**—Dr. THEODORE DILLER of Pittsburg in a paper by this title, presented the following suggestions: Efforts should be made to get all the members of the county societies to take part in the program, and that the program should exhibit as much variety as possible as to men, methods, and methods of presentation. The symposium should not be repeated too often. The possibility of meeting at hospitals where physicians have patients who could be seen, was thought worthy of consideration. Since all of the members were physicians and not all surgeons, the suggestion was made that medical subjects be discussed two or three times as often as surgical. A paper or address by a visiting physician was considered particularly desirable, and this should be discussed by the local men. Occasionally, the visiting physician should be appointed to discuss the papers of the local men. For the best preparation of papers it was suggested that nothing was so helpful as a critical study of the literary form of the best known medical writers. A single, well-reported clinical case was said to be the easiest task for the young man, and the most acceptable.

Dr. CHARLES A. E. CODMAN of Philadelphia stated that the Philadelphia County Medical Society, which the reader of the paper had mentioned as meeting twice a month, did in reality meet seven times a month, having established branch societies in different sections of the city.

**The Question of Lower Gastric Secretion.**—Dr. CHARLES G. STOCKTON of Buffalo referred, as a reason for reopening this question, to the apparently growing belief that the digestive power of the stomach is unimportant to the well being of the organism. In reviewing a large number of cases, some of which have been studied for more than fifteen years, Dr. Stockton concluded that the rule might be laid down that in the absence of, or, with a very low standard of gastric secretion, individuals were almost invariably found with impaired health, and this often when the intestinal digestion was relatively good. It seemed to him that the question of stomachic digestion was of the greatest importance, and should be considered in the selection of an operation for the reestablishment of an adequate gastric drainage. Governed by his own personal experience, he concluded that a more normal gastric digestion was likely to ensue after a pyloroplasty than after a gastroenterostomy. The objections raised against pyloroplasty had not been apparent in patients coming under his observation, and he predicted that some form of pyloroplasty would replace gastroenterostomy in cases where it was practicable.

**The Surgical Treatment of Cardiospasm.**—Dr. EDWARD MARTIN of Philadelphia read this paper, reporting a case of cardiospasm in which he had opened the stomach and introduced three fingers through the cardiac orifice to stretch it. There was complete recovery of the patient with a gain of forty pounds in six months.

**The Treatment of Benign Stenosis of the Pylorus and Duodenum, Resulting from Spasm and Scar Tissue, and from Abdominal Adhesions.**—Dr. ALBERT BERNHEIM of Philadelphia gave histories of the cases presented and detailed the treatment. He concluded that not all cases of dilatation of the stomach need necessarily be subjected to the knife of the surgeon. The treatment employed was that of Dr. A. Hartz—hypodermic injections of allylsulphocarbamide, a chemical product prepared from oil of mustard with absolute alcohol and ammonia water. Improvement was rapid with a gain of 17 pounds in two months. The improvement had lasted over fifteen months in the case recorded.

**Symptomatology and Diagnosis of Cancer of the Stomach.**—Dr. JOHN J. GILBRIDE of Philadelphia presented this paper. He stated his belief that the analysis of the stomach contents was not sufficiently recognized in this connection, and that if the method were employed, diagnosis would be possible at a much earlier stage with consequent benefit to the patient. Reference was made to a case in which paralysis of the gastric contents revealed neither free hydrochloric or lactic acid. Tumor of the stomach in his opinion did not necessarily occupy the epigastric region, for it was not uncommon to find one in other parts of the abdomen, and he recalled one case in the clinic of Professor Sailer in the Philadelphia Polyclinic, in which the carcinoma of the pylorus was felt in the right iliac fossa.

**Gastroenterostomy; Its Indications and Its Technique.**—Dr. WILLIAM L. RODMAN of Philadelphia enumerated the indications for, and described the technique of the operation, which he said meant literally an opening or communication between the stomach and some portion of the bowel below. His remarks had special reference to gastrojejunostomy, which he said was practically the only form of gastroenterostomy generally used at the present time. To-day the operation was made by placing the communication between the stomach and the intestine on the anterior or posterior surface. The first operation was the anterior methods, consisting in bringing up the jejunum, and anastomosing it with the lower end of the stomach. While it was far easier than the posterior operation, certain objections had caused it to fall practically into disuse at the present time. One objection to the anterior method was that the loop must be eighteen or twenty inches long, and on that account the end of the loop filled up with the contents of the stomach, and gave rise to regurgitant vomiting. Another objection was the fact that the loop passing up in front of the transverse colon might easily make compression upon the colon, and cause intestinal obstruction. Adhesions between the loop and transverse colon formed another source of danger. Even a greater objection was the fact that, the anastomosis being made so low in the upper alimentary canal, the upper portion of the intestine was put out of commission, and the patient did not, therefore, receive the same benefit from food taken into the stomach. The anterior operation, he stated, was done to-day as a last resort, when speedy operations seemed requisite, and in cancerous operations it was still possibly the operation of choice.

Dr. JAMES TYSON reported two cases which had come under his observation, and which he thought strikingly illustrated the purposes, the accidents, and the results of the operation. One case was that of a woman aged fifty, who had had a frightful hemorrhage supposedly due to gastric ulcer. She survived the effects of the hemorrhage and was in comparatively good health for three years, when she again had severe hemorrhages. Gastroenterostomy was performed, and for forty-eight hours the patient did well, and then died. In another case, the vicious circle of vomiting set in following operation, and it seemed as if the woman must perish. A second operation was performed, and the woman was said to be in good health at the present. Dr. Tyson expressed his belief that cases of gastric ulcer with dangerous hemorrhage formed one of the most justifiable indications for operation.

Dr. JOHN B. ROBERTS said there was no doubt that gastric surgery had now become a more prominent branch of surgery than was the case a few years ago, and no doubt also, that the earlier the cases were brought to the surgeon, the more cures there would be. The difficulty which he had encountered was in making the diagnosis between the functional cases and those of organic disturbance; and in this connection, he said he had opened the stomach, thinking, after experts had made the usual examinations, that he would find some serious condition, and had found practically nothing. With Dr. Stockton he believed that the operation of pyloroplasty was more satisfactory than

gastroenterostomy, by either the anterior or the posterior method, and that it would be more frequently adopted within the next few years. A difficult question to decide was which cases to operate upon during the early symptoms and which not. He believed that if patients could be made to live hygienically, given happy homes, and ample means, there would be few cases of functional disease; that it was bad living, drunken husbands, and unfortunate surroundings which brought the cases to the neurologist, to the surgeon, and to the general practitioner. If that class of cases could be got rid of, and operation done only upon the organic cases, it was the belief that surgery would have more triumphs and the graves fewer occupants.

**Officers.**—The following officers were elected: *President*, Dr. W. H. Hartzell, Allentown; *Vice-President*, Dr. Morgan J. Williams, Scranton; *Secretary*, Dr. C. L. Stevens, Athens. The meeting adjourned to meet at Bedford Springs in 1906.

## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

NOUVEAU TRAITÉ DE MÉDECINE ET DE THÉRAPEUTIQUE. Sous la Direction de MM. P. BROUARDEL et A. GILBERT. VI. MALADIES EXOTIQUES. By various authors. 8vo, 439 pages, illustrated. J. B. Baillière et Fils, Paris.

THE PRINCIPLES OF BACTERIOLOGY. By A. C. ABBOTT, M.D. Seventh edition. 8vo, 689 pages, illustrated, muslin. Lea Brothers & Company, Philadelphia.

STATE OF NEW YORK STATE COMMISSION IN LUNACY. Sixteenth Annual Report, October 1, 1903, to September 30, 1904. 8vo, 1,050 pages, muslin.

MANUAL OF CHEMISTRY. A GUIDE TO LECTURES AND LABORATORY WORK FOR BEGINNERS IN CHEMISTRY. A Text-Book Specially Adapted for Students of Medicine, Pharmacy and Dentistry. By W. SIMON, Ph.D., M.D. Eighth edition. 8vo, 643 pages, illustrated, muslin. Lea Brothers & Company, Philadelphia.

MT. SINAI HOSPITAL REPORTS. Vol. IV., for 1903 and 1904. Edited for the Medical Board by N. E. BRILL, A.M., M.D., 1905.

THE CRIME OF CHRISTIAN SCIENCE. By CHARLES STOW. The Nyvall Press, New York.

A TREATISE OH THE NERVOUS DISEASES OF CHILDREN FOR PHYSICIANS AND STUDENTS. By B. SACHS, M.D. Second edition. 8vo, 571 pages, illustrated, muslin. William Wood & Company, New York. Price, $4.00 net.

MATERIA MEDICA AND PHARMACY. By REYNOLD WEBB WILCOX, M.A., M.D., LL.D. Sixth edition. 8vo, 624 pages, muslin. P. Blakiston's Son & Company, Philadelphia.

VITAL QUESTIONS. By HENRY DWIGHT CHAPIN, M.D. Thomas Y. Crowell & Co., New York. Price, $1.00 net.

A GUIDE TO ANESTHETICS. By THOMAS D. LUKE, M.B., F.R.C.S. 8vo, 135 pages, illustrated, muslin. J. B. Lippincott Company, Philadelphia.

A MANUAL OF DISEASES OF THE NOSE AND THROAT. By CORNELIUS GODFREY COAKLEY, A.M., M.D. Third edition. 8vo, 363 pages, illustrated, muslin. Lea Brothers & Company, Philadelphia.

MANUAL OF OPERATIVE SURGERY. By JOHN FAIRBAIRN BINNIE, A.M., C.M. Second edition. 8vo, 655 pages, illustrated, leather. P. Blakiston's Son & Company, Philadelphia.

METHODS OF MORBID HISTOLOGY AND CLINICAL PATHOLOGY. By I. WALKER HALL, M.D., and G. HERXHEIMER, M.D. 8vo, 290 pages, muslin. J. B. Lippincott Company, Philadelphia.

SEWERAGE AND SEWAGE PURIFICATION. By M. N. BAKER, Ph.B., C.E. Second edition. 32mo, 153 pages, muslin. D. Van Nostrand Company, New York. Price, 50 cents.

TRAITÉ DE PATHOLOGIE INTERNE. Par PROFESSEUR G. LEMOINE. Vol. 1 8vo, 1011 pages, illustrated, paper. Vigot Frères, Paris.

TRAITÉ DE PATHOLOGIE INTERNE. Par PROFESSEUR G. LEMOINE. Vol. 2. 8vo, 1015 pages, illustrated, paper. Vigot Frères, Paris.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending October 28, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 113 | 2 |
| Diphtheria and Croup | 262 | 17 |
| Scarlet Fever | 61 | 4 |
| Smallpox | .... | .... |
| Chickenpox | 85 | .... |
| Tuberculosis | 342 | 157 |
| Typhoid Fever | 94 | 19 |
| Cerebrospinal Meningitis | 2 | 5 |
| Typhus Fever | .... | .... |
| Yellow Fever | .... | .... |
| Cholera | .... | .... |
| Totals | 959 | 204 |

**Conservation of the Ovaries and the Uterus in Operative Procedures Upon the Uterine Adnexæ.**—Th. Tuffier in describing his technique, says that he attempts as far as possible to attack the tube from the uterus toward the fimbriæ. He insists upon the necessity of perfect hemostasis. It has been shown that the blood vessels that supply the tube are largely independent of those of the ovary, and they are also independent of each other. They form a comb, the teeth of which are lost in the tube. The writer warns against hemorrhage from the uterine angle and from the tuboovarian ligament. The second tube is to be treated like the first. There are still the uterine angles and the intrauterine course of both tubes. These he destroys with the thermocautery. The angles are closed with deep catgut sutures, overlapped with Lembert sutures. In this way the uterine mucosa is well isolated and cannot infect the neighboring tissues. Nearly always the writer fixes one end of the tuboovarian ligament to the round ligament. This leaves a median uterus with two lateral ovaries resembling the two tonsillar fossæ. The abdomen is closed in two layers with catgut, while the skin is united with hooks. The writer has operated in twenty-eight cases, with a mortality of 3½ per cent.—one death. As to sclerocystic ovaries, the writer believes that they are more often dependent upon disturbances of ovarian vascularization than upon infection, and he removes them in only exceptional instances. Many painful uteri after the removal of the adnexæ, owe their symptoms to the persistence of an infected stump left in the cornu of the uterus. This stump is easily removed. As to the fate of the ovum, when it falls into the peritoneal cavity—it leaves a small aseptic cyst, or it is absorbed. The writer concludes his paper by stating that he considers the conservation of the organs at the same time that one secures the disappearance of the symptoms of which they are the seat, one of the characteristics of modern surgery.—*Surgery, Gynecology, and Obstetrics.*

**The Use of Rye Bread in Diabetes.**—M. C. Lidwill has for some time been prescribing black rye bread (pumpernickel) in the case of diabetic patients. It is used as a substitute for wheat bread. The results of its use are entire disappearance or diminution of the sugar from the urine, gain in weight, and contentment on the part of the patient. The writer was led to the use of rye bread by the craving and empty feeling of which patients complain who are on the so-called diabetic diets. He sums up the advantages of rye bread as follows: It is satisfying; it stops the empty feeling; patients eat but little of it in proportion to wheat bread, about one and a half loaves sufficing for each week. This bread contains but little digestible starch; it is a laxative, combating constipation. The sugar in the urine during its use decreases to a considerable extent. Patients do not tire of it. It is a cheap food. The writer adds that rye bread is employed with the greatest benefit in the milder forms of glycosuria met with in the middle-aged or old.—*Intercolonial Medical Journal of Australasia.*

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 20. Whole No. 1827. | New York, November 11, 1905. | $5.00 Per Annum. Single Copies, 10c.

## Original Articles.

### NOTES ON NON-OPERATIVE GYNECOLOGY.*

By SARAH J. McNUTT, M.D.,

NEW YORK AND ALBANY.

LATE GYNECOLOGICAL SURGEON TO THE NEW YORK INFIRMARY FOR WOMEN AND CHILDREN; LATE LECTURER ON DISEASES OF CHILDREN AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; FOUNDER AND ATTENDING PHYSICIAN TO THE BABIES' WARDS OF THE POST-GRADUATE HOSPITAL; LATE ATTENDING PHYSICIAN TO THE BABIES' HOSPITAL; LATE MEMBER OF THE AMERICAN NEUROLOGICAL SOCIETY; MEMBER OF THE NEW YORK ACADEMY OF MEDICINE, NEW YORK PATHOLOGICAL SOCIETY, NEW YORK COUNTY MEDICAL SOCIETY.

ALTHOUGH the subject of this paper is non-operative gynecological work, I trust that I shall not be suspected therein of desiring to minimize the operative side of such practice. During the twenty-five years of my professional life I have seen much of surgery in diseases of women, and I have always held and taught that where an operative procedure is indicated and there is neglect to give the patient the benefit of such procedure, the gynecologist in charge is recreant to duty.

In the early days of my practice the operative craze was in the air. To operate with a promise of accomplishing so much at a rapid rate was very attractive, and unless there were decided counter-indications, the patient was urged to accept the radical rather than the conservative method of treatment. The patient was assured that she would avoid a long, tedious experience, and the surgeon was pleased at the prospect of quick work. The routine and unending patience required to restore a gynecological patient to health and comfort had small credit in those days. Many cases gave brilliant results. Many others, although operated upon after the most approved methods and under strict aseptic and antiseptic precautions, were disappointing. Individual idiosyncrasies, unexpected local involvement, and systemic conditions modified the expected result.

The pendulum began to swing back, and each individual case became a law unto itself

To-day, the most frequent division of gynecological cases that comes to us is those that must be operated upon to save life, and those that may be, to save time and a long disability.

In placing before our patients the question of operative interference, with its probable advantages and possible disadvantages, the working woman will, as a rule, elect the operation, for time means much to her. But as women rise in the social scale they are less ready to embrace operative interference, except as a last resort, but are willing to spend time and means indefinitely if there is prospect of ultimate recovery.

No experienced specialist will for a moment question the propriety of early operative interference, where possible, in most pelvic or abdominal tumors, solid or cystic. I have usually excepted small fibroids, so situated as not to give pressure, and of non-hemorrhagic nature, with a warning to the patient of their possible rapid development and a caution to be prepared for immediate operation should unfavorable symptoms arise. However, there is a class of fibroid cases where the symptoms appear serious, but where they will soon yield to non-operative measures, and defer indefinitely the question of operation, The following case illustrates this class:

Now traveling in Egypt is a patient who considers herself perfectly well. Five years ago, at the age of 48, she came to me with a history of profuse and painful menstruation, lasting six, eight, and ten days. She had marked gastric and intestinal disturbances, and more or less constant pelvic distress, which became more pronounced at each menstruation. Leucorrhea was present during the intermenstrual period. She was much depressed. There was a history of gradual enlargement of the abdomen. On examination it was found that while the cavity of the uterus measured only three inches, there were multiple fibroids reaching half way to the umbilicus. One was pedunculated, the size of a tangarine orange, and had dropped down into the posterior cul-de-sac. It had become impacted there by development and was extremely sensitive. In the knee-chest position, I was able with some effort to dislodge it, and with a properly adjusted tampon to keep it out of the pelvis. An operation was advised, but while the patient and her husband were considering the matter, she was made so comfortable with palliative treatment that they elected to try that method for a time. Ergot and later compound viburnum tablets were taken to aid in diminishing congestion. Six months later all symptoms had disappeared. The tumor had so much diminished in size that it reached but slightly above the pubes. The patient could take long walks with comfort, menstruation was scanty and painless, and she refused to consider an operation. Two years later, the menopause was established. The patient still reports every few months. Now there is only an irregular tumor, freely movable behind the pubis, and entirely without sensitiveness. She was allowed, without question, to go abroad. Both the patient and her husband are fully aware that degenerative changes may come at any time, and are ready to return should any pelvic symptoms arise.

Further conditions, involving the question of operation, are: Accidents of childbirth and malignant disease. With improved methods of midwifery, the former are now seldom seen calling for secondary operation. But malignant disease is a constant possibility. No one familiar with its contributing causes would leave cicatricial tissue to become an irritant, or interfere with pelvic circulation. It is inexcusable to treat a beginning malignant condition for an eroded cervix, when by the use of cocaine, in one's office, it is so easy to remove, without the patient's knowledge, a small piece for miscroscopical examination. Of course, pus collections should not be al-

*Read by invitation before the Albany County Medical Association, October 10, 1905.

lowed to remain in the pelvis any more than in any other part of the body.

With this definition of the limits of my subject, I will mention some of the more frequent general conditions that call for treatment in non-operative gynecological patients, and methods used to correct them; and some of the most frequent local troubles found in these patients, and the means utilized to relieve them.

There will be no attempt to treat this subject exhaustively.

In dealing with these cases successfully, one must realize that while they present themselves for gynecological treatment, many of their symptoms are not purely and exclusively gynecological, although often they are reflexes from functional disturbances springing from the original pelvic disorder. While the local conditions must be treated, the local measures adopted will be made more effective if, in each case, combined with them, is a careful consideration of the general condition, and those measures utilized that will most quickly restore any functional disorder that may be present.

The most frequent general symptoms of these patients are the derangements of secretion and excretion, anemia, and symptoms of the nervous system. The most frequent local conditions are: (1) Displacements of the uterus, with or without displacements of the adnexa; (2) catarrhs, acute, subacute, and chronic, confined to the uterus, and (3) the same, with extension to the tubes and secondary involvement of the ovaries.

I have unbounded faith in local treatment, but in many cases one can use local treatment indefinitely and utterly fail to cure the patient if with it do not go general medication and hygiene. This includes diet, clothing (few women dress properly), carefully regulated out-of-door life, with some interest to divert the mind from introspection.

The most frequent nervous symptoms that gynecological patients wish to be relieved of are their nervous instability ("nervousness"), headache, backache and other neuralgias, and insomnia. The nervous symptoms generally arise from imperfect capillary circulation in some part of the nervous centers, more often the spinal cord, and are often associated with deficient excretion from the skin, kidneys, or bowels, or defective cardiac action. In considering the nervous symptoms, the condition and improvement of secretion and excretion first demand attention.

To assist excretion by the skin, I always insist upon a daily bath, preferably on rising, and taken as hot as can be borne for three minutes, scrubbing well with a brush or coarse cloth and soap, and followed by a cold shower, or cold water poured over the body from a pitcher. With delicate patients the latter is preferable, since salt can be added to saturation, which will raise the specific gravity of the cold water, and less shock will be felt. One unconvinced of the amount of waste thrown off by such a procedure, need only examine a specimen of urine taken before and another after such a bath, and note the amount of urinary solids in both. I always give my patients, with the directions for the bath, a little idea of the anatomy of the skin, its condition when the glands are not acting well, and also of the vasomotor physiology involved, thus insuring their hearty cooperation. Engelman, of Kreuznach, has written that "for gynecological patients general bathing under scientific supervision is a remedy of great value. Associated with friction it acts on the same priciple as a counterirritant, attracting a considerable volume of the circulation to the surface, thereby relieving splanchnic congestions, and by stimulating the nervous system becomes an active promoter of absorption. It is valuable as a remedy for chronic exudates, adhesions, neoplasms, and in the treatment of amenorrhea due to obesity."

The amount of urinary solids voided daily by a gynecological patient should be early determined. Not infrequently I have found the excretion of solids 30 to 40 per cent., or even more, less than normal. These patients present varying degrees of nervous irritability, and in some extreme cases are near uremic convulsions. I consider that it is far more important in such cases that the renal insufficiency be determined than that the displaced uterus, or prolapsed or diseased ovary or tube, be diagnosed. We must not forget that the kidneys, ovaries, and tubes spring from the same source embryologically. It is a clinical observation that a close sympathy exists between renal insufficiency and pelvic disorders. Patients with renal insufficiency will complain of irritable nerves, more or less headache, backache, and insomnia. Large draughts of water often restore the kidney action without medication. I have such patients take at least eight glasses a day, either hot or cold, on an empty stomach. Where insomnia is a marked symptom, I have found two or three glasses of water, two or three hours after dinner, in the evening, to be a better hypnotic than drugs. I always direct that, upon lying down, the patient shall rest upon the right side for a time to allow the water to pass readily out of the stomach into the bowel. If one selects a pure and tasteless spring water it is not difficult to have any amount desired taken with the most satisfactory results. Malted milk is valuable as a hypnotic in this connection, a cupful taken hot on retiring, and again in the night if wakeful. Of course, a weekly laboratory examination of the urine is a matter of routine.

It has been aptly said that "constipation, that protean monster, can derange more lives with neurotic symptoms than any other one pathological condition that can be named." It is, as a rule, present, to a greater or less degree, in all gynecological cases. Mild cases will be corrected by simple laxations and régime. The loaded colon exists much oftener than is suspected in those who have daily movements, as well as those who have not. The daily movement may pass down through the accumulation of feces, impacted in the loculi. Two symptoms without an abdominal examination are suggestive of a possible colonic impaction, the presence of chloasmic spots and the voiding habitually of very dark feces. When laxatives are relied upon, I have found it advantageous to give with them calomel or blue pills, more or less frequently. The best means to rely on to empty a loaded colon has, in my experience, been colonic flushings. They should be used daily, as long as dark feces are voided, once or twice a week when the discharges become yellow. These flushings have been called "liver washers," because, if properly given, a large part of the water is absorbed from the intestine, taken up by the portal circulation, and passed through the liver. A more or less congested liver is always present in these cases.

The patient in the knee-chest position receives from two to six pints of water as hot as can be borne, either soapsuds, or a physiological salt solution. As the colon becomes distended, the scybalous masses usually separate from the wall of the loculi, and fall into the lumen of the bowel, but if this does not readily occur gentle kneading of the bowel after it is filled with water will help to dislodge them.

The specialist who sees many cases of diseases of

women realizes the very great importance of having a careful abdominal examination precede the pelvic one. Many cases show varying degrees of fecal retention, but the following case is fortunately an unusual one in its exaggerated degree of colonic involvement:

Mrs. L. Md., age 68, an extremely nervous and hysterical woman, a patient of Dr. Julia G. McNutt's recently presented herself, after an absence of some months. She reported that she had been more or less confined to her bed for four months, and that she had been trying for several weeks to get strength enough to come to the city from one of the suburbs, in order to see if she could not be relieved of the constant discomfort in her right side. She came into the office walking with difficulty, supported by her son, a broad-shouldered athlete over six feet in height. Her local physician had assured her that there was a gradual development of a tumor in the right side, and from the position, it was probably connected with the appendix. Immediate operation was advised. She wished to see Dr. Julia McNutt before deciding. She could distinctly define the mass herself. It was extremely sensitive. It was noticed on shaking hands with her that her skin was cold and clammy, the sclera yellow, complexion pale and muddy, chloasmic spots on the face. There had been no elevation of temperature. With this history the condition of the colon was interrogated before a pelvic examination was made. As suspected, the large, defined mass was found to be entirely within the bowel, doughy to the touch, and very sensitive on account of the long retention. The ascending, transverse, and descending colon was crowded with feces, and on vaginal examination the whole pelvis was found to be filled with a protruding rectum containing hard scybalous masses. It was difficult at first to make the patient understand the real condition. She had had a daily movement by rochelle salts and found it hard to realize how the salines could keep a canal through the center while allowing the mass to remain. In her thankfulness at escaping from the dreaded operation, she was willing to follow the directions, which were, colonic flushings daily, laxatives, bitter tonics, and strychnine. In a week she returned, smiling and unsupported, and happy to have lost her tumor. Examination confirmed its entire disappearance.

I believe autoinfection from renal, intestinal, or cutaneous insufficiency, to be of supreme importance in these cases. It is well recognized by neurologists as an etiological factor in their specialty, and as a very important point in considering the nervous symptoms of gynecological cases it is not to be lightly passed by.

No one symptom is reported to us so frequently as occipital headache. It will be found frequently in conjunction with a weak heart, the most common cause of which is the poison absorbed from intestinal decomposition. It has been said very tritely that "the weakness of a weak heart is of the greatest possible consequence." This occipital headache yields readily to one or two doses of digitalis. Coal tar derivatives are decidedly counterindicated. It used to be supposed that it was because of the direct cardiac stimulation that digitalis behaved so well. But Sajous points out that it is quite indirectly a heart stimulant. He says: "Digitalis is probably the most perfect cardiac stimulant of our pharmacopeia, but only because better than any other drug it enhances the activity of the pituitary body, which, in return, so stimulates the suprarenal glands as to bring them to their highest functional possibilities. The physiological action of the suprarenal glands is to transform or destroy the toxic substances which are produced in the organism under the influence of muscular activity and of the nervous system." Its action, then, is is to start up this circle of activities that neutralize the toxins that depress the heart.

Most of these patients are anemic, partly from autoinfection. Although iron is so much needed, it is, as a rule, badly borne. Those substances that increase nutrition, usually give the most valuable results, peptonoids, phosphates, malt extracts, and cod liver oil when tolerated. It is important to have blood examinations made at regular intervals as indicated. The full benefit of a blood examination can be obtained only by the examination of all the constituents of the blood. During the last year this fact has been most clearly demonstrated in the case of three sisters, who, although with the same heredity and environment, presented very different temperamental states. Their hemoglobin varied but slightly, being respectively 78, 72 and 60 per cent. This test could have been of little service as a guide to the general treatment, if there had not been other marked characteristics in the blood of each, which pointed to decided differences in their general conditions, and suggested entirely different lines of treatment in the individual cases. The results entirely justified the adoption of measures along the lines indicated by the several blood analyses. The following is a report of the blood examinations in these cases made by Dr. R. L. Watkins, together with notes of diagrams and treatment:

Miss O. D., single, 36. Myofibroma. Hysterectomy. Hematocele. Blood corpuscles diminished from hemorrhages. Microcytes. Neurasthenic.

| | Hemoglobin. | Red cells. | White cells. | Microcytes. |
|---|---|---|---|---|
| July 20, 1904 | 78 per cent. | 2,950,000 | 5,900 | Many. |
| Oct. 25, 1904 | 85 " " | 3,450,000 | 6,500 | Diminished |
| Feb. 23, 1905 | 93 " " | 3,500,000 | 4,500 | Less. |
| June 8, 1905 | 98 " " | 3,900,000 | 5,900 | Very few. |

Treatment.—High, dry inland air; Laxatives; Bitter and heart tonics; Peptonoids; Electricity.

Miss A. D., single, 28. Endometritis. Salpingitis. Autoinfection. Neurasthenic.

| | Hemoglobin. | Red cells. | White cells. | Microcytes. |
|---|---|---|---|---|
| Jan. 28, 1905 | 72 per cent. | 3,140,000 | 5,850 | Many. |
| Feb. 23, 1905 | 80 " " | 4,140,000 | | " |
| June 8, 1905 | 80 " " | 3,540,000 | 6,550 | Absent. |

Treatment—Hygienic measures; Laxatives; Digestives; Mineral acids; Nerve tonics; Electricity.

Miss W. D., single, 24. Pelvic peritonitis. Anemia. Exostoses of middle turbinated bones.

| | Hemoglobin. | Red cells. | White cells. | Microcytes. |
|---|---|---|---|---|
| Feb. 23, 1905 | 60 per cent. | 3,750,000 | 6,000 | Very few. |
| June 8, 1905 | 72 " " | 3,900,000 | 7,100 | " |

Treatment.—Operation on nose; Laxative; Iron; Fat emulsion; Electricity.

All had pelvic disturbances, and all were anemic. The first had a large myofibroma of the uterus, with very profuse hemorrhages. Following operation her blood showed red and white cells in good condition, but their number really diminished to about one-half the normal quantity. A great many microcytes were present, probably the result of the repeated hemorrhages (Jaksch). The second had dysmenorrhea of long standing, with endometritis and salpingitis, autoinfection, and was neurasthemic. The pelvic reflexes had been the cause of marked disturbances of excretion and secretion, which in turn induced autoinfection and the resultant neurasthenia. Autoinfection showed in the blood by very marked microcytosis. While there was not such rapid improvement in the blood condition of this patient as

desired, except for entire disappearance of microcytes, there has been a great improvement in the functional disorders and the condition of the nervous system. The third case had a pelvic peritonitis, secondary to a catarrhal salpingitis. She had one nostril occluded and the other much narrowed by exostoses. Diminished hemoglobin was considered due to the difficulty of inspiration with imperfect oxygenation of the blood. The nares were relieved by operation, and improvement followed. In each of these three patients there was enlargement of the thyroid gland of varying degrees. This showed that there had been of long standing a vasomotor irritability which had resulted in this partial paresis of the nerves in this locality. This is a not infrequent complication where pelvic reflexes have been in existence for some time, and this complication, as a rule, disappears when the nerve fret is removed and vasomotor tonicity restored.

When a patient presents herself for local treatment, and on inspection we see a mucopurulent or purulent discharge escaping from the cervix, we must first decide as to its nature and cause. For treatment this leucorrhea comes into three classes:

(1) Congestive leucorrhea, caused by conditions outside the organs of generation, such as constipation or abdominal tumors, fluid collections, or plastic exudates.

(2) Due to displacements of uterus or adnexa, which would affect the circulation.

(3) Due to diseased state of the uterine mucosa and glands, or of the appendages, with or without the former conditions also.

Fortunately many patients can be readily placed in the first or second class. We can promise a more or less speedy relief of symptoms, as we are able to relieve the constipation, elevate and support the uterus, if indicated, and where accompanied by local and general relaxation, increase general and local tonicity. Where a vaginal support is indicated, cotton or wool should be used at first, but as soon as possible a firmer one of soft or hard rubber should be substituted, the latter always when it can be worn, for its greater cleanliness and firmer support. One should aim to limit as early as possible the patient's visits, having her return, however, as often as indicated to assure one's self that improvement is progressive. All support should be removed as early as can be done with safety, insisting upon a return at stated times, that the gynecologist may be sure that restoration has been secured.

The subject of this paper requires a somewhat detailed description of vaginal tamponade, and the subsidiary local measures that usually accompany it. As the vaginal tampon is an agent useful in both simple and complicated non-operative cases, they will be considered together under this head. If the patient be placed well down in the knee-chest position and the perineum raised by the left index finger, the air enters and by its own weight the whole pelvic contents gravitates toward the abdominal cavity. If this does not readily occur, the finger holding the perineum can be carried forward, and by gentle pressure against uterus or appendages, help them to move up as far as possible. No pressure should be used that causes pain. It may be that no perceptible dislodgment can be obtained, but a tampon properly placed will give comfort, and medication can be kept in contact with the tissues. If one end of a narrow strip of non-absorbent cotton or wool, 12 to 18 inches long, be carried by a long dressing forceps against the back of the index finger as it holds up the perineum, up into the posterior cul-de-sac, the tissues along the canal need not be touched. The tampon can be packed gently back and forth in the cul-de-sac more readily and with less discomfort to the patient than can be done with the aid of a Sims' speculum. The material should be soft and yielding, either aseptic non-absorbent cotton or sterilized wool. Absorbent cotton should never be used, since it tends to pack into a hard mass when wet. The whole of the posterior cul-de-sac should be filled, but not packed hard enough to cause discomfort by pressure. In introducing the tampon, the end first carried up has a string attached of firm soft knitting cotton. This end, seized by the forceps, is saturated with the medicament selected and turned over into the adjoining clean part of the cotton. It is then passed

Fig. 1. Tampon of Wool or Non-absorbent Cotton.

up quickly to the cul-de-sac, before the medicament soaks through, to be rubbed off on vulva or vaginal canal. The lower end of the string, caught around the little finger of either hand, or between the thumb and second finger of the left hand, as the tampon is introduced, prevents the entire string from being carried up with the tampon. No two patients need the same amount of cotton or wool. With the same patient the amount varies according to fullness or emptiness of the bowel, or the forward position of the uterus and adnexa. The object is to fill the cul-de-sac comfortably. One can readily tell in packing when there is enough, and the rest of the strip of cotton can be pulled off. Care should be taken that,

without giving pain, the cotton is gotten well up behind the cervix. When in place, the patient should be directed to rise straight up on her knees, while the index or packing finger holds the cotton in place behind the cervix. By this precaution the air that ballooned the vagina is allowed to escape and the tampon, held by the finger, is not crowded down by the return of the elevated pelvic organs. At the same time that the tampon is held in place, if it is not too large, the cervix will be felt to ride down over the cotton, holding it back behind it. This leaves the external os free, allowing opportunity for free escape of any discharge from the uterus. A carelessly adjusted tampon can do much harm by preventing free drainage. On removing the finger, while the patient is still straight upon the knees, the part of the string remaining outside should be cut, leaving only a piece an inch in length beyond the vulva. If it be longer, it may be drawn upon by the inner part of the thighs in exercising and cause the tampon to be displaced, as well as cause chafing. When the patient stands, the pelvic organs gravitate back again toward their former position, but the tampon now receives their weight and holds them somewhat above their former level. If only for a fraction of an inch, it is sufficient at least to take the drag off adhesions if they are present. If there is tubal involvement, I usually place a little larger amount of packing on each side of the cul-de-sac, if it can be pressed up without pain. If the distal end of the tube can be kept in the slightest degree higher than the proximal, it will favor drainage into the uterus. In rare cases large tubal collections have discharged through the uterus, the probable cause being that the exudate caused an adhesive inflammation of the tube, holding it upon a plane high enough to permit drainage. When the inflammatory swelling, which helped to produce the closure or constriction of the uterine end of the tube, has been sufficiently reduced, the escape of the fluid collection is possible. As a rule, such a fortunate termination does not result. Generally, by increased weight from its pathological condition, as well as relaxed supports, the tube has sunken to a lower level than the fundus. Becoming adherent in this new position, any evacuation of fluids into the uterus is mechanically prevented. In a catarrhal salpingitis of short standing, tamponade may make drainage through the uterus possible. And, not infrequently, vaginal treatment, with patient, judicious attention to detail, will show the entire clearing up of a case with exudations, adhesions, and tubal and ovarian complications. So long as there is progressive improvement, one is justified in continuing these methods. Whether the condition be changed by drainage or absorption, it is well to follow out the measures that show progress, although one may not always be positive about the exact course taken in the recovery. Should there be, however, recurrent attacks of peritonitis, however slight, or symptoms of retained pus, the patient should be urged to submit to operative interference and warned of the dangers of delay. The patient who is under treatment for a heavy displaced uterus, with involvement of the appendages, should wear continuously a properly adjusted tampon, to be changed as indicated. Particularly should this be the case during the menstrual period, especially if the flow be profuse or prolonged. It should be changed daily if the patient is able to be about. Many do much better to be so protected and permitted a certain amount of liberty. The tampon should also be changed daily where there is an irritating leucorrhea or an odor to the discharge. As improvement follows, its renewal may be delayed to the second, third, or fourth day, as indicated. When conditions improve, and there is no discharge, but a firmer support is impracticable, I have used wool and seen the patient only at intervals of a week or ten days. The tampon need not be removed when douches are taken, if it is placed well up behind the cervix. It becomes saturated with the water, but when the patient sits up the water is pressed out, and if wool be used it will retain its elasticity. In most patients, when the local sensitiveness is relieved, a properly adjusted support must take the place of the tampons. It is interesting to note how often, when the utricular glands are being restored by the intrauterine injections and the local circulation improved by appropriate treatment, the weight of the uterus and adnexa have greatly diminished. The ligaments, muscles, connective tissue, and the blood vessels, have participated in the general upbuilding of the whole body, and they can now give the needed support that they were intended for. Then we begin by lessening the amount of material in the tampon, after a little leaving it out after every other visit, watching effects and returning to its use at any time if indicated. It is left out altogether when it is found that the sagging does not return on its removal.

In a case where there is much sensitiveness, exercise is restricted and a douche is ordered every two to six hours, of twenty to thirty minutes' duration, at a temperature of 105° to 124° F. In some cases, in place of the douche, more rapid results are obtained in relieving pain and inflammation with the use of antiphlogistine. One-half to one ounce wrapped in the end of a small tampon, is passed quickly up into the cul-de-sac, with the patient in the knee-chest position. The rest of the tampon is packed lightly over it to keep it in place, and it is changed in forty-eight hours. At the same time a layer one-fourth inch in thickness is spread over the hypogastrium, covered with absorbent cotton, to be removed when the remedy dries and peels off. This will be twenty-four hours in some instances; in others not till forty-eight hours or more. Pure ichthyol often gives quick relief from pain. Later a solution of ichthyol, twenty-five to fifty per cent. in glycerin, may be used. As the tissues become accustomed to one remedy, change to another, which may be of no greater value, but which will serve to break up a "habit of body." Thigenol is as valuable as ichthyol, while it has the advantage of being odorless. The stains made by it on linen can be quickly removed, and it is also nonirritating and antiphlogistic. It is used in solution in glycerin in eight to twenty per cent. on tampons. A change may be made to applications of Churchill's compound tincture of iodine to the vaginal roof, using pure glycerin upon the tampon, at the same time painting the hypogastrium with this tincture if needed. To some patients glycerin is an irritant to the mucous membranes. If care is not taken commercial glycerin may be substituted by the druggist, which is irritating from a trace of sulphuric acid. If I am convinced that the fault is not in the glycerin, I substitute in its place albolene or lanoline. Where simple astringency is needed, I use upon the tampon a solution of tannin or acetate of aluminum in glycerin, ʒi-ii to ʒi. When a patient complains of constant pain, I apply a small fly blister, moving it about as fast as one heals; or the Paquelin cautery, lightly brushed over the seat of pain. Both give relief.

In my experience there is an undoubted value in the use of electricity for neurotic women and young girls, as an adjunct to the local treatment. As the patient lies upon the table, a flat pad is placed under

the neck, connected with the positive pole of a galvanic battery, another under the sacrum, connected with the negative pole. The current is made as strong as can be borne for the needed vasomotor stimulation. This treatment is emphasized while the vaginal treatment is minimized. If there are many reflexes from the pelvis, after a little the positive pole is removed from the neck and placed on the hypogastrium. Even a ten-minute application does much good. I frequently alternate at every other visit the high frequency current or the vibrator.

When we are obliged to place a patient in the third class, where the endometrium is diseased, to the preceding treatment should be added, as early as safety permits, intrauterine irrigation.

The uterus that needs irrigation is as a rule heavier than normal. The endometrial glands are diseased and the irritation has brought more blood to the organ. The interstitial tissue has greatly increased and the ligaments, blood vessels, and connective tissue packing are all relaxed and no longer furnish adequate support. "In the light of modern pathology," says W. E. Ashton, "inflammation of the uterine mucosa becomes a subject of vital importance, as it is the starting point of nearly all the inflammatory lesions of the pelvic organs." As the uterus and appendages sink in the pelvis they usually follow the curve of the sacral canal and become retroposed. The pelvic circulation is interfered with by the descent and displacement. The veins would need to empty themselves uphill, which they are little disposed to do. They become tortuous and distended, and the pelvic organs are fed by dammed-back venous blood. The increased weight and displacement lets the organs interfere more or less mechanically with the action of the rectum, allowing fecal retention. The crowded bowel, in turn, by pressing forward and downward, increases the displacement of the uterus and appendages. The fluid part of the retained fecal matter becomes absorbed into the pelvic circulation, making a blood that will take little part in any nutritive changes that are attempted. The dusky red look of the tissues must be changed to a brighter coloring, and, until we establish a clean arterial pelvic circulation in place of the dirty venous one, it is useless to expect much from intrauterine irrigation. Diet, exercise, and laxatives can do much, but better and more far-reaching results will be obtained if with them are combined colonic flushings. Since they not only empty the bowel more perfectly, but also when part of the water is absorbed, they flush the liver and kidneys, organs always more or less congested in these cases.

The weight of a heavy engorged uterus retrodisplaced, dragging upon tender and adherent ovaries, complicated by varying degrees of salpingitis, will, with every movement to be a constant source of distress. Unless the treatment inaugurated makes comparative comfort take the place of ever-present varying degrees of discomfort, it will be difficult to persuade the patient to submit to it long enough to prove its value. The first consideration is, to restore the pelvic organs to a better position and to remove the strain upon adhesions if they are present. In short, the condition calling for intrauterine irrigation in non-operative gynecology is always a complicated one, and its various divisions must receive appropriate attention. Some patients who should not be irrigated at the physician's office, may be so treated at home or in the hospital, where they are kept in bed. Such are acute inflammatory conditions, either septic or gonorrheal. Moreover, chronic cases, where the patient is very nervous, or the appendages are involved to any great degree, should not be irrigated until general and local irritability is diminished by general régime, douches, and tampons. A sedative tablet of valerian, assafetida, and sambul, two to six times a day, will often be a valuable help to control fretted nerves.

The intrauterine irrigation for postpartum and postoperative use is a procedure of long standing, and from it and its beneficent results has sprung its employment in nonoperative gynecology, originating with operating surgeons. Its rationale is well known as a cleanser and antiseptic (if medicated), as a stimulant to the vasomotor nerves, blood vessels and muscular fibers of the uterus.

The time-honored medicated cotton-wrapped probe has very little effect upon the uterine mucosa, a fact easily proven if such a probe, wet with iodine, be passed to the fundus of the uterus before a hysterectomy. When the organ is laid open after removal, the staining will be found to be confined to the cervical canal in proportion to its patulousness, and a small stain will be seen at the fundus where the probe point touched. On account of the pear-shaped character of the cavity, the rest of the wall will have escaped the staining. To treat thus a chronic corporeal endometritis or metritis, one may expect to go on indefinitely with the work, should the patient permit the treatment to continue. Intrauterine treatment by the intrauterine syringe is scarcely more effective, while not without danger. Intrauterine applications of electricity in the hands of a specialist do not enter into the scope of this paper. One with hospital experience realizes how readily all parts of the uterine cavity can be reached by an intrauterine irrigation through a double current catheter. The cervical canal must be sufficiently patulous to allow the return flow should the eye of the irrigator become clogged with thick mucus or other obstruction. It is a perfectly safe procedure to practise in one's office work, provided intelligent care is taken in selecting cases, and the same aseptic precautions are observed that are considered necessary in hospital work, fresh gowns, sterilized instruments, solutions, and accessories, but, above all, care in selecting cases. Of course, no physician who was attending a septic case would practise intrauterine irrigation any more than he would use the scalpel under such circumstances.

The technic of intrauterine irrigation is comparatively simple. The patient lies upon the table with a Kelly pad under her and the knees well drawn up. A cleansing vaginal douche is first given of sterilized water at a temperature of 105° to 115° F., and, if indicated, one and one-half per cent. of lysol or two per cent. creoline is added.

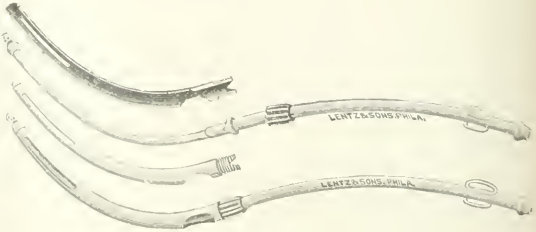


Fig. 2. The Fritsch-Bozeman Irrigator as Modified by Kelly.

The intrauterine irrigation which I prefer, is the Kelly modification of the Fritsch-Bozeman.

In most cases the medium size can be used, but

one can be had which is no larger than the tip of a Simpson's sound, still large enough to permit a small, steady stream to pass. With so small an instrument few cervices need dilating. Should, however, the internal os be so firm as not to readily admit this little instrument, I do not try to push it through, but see if a few moments' use of the negative galvanic current will not make it glide in. When giving intrauterine treatment, it is my custom to place over the hypogastrium a flat electrode connected with the positive pole of a galvanic battery. Another, with a handle attached eight to twelve inches long, is connected with the negative pole and placed under the sacrolumbar region. When desiring to dilate the cervix the stylette of the negative cord is removed from the handle and dropped into the little ring on the outer end of the irrigator. The instrument resting in the cervical canal with the tip firm against the internal os, will as a rule gradually dilate the os, and soon be felt to "slip by." If still held for a few moments longer, one can recognize that the tissues have sufficiently relaxed so that the catheter is freely movable and will permit an outflow of fluid if required. One must always be sure of a possibility for the exit of fluid, should the catheter be clogged. No risk can be run of distending the uterus by retention and the escape of fluid through the tube into the peritoneal cavity. Should the relaxation of the internal os not be so readily secured no further effort should be made in the office, certainly not by metal dilators or tents. Such a case should be dilated under ether, either at home or in a hospital. Plain sterilized water I most frequently use. The temperature may be from 100° to 118° F., according to the patient. It should always be as hot as is comfortable. One patient will have discomfort if the temperature is above 100° F., while others who have pain at 105° will be relieved if it is raised to 110°, 115°, or 118°. The temperature may be increased gradually during the douche, and from time to time. The quantity used varies from one pint to one gallon. Where there is much discharge the irrigation is continued until the water runs clear. If pain has been induced and the hot water acts as a sedative, it is allowed to flow into the uterus until the discomfort is relieved. If the continued flow does not relieve pain, the irrigator is removed at once from the uterus, and the fluid is allowed to flow into the vagina until discomfort is controlled. When the discharge has been irritating to the last pint of irrigating water some bland antiseptic remedy is added, or boric acid, ʒi to a pint, can be used. In infected cases, 1 to 10,000, or 1 to 3,000 bichloride of mercury; carbolic acid, one to two per cent.; or ten, twenty to fifty per cent. of an organic salt of silver may be employed. The last I have found specially valuable in gonorrhea. In hemorrhagic conditions such as fungoid endometritis, or after abortion or curettage, I use Churchill's compound tincture of iodine, ʒi to ʒii to Oi of sterilized water. In these hemorrhagic cases, I often supplement irrigation by cramp bark or viburnum compound tablets, two every two to six hours, according to indications. Ergot may be sometimes indicated, but most cases yield without it, and the viburnum has the advantage of causing little or no disturbance of the stomach, which cannot be said of ergot. When the pain of uterine cramp occurs, it may be managed by simple measures. While bichloride of mercury is a most satisfactory remedy where needed, perhaps with this more than any other drug one needs to be prepared for more or less pain. Local means, such as a hot water bag, the hot vaginal douche, with or without the irrigator, the positive galvanic electrode over the fundus, with negative over the sacrolumbar region, may give relief. If not quickly effected, one to three tablets of a compound of acetanilid, caffeine citrate, camphor monobromate, and sodium bicarbonate may be given. Rarely a ¼ gr. tablet of codeine may be needed. In these office cases, seldom, if ever, do I give a hypodermic injection of morphine. Occasionally it may be necessary in acute pelvic cases in hospital or at home. Then I always combine it with atropine sulphate, 1-150 to 1-200 gr., which will, in most instances, prevent its nauseating effects. I consider it a misfortune when a gynecological patient has to have a dose of opium or morphine, except in those acute conditions where it is absolutely impossible to substitute milder remedies. We all know the proneness of these patients to contract a drug habit, and loth should we be to lead one into all the horrors of its possession. A patient after an intrauterine irrigation is not allowed to leave the office with pain, and she is carefully instructed how to meet any return of it, which will be rare if asepsis has been strictly observed. Its return can, as a rule, be traced to some fault in mechanism, not in method, provided intelligent care has been exercised in selecting the case for irrigation in the office. And, moreover, if each time that the patient presents herself for such treatment the gynecologist makes sure that she is at that time in a safe condition for it. In a nervous, apprehensive patient, to prevent shock or relieve it, should it begin to appear, ʒss—ʒi of aromatic spirits of ammonia in water may be given, or whiskey (rarely), before or following the irrigation, as seems indicated. It tides over or relieves the symptoms which are not apt to appear again, when the patient realizes what she is to expect.

In conclusion, it may be said that in safe hands, intrauterine irrigation can be proved to be of great value in selected cases in office work. Old, so-called chronic cases of endometritis and metritis, with or without tubal and ovarian involvement, can be, in most instances, greatly benefited and often practically cured, provided the irrigation be supplemented by other means of treatment that are equally needed. No two patients can be treated just alike. No hard-and-fast rules can be laid down. Only experience and great care in observation can teach why one patient can be safely irrigated in the office and why another that might seem like her in many respects to a careless or indifferent observer, should only be irrigated after divulsion and curettage under ether, and where rest in bed after irrigation can be insisted upon.

In closing these notes upon some of the leading points in non-operative gynecology, it may be emphasized that nowhere does careful discrimination in diagnosis and prognosis have more value than just here. And another of the inferences from experience is that there is a large field for patient office work in this department of practice, and a field that is not over tilled.

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**A Refinement of Asepsis** is to use at least two scalpels for every operation. The first one is used to incise the skin and is then laid aside, while the dissection is made with a fresh knife. In this way there is less danger of carrying bacteria from the skin into the wound, and the point is not without importance in many operations, such as those on the joints in which the most rigid asepsis is essential. If a tumor of the breast, for instance, is incised for diagnostic purposes and malignancy is suspected, the operation should always be continued with a clean knife.

# NON-GONORRHEAL URETHRITIS.

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At the present time the gonococcus occupies such a prominent position in the American medical mind, that other microorganisms have appeared too unimportant to merit consideration. Even the careful bacteriological investigations, made in France and Germany, of the microbes of the normal and pathological urethra have received little recognition in the English language.

The influence of microbes other than the gonococcus upon the genesis of urethritis was not recognized until 1883. Since then simple bacterial urethritis, secondary and mixed infections have been the subject of many controversies. When we speak of non-specific, non-gonorrheal urethritis, we designate an inflammation of the urethra without gonococci. Post-gonorrheal and mixed infections will not be considered in this article, as their study is more appropriate under the head of chronic gonorrhea.

*Historical Introduction.*—For a long time gonorrhea and syphilis were confused until Hernandez[1] in 1812 advanced the view that syphilis and gonorrhea were independent and separate diseases. As this view met with little credence, it remained for Ricord,[2] in 1838, to establish gonorrhea and syphilis definitely as two different diseases. In 1872, Hallier[3] of Vienna recognized in the pus of gonorrhea a large number of cocci, in part free, partly contained in the leucocytes, which they completely destroyed. This description is the faithful representation of our knowledge concerning the topography of the gonococcus in gonorrheal pus. It is then to Hallier that the honor reverts of having been the first to describe exactly the microbe of gonorrhea, seven years before Neisser attracted the attention of scientists to the pathogenic rôle of the micrococcus of gonorrhea (Legrain[4]).

Neisser in his important article of 1879,[5] completed by that of 1882,[6] describes the gonococcus. These microorganisms were refound in twenty-five cases of gonorrhea, in seven cases of purulent ophthalmia of the newborn, in two cases of the same ophthalmia in the adult, and finally, in the urethral discharge of nine women. Neisser also determined the absence of the gonococcus in the pus of buboes, in that of balanoposthitis, in simple conjunctivitis, and in leucorrhea. The constant presence of the gonococcus of Neisser was confirmed in Germany by Bokai[7] and Finkelstein, Haab,[8] and Aufrecht[9], in France by Bouchard[10] and Constantin Paul,[11] in England by Watson-Cheyne.[12] Thus the majority of observers thought that every urethritis was contagious, as the gonococcus was always present.

However, this idea was too exclusive, and inasmuch as the gonococcus was the cause of urethritis, the idea began to dawn that other pathogenic microbes might also inflame the urethra. In 1883 Bockhart[13] and Wolf described pseudogonorrheal urethritis, characterized by the presence of diplococci smaller and sometimes larger than the gonococcus. They described, cultivated, and even inoculated them. A sound soiled by phlegmonous pus was inserted and retained in the urethra, resulting in urethritis, in which chain streptococci were found to the exclusion of the gonococcus. Then Aubert[14] of Lyons in 1884 published cases of bacterial urethritis. He thought he was justified in concluding that urethral discharges were due to other microorganisms than the gonococcus. Also De Amicis[15] and Icard (1884) reported similar observations. The latter author in June, 1884, described a case of urethritis contracted from a woman with a retrouterine phlegmon, before the Medical Society of Lyons. In 1886 Bockhart[16] again reported cases of bacterial urethritis to which he gave the name of pseudoblenorrhagia. Castex[17] (1887) speaks of a case of urethritis without gonococci, due to yellow staphylococci, in a virgin subject, aged 16 years. This urethritis was caused by catheterism and healed spontaneously in three days.

Legrain (1888) found the micrococcus ochroleucus in the pus of urethritis during typhoid fever. In another case he found the micrococcus pyogenes aureus in a rheumatic patient addicted to masturbation. He has also reported a case, in which the pus enclosed the micrococcus cereus albus of Passet. This urethritis had been contracted by coitus with a woman who had a retrouterine phlegmon. In 1889 Legrain[19] inoculated a catheter with a culture of micrococcus pyogenes aureus and introduced it into the fossa navicularis several times, but no inflammation resulted. At the end of a week the same procedures were repeated, resulting in a scant seropurulent discharge which lasted four days. Also in 1890 Legrain[20] reports the case of a man, 22 years old, rheumatic, feeble, and anemic, addicted to onanism, who contracted urethritis, the pus of which contained no intracellular bacteria, but cultures of micrococcus pyogenes aureus were obtained. In 1891, Legrain[21] and Legay reported the case of M. W. in whose discharge they found spherical staphylococci, and on culture were found the yellow micrococcus of the urethra and the bacilli of Zopfii. Audry[22] related cases of bacterial urethritis in women. Bouchard[23] and Bazy[24] have observed urethritis as the result of masturbation. Moscato[25] mentions the case of a man who contracted urethritis during malarial fever. Finally in 1893, Janet, in his article upon the receptivity of the urethra, attached the importance to these cases of non-gonorrheal urethritis that they deserved.

Even as bronchopneumonia can be caused by streptococci or different bacilli, even as tuberculosis can be produced by bacilli of tuberculosis and by the different bacilli of pseudotuberculosis, and inasmuch as impetigo can be caused by various microorganisms, as shown by Dubreuilh,[26] so can urethritis be caused by pathogenic microbes other than the gonococcus, as the investigations of the above-mentioned authors have proved.

Gradually pathologists began to appreciate that the mucous membrane of the urethra was susceptible to inflammation under the influence of all the bacteria capable of causing an inflammation in other organs.

*Etiology and Classification.*—The classification of the various forms of urethritis is difficult, as there is little conformity of opinion among the authors, regarding their cause. Legrain divides them into venereal and non-venereal forms. Audry classes them into chemical, diathetic, traumatic, and venereal urethritis. Minguet divides them into traumatic, diathethic, and medicamental, from the etiological viewpoint.

The passage of a sound, of a calculus, or any other foreign body, by the production of lacerations, diminishes the resistance of the mucous membrane of the normal urethra, permitting of the rapid growth and extension of pathogenic bacteria.

Bockhart (1883) produced urethritis by the passage of a sound smeared with phlegmonous pus, in which streptococci of phlegmon and erysipelas were found to the exclusion of the gonococcus, as did Legrain (1888), with a second culture of micrococcus pyogenes aureus, resulting in urethritis that

lasted four days, but in this case a second attempt was necessary, owing to attenuation of the microorganisms by cultivation. Also with the microbes of yellow and white staphylococci present in the urethra, it is possible to produce urethritis by the passage of an aseptic sound.

Under the influence of rheumatism and gout, urethritis is easily contracted, as owing to the irritating action of crystals of uric acid or toxins in the urine the yellow staphylococci, normally present in the urethra, assume great virulence and the passage of salts irritating to the urethra diminishes its resistance in the same way as the passage of small concretions, but only in lesser degree.

In typhoid fever and tuberculosis, toxic substances in the urine or general circulation of the blood, may be productive of ulcerations in the urethra, predisposing it to germ invasion.

Barbellion[27] groups these cases into primary saprophytic, mixed, secondary, or postgonorrheal. Others recognize microbic and amicrobic urethritis. Eraud,[28] in a paper read at a meeting of the French Urological Association, divided them into primary and secondary and each of these divisions into septic and aseptic. This classification has the advantage of not anticipating from the pathological point of view.

As the causes that contribute to the production of urethritis are so numerous as to be beyond our comprehension, we prefer a classification based upon the clinical conditions in which cases of non-gonorrheal urethritis have been observed and would suggest the following classification:

1. *Urethritis caused by external irritation:* Coitus, catheterism, ungratified erections (?), masturbation(?), medicated injections.

2. *Urethritis caused by internal irritation, mechanical, chemical, and toxic, of constitutional origin:* Food, drinks, drugs, gout (?), rheumatism (?), arthritic diathesis (?), diabetes (?), herpes, mumps (?), syphilis (?), tuberculosis, typhoid fever (?).

*Urethritis Caused by Coitus.*—Coitus is certainly the most frequent and potent cause of urethritis, as is generally admitted. The irritation and congestion produced by this act render the most favorable conditions for germ invasion. With a healthy woman the chances of infection are very small, but are increased at the moment of the menstrual flow, as the microbes, owing to a more favorable soil, can then acquire a greater virulence, by reason of modifications occasioned in the female genital tract.

When the woman is infected by the ordinary microbes of suppuration, resulting in vaginitis or metritis, coitus, unharmful for a healthy urethra, will become particularly dangerous for the receptive urethra. Traumatisms and abrasions, caused by coitus, result in a reaction on the part of the urethra, congestion, desquamation, edema of the mucous membrane, and infection.

Cases of non-gonorrheal urethritis caused by coitus have been reported by Bockhart,[29] who reported 15 cases observed in four years. Icard observed a case contracted by coitus with a woman with a retrouterine phlegmon, in 1884. Rauzier[30] reported two cases, both medical students who had had no previous venereal infection. One case began on day of coitus, the other the day after the act, and healed spontaneously in fourteen and fifteen days respectively. Legrain[31] reported another case contracted with a woman with a retrouterine phlegmon, in the discharge of which the micrococcus aureus albus was obtained by culture.

*Urethritis Caused by Catheterism.*—The urethra is normally very resistant to germ invasion, as the microbes that normally dwell within it exert no particular action upon its epithelium, until the vitality of the cells has been lowered by irritation such as the passage of a sound. The presence of even pyogenic bacteria is not sufficient to cause inflammation, until they acquire a particular virulence, or until the vitality of the epithelium is lowered. The passage of a sound causes lacerations and circulatory disturbances that render the urethra susceptible to inflammation as the following cases will show.

Bockhart (1883) produced urethritis by the passage of a sound smeared with phlegmonous pus, in the secretion of which streptococci were found. Legrain[31] failed to cause urethritis by a first passage of a sound inoculated with a second culture of micrococcus pyogenes aureus, but succeeded in doing so a week later by repeating the same procedure. Castex caused a urethritis by catheterism in a virgin subject, aged 16 years, due to yellow staphylococci, that healed spontaneously in three days. Detan[32] (1890) related the case of a man eighty-six years old, who used a sound several times a day, resulting in urethritis, whose complications caused his death.

*Urethritis caused by ungratified erections.*—Ricord and Rodet mention cases of urethritis caused by ungratified erections. Ricord's case[2] is interesting. A physician thirty years of age, who had not had intercourse for six weeks spent the day with the girl he loved. From 10 o'clock in the morning until 7 in the evening he made vain efforts to vanquish the resistance of this lady, whose virtue would not succumb. A state of erection persisted all this time. Three days later a painful urethritis began. These cases are most doubtful, as no microscopical examinations could be made, as the gonococcus had not been discovered.

*Urethritis Caused by Masturbation.*—Bouchard and Bazy have observed cases of urethritis as the result of masturbation. During masturbation the glans penis and meatus are irritated, and may be wounded. The presence of the large number of foreign bodies found in the bladder attest to the frequency of masturbation, yet few cases of urethritis have been reported as due to this origin. Legrain[20] mentions the case quoted above, of a man, twenty-two years old, who contracted urethritis after masturbation. No gonococci were present.

*Urethritis Caused by Injections.*—When strong injections are given of corrosive sublimate, sulphate of zinc, permanganate of potash, silver nitrate, sulphate of copper, phenomena are observed, similar to those after the passage of a sound, namely simple desquamation, which is the cause of the urethritis.

*Urethritis Ab Ingestis.*—In June, 1899, a young Harvard student who had never had a venereal infection consulted me on account of a mucous discharge from the urethra. Bacteriological examination revealed the presence of numerous leucocytes, but no bacteria could be found. As the patient had been eating large quantities of asparagus, I was compelled to regard the case as due to the irritating properties of the urine caused in this way. Strong alcoholic beverages will sometimes be productive of the same affection, as evidenced by the case of a medical student, who after an evening with Bacchus, noticed a mucous secretion in the morning in which we could find only a few cocci. Legrain relates a similar case, that of a medical student who quenched his thirst with copious draughts of beer. Urethritis may also be caused by the internal administration of balsams, alcoholic tinctures, cantharides (Boutin), nitrate of potassium (Robert), iodide of potassium (Mercié), and arsenical preparations (Delacour).

*Urethritis Due to Gout, Rheumatism, or the Arthritic Diathesis.*—No incontestible case of urethritis

caused by gout, rheumatism, or the arthritic diathesis can be found in the literature.

*Urethritis of Diabetic Origin.*—No incontestible case of urethritis caused by diabetes exists, as far as the literature is known to me.

*Herpetic Urethritis.*—Urethritis may be caused by herpes. Janet reported two cases before the Congress of Urology of 1897. Fournier and Diday also describe this variety, but the case reported by Le Fur seems the only probable one.

*Urethritis Caused by Mumps.*—The authors who have reported cases of urethritis caused by mumps failed to make bacteriological examinations.

*Syphilitic Urethritis.*—Syphilitic urethritis is very rare and not acknowledged by most authors. In this connection it must not be forgoten that a urethritis may be caused by iodide of potassium.

*Tuberculous Urethritis.*—The bacillus of Koch is very rarely encountered in the urethral tract. Tuffier and Girode have found it once out of forty-one cases. Eraud in twelve suspected cases did not find it, and Guyon has shown that tuberculosis of the urethra is always secondary. Hallé never found it in the urethral secretion.

Legrain reports the case of a soldier with typhoid fever who contracted urethritis, however, micrococcus olochreucus and miscrococcus pyogenes aureus were found. No gonococci or bacilli were present.

*Pathology.*—The pathology of non-gonorrheal urethritis belongs to the study of urethral pyogenesis. The microbes that normally dwell in the urethra exert no particular action upon its epithelium, until the vitality of the cells has been lowered by irritation, such as the passage of sounds, coitus, by chemic or toxic contents of the blood and urine. The presence of even pyogenic bacteria is not sufficient to cause suppuration, until they acquire a particular virulence or until the vitality of the epithelium is lessened; as proved by the experiments of Voillemier, Legrain, and Velander, in which pus from a warm abscess, cultures of staphylococcus pyogenes aureus, and pus from fetid balanitis, were kept in contact with the normal urethra for periods of some hours without causing urethritis.

After the urethra has been chronically inflamed by a previous gonorrhea or by any other cause, indulgence in coitus renders the urethra more susceptible to germ invasion. According to Guiard toxins aspirated into the urethra during coitus with women who have gonococci can irritate the mucous membrane so as to cause a microbic suppuration. Experimentation has proved this statement to be correct. De Christmas succeeded in producing urethritis in a man who had not had gonorrhea, by injecting gonotoxin. This suggests that other toxic leucomains, when aspirated, may also produce urethritis similar to that of direct microbic origin. To explain the causes of amicrobic urethritis it is necessary to assume either that our stains do not permit us to recognize certain forms of cryptogams or to acknowledge the presence of a toxalbumin capable of producing aseptic suppuration.

The mouth is far more rich in bacteria than the urethra, yet stomatitis, tonsillitis, or pharyngitis does not develop until certain conditions modify the soil upon which the microbes live. The larynx and bronchi contain the Klebs-Loeffler bacillus, the pneumococcus, the bacillus of Koch, and other pathogenic microbes at times, yet without causing any inflammatory reaction. It is only rational to consider that the urethra should also be under the control of these general laws.

The fossa navicularis lined with stratified pavement epithelium renders a favorable soil for microbic life. The cavernous urethra lined with cylindrical epithelium renders a more unfavorable soil for the growth of microorganisms other than gonococci. The female urethra possesses similar epithelium, so that it is equally resistant to infection and it has nothing analogous to the fossa navicularis, but microorganisms are very numerous in the folds of mucous membrane at the meatus, which are bathed by vaginal and uterine secretions.

*Diagnosis and Differential Diagnosis.*—The statements made by the patients should be very cautiously accepted.

Differential diagnosis is difficult because certain claps are accompanied by even such slight discharges as are cases of non-gonorrheal urethritis. Certain patients, especially women, experience as little pain during gonorrhea, as ordinarily in non-gonorrheal urethritis, yet cases of the latter are on record in which the pain was great as in ordinary clap.

So far as duration is concerned, some cases of non-gonorrheal urethritis fail to remit to treatment and weary the physician and patient just as much as does a stubborn clap. Urethritis caused by streptococci or staphylococci can occasion complications analogous to those of gonorrhea.

From the clinical point of view differential diagnosis is therefore impossible. All that can be said is that as a rule in cases of non-gonorrheal urethritis, the incubation period and the course are shorter and less painful than in gonorrheal urethritis.

Treatment.—Cases of non-gonorrheal urethritis of constitutional origin must be treated so as to remove the exciting cause. When due to pyogenic bacteria the treatment is the same as in gonorrheal urethritis. Some cases of aseptic urethritis of unknown origin are not influenced by any form of treatment.

In conclusion it may be said: (1) The presence of pyogenic bacteria is not sufficient to cause urethritis until the vitality of the epithelium is lowered. (2) There are two varieties of non-gonorrheal urethritis of primary origin, those caused by external irritation, those due to internal irritation, chemic or toxic. (3) No incontestible cases of urethritis caused by gout, rheumatism, the arthritic diathesis, diabetes, or mumps are contained in the literature.

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## THE STOMACH IN PULMONARY TUBERCULOSIS, AND THE EFFECT OF GASTRIC JUICE ON THE BACILLUS TUBERCULOSIS.

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Recently the writer of this has come across numerous cases of pulmonary tuberculosis, and has availed himself of the opportunity to study the exact condition of the gastrointestinal canal in this disease. Every textbook and monograph on the subject devotes some space to diet in this affection, and also to the disturbances of the alimentary canal in connection with it, but to the best of the author's knowledge the subject has been treated in rather an empirical manner, without any scientific basis. If similar work has been done in this line, this work will be an addition; otherwise it will be the first.

*A priori* the writer of this surmised that hypochlorhydria or subacidity of the stomach was the prevalent condition in pulmonary tuberculosis; the more so that on being interrogated some patients affected with this disease stated that they had an aversion for meat, or at least were not fond of it. But *a priori* suppositions frequently prove to be devoid of foundation in the presence of facts, and it is then necessary to find a theory to explain the facts instead of fitting the latter into the former.

Most of the cases examined were those of men between the ages of 22 and 45, because most of the cases of pulmonary tuberculosis seen by me were in men, in the proportion of five men to one woman. The patients examined were all poor people, who applied to a certain charity organization for relief. As women apply there as much as men do, if not more, and they apply in very great numbers, it would seem that this disease is more prevalent among men than among women. But as the object of this article is not the discussion of the relative frequency of tuberculosis in the two sexes, in fact not even the disease itself, but merely the condition of the stomach in it, we shall not dwell on this point. It was mentioned solely to explain why most of the patients whose stomachs were examined were men.

Before proceeding further, it would be best to describe briefly a few cases, which will illustrate the subject better than anything else.

Case I.—A man, aged twenty-five years, born in Germany, had been in this country about a year. He had done some farming at home, and also served in the army. He was above middle size and of a very fine physique, and muscularly well developed. He had been sick with his lung trouble for about five months. A week or so previous to the examination he had a profuse hemorrhage, which afterwards continued in milder form for a few days. The patient had lost considerable flesh, was pale, weak, and had a very anxious countenance. Physical examination showed the apex of the right lung anteriorly and posteriorly affected. An examination of the sputum showed it to be literally loaded with tubercle bacilli. An examination of the stomach after an Ewald-Boas test meal, showed clapotage down to the umbilicus, and some tenderness on pressure in the epigastrium. Patient said that he had suffered even previous to the illness in question with what is usually called dyspepsia in a mild form, and he had to abstain from some articles of food, like coarse vegetables, starchy food, etc. His bowels were rather costive, otherwise there was nothing abnormal. The stomach contents, withdrawn an hour after the test meal, amounted to about 150 c.c. of well-digested food. The congo reaction was very positive, and on titration there was a total acidity of 80 and a hydrochloric acid acidity of 50.* This was evidently a case of slightly hyperchlorhydria with hypersecretion. Whether there was some pyloric stenosis in addition, or simple atony of the stomach, is of course, not easy to determine, unless the patient was kept under observation much longer.

Case II.—This was a man of thirty, born in Russia, in physique resembling the man described above. He had been well till about six months previously, when he began to feel weak and unable to continue his work as a presser in a sweat-shop. About three months later he began to expectorate, his sputum being frequently mixed with blood. When he was examined for his gastrointestinal condition, he was in the same state of depression as was the patient mentioned before. The physical signs of the lungs in this patient were quite insignificant, but his sputum was loaded with tubercle bacilli. Patient said he had never had any gastrointestinal trouble, and his bowels were regular. Several examinations of his abdomen showed no points of tenderness, and no clapotage in the stomach. An examination of the patient's gastric contents was made an hour after the ordinary test meal. The quantity that could be withdrawn amounted to about 60 c.c. It was dark, of the so-called coffee-ground color, and contained some shreds of undigested dark blood. The dark color was due to digested blood, which the patient evidently had swallowed, as he had had some hemorrhage the previous day, and his sputum was constantly mixed with blood. A chemical examination of the gastric juice showed it to be quite normal in quality, except, of course, the admixture of blood. This patient's gastrointestinal canal was then about normal so far. The quantity of 60 c.c. after a test meal might be considered a little too much, but it was not excessive, especially if we consider the patient's condition.

In this connection it may be profitable to say that the passing of black blood by the mouth or rectum does not mean that it originates in the gastrointestinal canal. Occasionally in incipient pulmonary tuberculosis the patients swallow the blood, and then they vomit it out. Sometimes one is at a loss to know whether it originates in the stomach or in the lungs, especially when one must rely on the patient for the history, and in incipient cases of consumption, where the physical signs are not marked, and when there is some tenderness in the epigastrium. But a careful study of the history, and a careful examination of the patient, should enable one to reach a diagnosis. A diagnosis should be made in such a condition as soon as possible, in order to know on what diet to put such a patient, whether the restricted diet of ulcer of the stomach, or the generous one of consumption. Of course, ulcer of the stomach may be, and is frequently found, in con-

*This is after the German method of calculating the acidity. According to the French and English method, the total acidity would be per thousand 2,920, and the HCl acidity 1.825.

nection with pulmonary tuberculosis. To this point, we shall revert.

Case III.—Man, aged 32, tailor by occupation. In physique he resembled the two men above mentioned, but was muscularly less developed. Patient had been ill with his lung trouble for about a year. He had had no hemorrhage, and though pale, yet not anxious and depressed, but felt tolerably well. He was for a few months at a sanatorium in the country. His lungs were but slightly affected at the apex, but tubercle bacilli were present in the sputum. The tuberculous process in this patient was evidently a slow one. He claimed that his gastrointestinal canal was rather good, experiencing only occasionally some disturbances. An examination of the abdomen showed clapotage in the stomach down to the umbilicus, several hours after an ordinary meal, as well as an hour after a test meal. The stomach contents an hour after a test meal exceeded 100 c.c., and reacted very slightly to congo paper. On titration the total acidity was 30, and the hydrochloric acidity 12. This was evidently a case of hypochlorhydria with atony of the stomach.

Here, then, are three tuberculous patients of nearly similar build, and yet with entirely different conditions of the stomach. We shall briefly mention two more cases, in order to present the various types of gastric trouble in consumption.

Case IV.—A man of forty, butcher, had been sick for two years, the bases of both lungs being affected. Patient was pale and weak, and complained of lack of appetite and gastric disturbances. An examination of the abdomen showed no clapotage. The stomach contents after a test meal amounted to a few cubic centimeters of poorly digested food, not reacting at all to congo. Patient could not take a full test meal owing to lack of appetite. This was a case of total absence of free HCl.

Case V.—Woman, aged 36 years. She had been sick for 18 months, both lungs being posteriorly affected. She was of small size and very weak. She said that she had frequent cramps in the stomach, and lately had been vomiting. Constipation alternated with diarrhea. An examination of the abdomen showed tenderness in the epigastrium, and a splashing sound reaching below the umbilicus. I regret to say that the patient at the last moment was overcome with nervousness and refused to take the stomach tube, and owing to her weak condition no effort was made to pass it; but from the condition of the case it seems to be one of dilatation of the stomach with pyloric stenosis, though, of course, the gastric contents would have to be studied before making the diagnosis certain.

Many other cases were examined, but the above five cases will show that one cannot tell the exact condition of the stomach in consumption before it has been thoroughly studied. It would seem that in about 60 per cent. of incipient consumption there is hyperchlorhydria, in 20 per cent. the stomach is about normal, and in about 20 per cent. there is hypochlorhydria. But these figures, of course, cannot be used for guessing as to which of the three categories a patient belongs without examining his stomach. In order to know the exact condition of a patient's stomach in consumption as well as, in fact, in other affections, it must be thoroughly examined, both physically and chemically. The above will show that the prevailing practice of prescribing a certain diet for tuberculous patients is erroneous. In fact it is altogether wrong to speak in general of diet in tuberculosis, because the diet must vary according to the individual case. The diet in the five cases described above should be entirely different in each case. Case I would be injured by a diet rich in starch and vegetables, especially raw and sour ones, whereas in Cases III and IV, owing to the lack of HCl, a diet very rich in animal food would be contraindicated. In Case II, which was normal, a generous mixed diet could be given, whereas in Case V, the diet should be altogether restricted to fluids until the condition of the patient improved. How, then, can one lay down rules for dieting tuberculous patients, as is usually done by writers on consumption? The value of alcoholic stimulants also depends on the condition of the patient's stomach. They may be good in a normal stomach and in hypochlorhydria, but they are certainly harmful in hyperchlorhydria and in catarrh of the small intestines.

In one of the patients not included in the above list examined by the writer, there was hyperchlorhydria with intestinal catarrh. The patient was treated at some institution, and he was given a mixture containing HCl for his gastric trouble. Of course, such things are excusable when they occur in a dispensary, where it is frequently impossible to make a minute examination, but when the physician desires to treat his patient scientifically, the patient's stomach contents should be examined before prescribing his diet and his medicine. From the above it will be seen that the stomach tube will do no harm in such cases, when it is introduced by experienced hands. On the contrary, in some cases the patients felt greatly relieved after the stomach was emptied. In very advanced cases one must be cautious. In such cases it is useless from a therapeutic standpoint, as the patient is doomed any way.

We shall now consider the effect of the gastric juice on the tubercle bacilli. Cases I and II, it will be remembered, had their sputum loaded with tubercle bacilli, but a careful examination of the gastric juice failed to show in it any tubercle bacilli. This was also the case in other patients where the sputum of the previous day or of the day following the gastric examination contained tubercle bacilli. In the gastric contents of Case IV, which, it will be remembered, were scanty and contained no free HCl, a few tubercle bacilli were found. Why were they not found in the gastric juice of the other patients? The gastric contents of Case II, it should not be forgotten, were black, due to digested blood. The patient evidently had swallowed his expectoration, which was loaded with tubercle bacilli; yet there were none in the gastric contents. Three reasons may be advanced to explain the above: (1) The number of bacilli swallowed were too small to be detected in the comparatively large quantity of the gastric juice. (2) The gastric juice may interfere with the staining process, and thus make the detection of the microbes in question difficult. (3) The normal gastric juice has a bacteriolytic effect on the tubercle bacilli.

We shall not attempt to discuss the first supposition; but the second and third can be proven or disproven by experiments, concerning which a few words will be said. About 10 c.c. of the gastric juice of Case II was put in a test tube and to it was added about 1 c.c. of the sputum from the same patient, and the whole well shaken up. A smear preparation on a cover glass was made therefrom, and, after fixing and staining it, tubercle bacilli could be seen. The same was tried with other samples of gastric juice and sputa, with the same result. Evidently the gastric juice does not interfere with the usual methods of staining, and when the tubercle bacilli are present in sufficient quantities they can be detected. It might be said, however, here, that the best method of fixing the smear preparation of gastric juice is by flame. Absolute alcohol, and

ether and alcohol leave a film on the preparation, which makes it opaque. The staining is by carbol fuchsin, and the decolorizing is best done by a solution of sulphuric acid, in the proportion of 1:4.

The bacteriolytic properties of the gastric juice can be determined by experiments. I have, in a previous article,* described the microbes which are usually found in the normal gastric juice, and in hyperchlorhydria, as well as in other conditions. As a rule yeast is found in the two conditions, and a small bacillus, which will be described elsewhere in detail. This would show that the normal gastric juice is bacteriolytic to a great many microbes, for in hypochlorhydria microbes are found which are never found, at least in cultures, in normal gastric juice. Whether the gastric juice is bacteriolytic to the bacillus tuberculosis, and if so, to what an extent, will be seen from the following experiments:

About 8 c.c. of natural gastric juice containing about 2 per thousand of HCl was put in a test tube, and to this was added about 1 c.c. of sputum very rich in tubercle bacilli. One must be careful not to add too much sputum, in order not to weaken the gastric juice too much; nor too little, in order to be able easily to detect the microbes in smear preparations. A smear preparation was immediately made of the above mixture, and many tubercle bacilli were detected. There were also present some streptococci and rod-shaped bacilli from the sputum. The above mixture was put away at a temperature of 38° C., and another smear preparation was made at the end of six hours, but the microbes were apparently not diminished in number. In twenty-four hours the streptococci showed diminution in smear preparations, but the tubercle bacilli did not. In forty-eight hours the streptococci had almost entirely disappeared, and there was an apparent diminution of the tubercle bacilli. The ends of some of the latter appeared ragged, as if eaten away, and some individuals were only about a third in length, as compared with the others. No such short rods were noticed at first. At the end of the sixth day not a single tubercle bacillus could be detected by carefully examining many microscopic fields, though they could be easily found at first. The streptococci disappeared much earlier.

These experiments were repeated with several samples of gastric juice and of sputum. It appeared that some tubercle bacilli of some sputum were more resistant than others. The short, thick, rod-shaped tubercle bacilli appeared to be more resistant than the long, slender forms. If, in a day or so, we add a little fresh gastric juice to the mixture of sputum and gastric juice, the bacteriolytic process is hastened. If the gastric juice is imperfectly filtered and contains a number of food particles, and also the bacteria proper to normal or hyperchlorhydria juice, namely, yeast and the bacillus referred to above, the process is much quicker, and sometimes at the end of three days the tubercle bacilli disappear. Of course, the more sputum is added the slower the process.

It must be said that in the sputum the tubercle bacilli can be detected for months. The writer has tuberculous sputa kept in well-stoppered bottles for the last six months, and the tubercle bacilli, instead of disappearing, on the contrary, seem to have increased, and are more easily detected than in fresh sputum.

Of course, animal inoculation could be made; but in the case of tubercle bacilli, this is a very tedious and uncertain process, and after all it might not be conclusive.

It thus seems from the above that the normal gastric juice is certainly bacteriolytic to the tubercle bacilli; but *in vitro* the process is very slow. The question is, how rapid is it *in vivo*? The process of digestion in the test tube is, on the whole, much slower than in the stomach, into which is constantly being poured fresh gastric juice, and in which the food undergoes a churning movement. There is no question that microbes are much more speedily destroyed in the stomach than in the test tube. It is evident from the fact mentioned above that the microbes from the sputum, which are usually found in the stomach in hypochlorhydria, are absent from the stomach in hyperchlorhydria, and also when the gastric juice is normal. But can the tubercle bacilli pass through a normal stomach into the intestines, and, if they can, are they still virulent enough to cause disease? It would seem that ordinarily they cannot, and if they do, they are no longer virulent enough to cause disease, and hence the comparative infrequency of tuberculosis of the alimentary canal. But, in hypochlorhydria, they undoubtedly can. In a normal stomach and in hyperchlorhydria also, by repeated ingestion they may find opportunities to slip through and cause disease. The writer found in the feces of some individuals suffering from hyperchlorhydria microbes which were not found in their stomachs. Evidently these microbes had found an opportunity to slip through the stomach, for it is hard to say how they penetrated otherwise into the intestines.

The frequency of hyperchlorhydria with hypersecretion in pulmonary tuberculosis, will explain the frequency of ulcus ventriculi in this disease, as these conditions of the stomach when long neglected may lead to ulcer. It is not likely that the tubercle bacilli will be able to fasten themselves to the stomach in the presence of free HCl.

By paying early attention to this organ, treating it on a scientific basis, and not at random, many grave complications can be avoided.

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*Medical Record, November 19, 1904.

## THE TREATMENT OF PERFORATIONS OF THE TYMPANIC MEMBRANE, WITH ESPECIAL REFERENCE TO THE USE OF GUTTA-PERCHA TISSUE.*

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Perforations of the ear drum occur commonly as the result of traumatism, surgical procedures, and collections of serum or pus in the middle ear. Under traumatism we include the thrusting of foreign bodies through the membrane by way of the aural canal, concussion from discharges of artillery, lightning, etc., and fractures of the base of the skull. These causes necessarily determine the shape, size, situation, and to a large extent the prognosis as to healing, of such solutions of continuity. It is the purpose of this paper to indicate the methods of managing these perforations in order to secure prompt healing, with as little disturbance to the function of hearing, as possible.

Ruptures due to concussion, or to basal fractures are usually linear slits of greater or less extent, and as a rule heal promptly if let alone. The treatment is therefore purely expectant, and is directed to preventing infection of the middle ear. Such ruptures are often covered completely by a blood-clot, which acts both as a splint to keep the edges of the rent in apposition, and as a shield against infection. Healing, under these circumstances, takes place in a few

*Thesis presented at ninth annual meeting of the American Laryngological, Rhinological, and Otological Society.

hours or days, with entire restoration of function. Perforations, on the other hand, resulting from accidental puncture by foreign bodies, are slower in closing and more apt to become infected. The rupture is likely to be more extensive and irregular, and the intruding body is prone to carry with it pus producing bacteria into the tympanic cavity. The treatment of this variety of perforation depends upon the size and situation of the lesion, and its condition when it comes under the notice of the surgeon. If small, and particularly if it is situated near the lower margin of the membrane, the rupture may be covered by a small blood-clot which it would be unwise to disturb. When, however, it is large, and there is reason, from the nature of the penetrating body, to fear suppuration, or when suppuration has already begun, it is best to cleanse the parts by syringing, to inflate gently the middle ear through the eustachian catheter; and to pack the canal loosely with sterile or mildly medicated gauze. If, after removing the gauze a few hours later, we find the field clean, and can feel reasonably sure that suppuration will not occur, healing will be hastened, and the deafness and subjective noises greatly relieved, by covering the perforation with a disc or patch of tissue or sized paper, as suggested by Blake. By this means, the edges of the rupture will be kept quiet and in close apposition, and the middle ear sealed against infection from the canal. Cargile membrane (an animal tissue prepared from the peritoneum of the ox) acts very well in these cases, but is not easily handled or kept sterile. A substance which is always procurable, readily sterilized, and which approaches nearly in elasticity and texture to the drum itself, is the ordinary thin gutta-percha tissue, used in surgery for drains, dressing, etc. The patch should be cut large enough to cover the perforation and afford firm attachment to the surrounding healthy membrane. Under this plan of treatment the opening will heal in from two to five days, depending on the degree of laceration and amount of tissue lost, and will heal, moreover, with less cicatricial tissue formation, than if left to close in the ordinary course of nature. This method is only applicable in the absence of suppuration. When this occurs, and cannot be stopped immediately, it is best to treat the case as an ordinary running ear.

Perforations of the drum due to collections of serum or pus within the tympanum (acute catarrhal or acute purulent otitis media) may be divided, for our present purpose, into those of recent and of long standing. The latter may be the result of chronic suppuration, or simply remain unclosed after an acute suppuration has ceased. Ordinarily, perforations from acute otitis close, with the formation of a larger or smaller cicatrix, soon after the ear stops running. In other instances, they are slow in closing, or remain open for an indefinite period. In still other cases, the margins of the perforation adhere to the promontory, shutting off a portion of the tympanic cavity from the outer world. Or the rupture may heal with a thin cicatrix which falls inward and becomes attached to the inner wall of the middle ear.

It is vain, as it would be unwise, to attempt to heal a perforation through which pus is evacuating itself. The indication in many cases is to increase rather than narrow the channel of escape. When, however, in a subsiding acute otitis media, the opening is slow in closing, and on performing the Valsalvian experiment, nothing or only a drop of serum escapes through the perforation, it is best to take measures looking toward the closure of the rupture, since it may admit new infection to the tympanic cavity. The edges may be stimulated to new activity by the instillation of astringent drops into the ear, or by the application, on a cotton-tipped probe, of a solution of nitrate of silver in strength from twenty to sixty grains to the ounce, to the margin of the perforation, every two or three days. Here, again, the rubber discs will be found of service. Their application will promote rapid growth by keeping up a small degree of irritation, by affording quiet to the vibrating edges, and by giving support to the new epithelium. Audition will be instantly improved in many cases, and subjective sounds will disappear or be considerably lessened.

When the perforation has existed for months or years after suppuration has stopped, its edges will be found thickened and to consist largely of fibrous tissue, possessing little vitality or power of growth. To induce a new growth, it is first necessary to remove this fibrous edge, either by paring it off with a thin, sharp knife, or applying a caustic before putting on the rubber patch. The prognosis as to healing in these old cases, depends on their size, and the nutrition and age of the patient. Perforations occupying a portion of one quadrant, *i. e.* less than one-quarter of the total area of the drum, offer a good prognosis in well-nourished persons under middle age. Large, kidney-shaped perforations, occupying the major portion of both lower quadrants, on either side of the manubrium, it is practically impossible to close. No time limit for healing can be set. A perforation may show, under treatment, no tendency to close for weeks or months, and then suddenly heal in a few days.

It is in the last-mentioned class of cases that the rubber tissue has given most satisfaction. Here we have in mind the relief of the existing deafness as well as the closing of the perforation. Loss of hearing power may be due to the opening in the drum, or to the deposit of fibrous tissue about the ossicular chain, or to both. In the first case, the application of a thin, elastic, closely-fitting patch will have the effect of practically making whole the drum, and audition will be doubled or trebled instantly in many instances. Where there is ankylosis of the ossicular chain, immediate improvement will be only moderate, but hearing will increase with regular inflation by the catheter. The excursions of the drum, under inflation, with the patch *in situ* will be more extensive, and the consequent movement of the ossicles will be more effective than without it. It is not unusual to gain an immediate increase in whisper perception from a few inches to several feet. In other cases, the improvement in the affected ear will be slight, and yet the total gain in function quite marked.

In exploratory or other operations upon the middle ear the surgeon is often obliged to make large openings in the drum. In this procedure, unless the initial puncture be made with a bead of chromic acid, there is no loss of tissue, and if the flap is accurately replaced and the operation is done under antiseptic precautions, healing occurs rapidly. The flap may be held accurately in place, and protected from infection by covering it with the disc of rubber as previously indicated. When these operations are undertaken for the division of adhesive bands between the drum and the inner wall of the tympanum, it is of first importance that the inflation be carried on at frequent intervals from the very beginning, without waiting for the opening to heal, in order to prevent reformation of the adhesions. This object can be attained perfectly by the use of the rubber discs.

*Technique.*—In applying a patch to the drum, a piece of rubber is selected which is about twice the size of the hole to be covered. The canal and drum are thoroughly sterilized by syringing and mopping,

and dried. If necessary, the edges of the perforation are pared or touched with nitrate of silver. The disc is carried in to the drum by means of forceps or a cotton-tipped probe through a speculum if small, without it if too large. It is then pushed into position and the edges pressed down firmly all around. No adhesive material is necessary. The rubber is most conveniently sterilized by keeping it in alcohol or other antiseptic for a few moments, while other preparations are being made. Many patients can tell instantly when the disc is accurately in place, by the sudden improvement in audition. Inflation by Valsalva's method, or by the catheter will afford evidence as to whether or not air is passing through the perforation. The application being by these means found satisfactory, the operation is completed by dusting the field lightly with finely powdered boric acid.

To remove the disc, a sharpened probe with its point bent at right angles to the direction of its length is necessary. The point is slipped between the drum and the disc, and the latter loosened and lifted off. This must be done with care to avoid giving the patient pain or damaging the drum. The disc may also be removed by syringing, or by means of peroxide of hydrogen. Marginal perforations are covered by allowing a portion of the patch to bend upon itself and rest upon the contiguous wall of the canal. The rubber, especially if slightly warmed, adapts itself to any irregularities of surface.

After the disc has remained in place for ten days to two weeks, the improvement in hearing, first noted, begins, in some cases, to diminish. This is due to the fact that the disc has become loosened by the casting off of the superficial layer of epithelium under it and the drum is no longer "air tight;" and possibly to the circumstance that the rubber loses its elasticity after a time. At this point it is best to remove the disc, prepare the field as in the beginning, and apply another piece of rubber, when the patient will regain his former improvement. In the presence of only a small degree of stiffness in the ossicular movements, this will improve by restoring the normal vibratory movements of the drum. Regular inflation by the catheter will do much to help things along, and in cases having a considerable degree of ankylosis, this is imperative.

The advantages of using gutta-percha tissue in perforations of the drum may be summed up as follows:

1. It is convenient, easily sterilized and applied.
2. It is flexible, remains in place for a long time, and requires no adhesive material.
3. In large perforations it has the advantage over the various forms of artificial ear drums in not causing pain or irritation or setting up a discharge. It helps to heal at the same time that hearing is being improved. It is, on the other hand, useless where the drum is entirely gone, or where there is much damage to the ossicular chain.
4. Healing is rapid and the formation of scar tissue, which is likely later to give way or become the seat of calcareous deposits, is reduced to a minimum.

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**Diachylon as an Abortifacient.**—Geo. J. Stone cites the history of a patient who aborted in February. She denied taking any drug. As she had amenorrhea in March and April, she repeated her doses of diachylon pills. The writer when called to see her, on April 17, found all of the cardinal symptoms of plumbism—including wrist-drop—markedly present. He then discovered the three months' lead administration.—*British Medical Journal.*

## TRANSVERSE INCISION IN ABDOMINAL OPERATIONS.

By A. E. ROCKEY, M.D.,

PORTLAND, OREGON.

Are the usual lines of incision in operation on the lower abdomen based on correct anatomic principles? We think not. Ease of access to that portion of the cavity implicated is, or was, the first thought of the surgeon. Early in the history of abdominal surgery, intrapelvic operations were done through incisions reaching nearly to, and even beyond the umbilicus. Tait was the first to advocate short incisions, and through his teachings and the general improvement in operative skill, the large incision is now reserved chiefly for the delivery of large solid tumors, other operations being done through much shorter incisions than formerly.

The same thing was true in appendicitis. Ghastly gashes were made directly through all tissues, until McBurney developed the intermuscular incision and Robert T. Morris demonstrated that the average operation in subjects not too fat could be done through an inch and a half opening.

Pelvic operations are still done through vertical, and appendectomies through oblique incisions. If ease of healing and strong and minimized cicatrix are to be considered, then these incisions are wrong for the reason that they cross the lines of cleavage in the skin instead of following them. These lines in the skin of the lower abdomen are parallel to the wrinkles, being transverse with a slight downward curve. They represent the line of least tension and greatest elasticity. For that reason, approximation requires fewer and finer sutures. Incisions for pelvic operations and appendectomy along these lines heal more readily, and there is no tendency to subsequent spreading of the scar as is commonly seen after the vertical or oblique incision. In such pelvic operations as salpingectomy, ventral suspension, etc., the short transverse incision has the additional advantage that it may usually be made through the part covered by hair and is consequently invisible except on the closest inspection. The cutaneous incision is made through the fat and to the aponeurosis of the muscles, but not through them in this line, as described by Stimson in the *Annals of Surgery* for August, 1904. When the aponeurosis of the muscles is reached, the superficial tissues are drawn forcibly upward with a curved, solid retractor, the separation being done by the gloved finger, aided if necessary, by a few snips of the scissors. The usual vertical incision through the rectus or in the linea alba is now made. Retractors with a short, slightly curved solid blade should be used. Pronged retractors should be discarded in abdominal work. It is of advantage sometimes to have a second assistant to hold retractors, though for ordinary operation it is not necessary.

A two-inch transverse incision may be stretched by the retractors to cover a two-and-a-half or even a three-inch vertical incision, and this is quite sufficient for ordinary pelvic work. Through this opening it is also quite possible to remove the appendix when desired, as I have frequently done in connection with pelvic operations. The cecum is caught with smooth-bladed sponge-forceps and drawn into the operative field. When it is necessary to have more room, it is easily obtained by extending the transverse superficial incision along the curve to the iliac spines, thus giving room for a vertical incision to or even above the umbilicus. I have done a hysterectomy for fibroids, removing masses as large as two fists, through a three-and-one-half or four-inch transverse incision.

Operations along these lines in pelvic disease have been done before, both in this country and abroad by other surgeons, to whom priority is cheerfully conceded.

I desire first to add my endorsement of the superiority of the method, and second to apply the same principle to operations on the appendix and cecum, to exploratory laparotomy on the right side, and to colostomy and resection of the colon with the anastomosis on the left side.

In operation for appendicitis, the transverse incision has a field of usefulness and points of advantage quite equal to its employment in pelvic operation. The operation for ordinary acute, unruptured appendicitis, or the interval operation is done through a transverse incision, slightly less than one and one-half inches in length, crossing McBurney's point at its center. This incision should lay bare the aponeurosis of the external oblique. Narrow retractors should be used and the incision completed on McBurney's lines. I sometimes do the entire appendix or pelvic operation with scissors, though as a rule, I prefer a small scalpel for the cutaneous incision and then finish the deeper incision of either operation with scissors.

The advantage of this incision is that it falls along structural lines in the skin. The fibers of the aponeurosis of the oblique may be readily separated to twice the length of the external incision, thus giving easy access to the transversalis, which, being the heavier and deeper, is then in line with the external opening, thus giving a maximum exposure with a minimum incision. In this operation, the peritoneum is incised transversely. In fat subjects, a two-inch incision is necessary. When it is desirable to obtain more room, it may be done first by extending all incisions along the lines described. If a very large exposure is necessary, the superficial incision is extended to the median line and the incision in the oblique carried across the rectus. The sheath of the rectus is then incised along the outer side of the muscle, both above and below the transverse incision. This incision will give ample access to the parts in the most complicated cases of appendicitis, and through it resection of the cecum and anastomosis for malignant disease may be done.

In the few cases where abdominal drainage is necessary, it may be effected either at the point where all the incisions cross, or through a small slit in the aponeurosis of the external oblique where the outer end of the cutaneous and deep muscular incisions overlie each other. For this I commonly use a twist of four, eight, or even sixteen strands of number three catgut. In mild degrees of infection, the deep tissues are better able to take care of themselves than the subcutaneous. It is my custom in pus cases of moderate severity, where the peritoneum retains a fair integrity, to clean the cavity carefully and close the peritoneum and muscular layers without drainage. In these cases it is well to introduce a twist of four strands of catgut for superficial drainage. In all clean cases, the wound should be carefully closed and a dressing of gauze sealed in position by a border of adhesive plaster, a device which I call a "box dressing." A heavy fold of sterile gauze about two and one-half inches wide and an inch beyond the ends of the wound is surrounded by a frame of one-inch adhesive strips. This may then be covered by the ordinary laparotomy pad. For suture, I use double naught (oo) black silk with a fine, sharp, half-curved needle in a Truax thumb-and-finger needle-holder, and a make a buttonhole stitch.

I recently demonstrated the amplitude of exposure through this incision on the left side, by resecting seven inches of the descending colon for malignant disease and making an end-to-end anastomosis. The man was large and the abdomen fat. There were two assistants to hold retractors in addition to the regular assistant. The exposure was sufficient and the operation was completed with facility.

Last week, I was able to prove its usefulness in a most complicated case of appendicitis. The woman had been ill two months. Recently an abscess had broken into the vagina and was discharging a most foul-smelling pus. A transverse cutaneous and fascial incision was made along the curve of the wrinkle from just below the anterior superior spine to the median line. The aponeurosis of the oblique was divided on a line crossing this a little outside of the middle and extending across the sheath of the rectus at the lower end, and well into the flank at the outer end. A vertical incision was carried upward along the outer border of the rectus. A vertical opening was made into the peritoneum. The appendix had entirely sloughed off. At the site of its normal attachment to the cecum was a hole an inch in diameter. The appendix was found behind the cecum, its tip resting at the outer side of the kidney. It was removed. The hole in the cecum communicated with a cavity in the pelvis containing milk curds and fecal matter. There was a small opening into the vagina. The vaginal opening in the cul-de-sac was enlarged and a vaginal douche given from above. The hole in the cecum was closed. Drainage was made through the vagina by a large fenestrated rubber tube, the upper end being fastened laterally to the abdominal wall back of the cecum with one catgut stitch. The abdominal incision was closed and the patient put to bed in Fowler's position. I had one assistant, and there was ample room through this incision. At the time of writing the patient is making a good recovery.

We sometimes see patients with a history of right-side abdominal pain of indefinite location. There may have been several attacks, some confining to bed for a few days or a week. One physician has diagnosed the case as appendicitis, another as renal colic, and yet another as gallstones; the patient himself thinks the trouble is all in his stomach, his appearance is that of one suffering from malnutrition; physical examination is practically negative. This is not an overdrawn or rare picture. In a recent case of this kind, the following operation was done: A three-inch transverse incision was made with center one inch above McBurney's point. A four-inch incision was made in the aponeurosis of the oblique crossing the center of the transverse incision. A three-inch vertical incision was made upward along the outer border of the rectus. A vertical incision was made in the peritoneum. The pylorus, duodenum, gall bladder and kidney were easily palpated. The fundus of the gall-bladder was exposed to view, and a portion of the stomach was drawn into the wound for inspection. They were all normal. The appendix was covered completely with old adhesions which bound it in a sharp kink. It contained three concretions. It was removed and the wound was closed.

When in doubt, explore. This transverse incision enables us to do it, and the small scar of a well-healed strong abdominal wall is not a reproach to our conscience or a reminder of uncertainty in diagnosis.

The superiority of the transverse incision in operations on the lower abdomen is becoming more evident to me as my experience increases. I have used it now almost exclusively, for over two years and have done hundreds of operations by this method.

526 Marquam Building.

MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, November 11, 1905.

## CONGENITAL CONTRACTIONS AND CLOSURES OF THE DIGESTIVE TRACT.

DURING the last few decades this subject has been accorded increasing attention by surgeons, obstetricians, and pathologists. The isolated cases, which until a comparatively recent date have been accounted rarities, have increased in number from year to year, so that now we are in possession of a considerable amount of statistical information on this subject. This knowledge has not, however, led up to any improvement in the prognosis, and the unfortunate children thus afflicted, who may be perfectly normal in other respects, must sooner or later succumb to their hidden anomalies. The symptomatology has now been developed to such an extent that a diagnosis need no longer wait on the autopsy knife, and the surgeon has been encouraged to resort to even extreme operative measures in the attempt to restore normal conditions. Simultaneously with the development of this practical knowledge, the pathologist has sought to shed light on the pathogenesis of the anomaly, but his want of success is shown by the large number of theories which have been advanced to account for the condition.

It is possible to divide the malformations of the alimentary canal into two classes, in the first of which must be included those met with in the various types of monsters, the organic perversities of which cannot be subjected to any rational form of embryological analysis, and also those abnormalities in the region of the mouth or anus, which are caused by some disturbance in the development of the ectoderm and its derivatives. The second class comprises those atresias and stenoses which occur in the regions of the primitive fore, middle, or hind gut, and are purely entodermal in origin. These are limited to the esophagus, stomach, and small and large intestines. Hitherto it has not been possible to explain the anomalies in the latter class by any constant etiological factor, the abnormality being usually ascribed to a mechanical or an inflammatory process. A much more satisfactory insight is afforded in a theory evolved by E. Kreuter (*Deutsche Zeitschrift für Chirurgie,* Vol. 79, No. 1), which is based on recent advances in the knowledge of the development of the digestive tract in the human fetus. His observations include the careful study of a series of ten early human embryos, and although most of the facts have already been known, their application to the explanation of the phenomenon under discussion may be justly considered original. It is not possible to present here the detailed observations, but the most important point noted is the fact that some time during a period extending from the fifth to the tenth week of fetal life, there is regularly to be found a complete closure of certain portions of the alimentary canal, which persists for a definite length of time and is then followed by the development of the lumen of the tract. In embryology, instances are not uncommon where an organ, which is later on to be provided with a lumen, is "laid down solid," as they say in German. Then again, the latter designation may also be applied to other instances where the cavity of a preformed hollow organ becomes secondarily obliterated by embryonal proliferative processes, and must be restored at a subsequent period. Such a "solid" state of the esophagus has been observed in many other vertebrate embryos and has now also been demonstrated in the human fetus. In other words, an atresia results from an overproduction of the cells lining the primitive digestive tube, but disappears when the gullet increases both in length and width, and its surface is enlarged by the development of the characteristic longitudinal folds. Similar phenomena are found to occur in other portions of the primitive alimentary tract, and Kreuter's theory is that a persistence of the phase of development alluded to will satisfactorily account for the malformations in question. If the embryonal obliteration is complete and remains so while the growth in other parts continues, then an atresia results; if the lumen is partially restored, then a stenosis, the altered entoderm being replaced in the course of time by connective tissue. There are many elements of plausibility in Kreuter's theory, and above all, it does not conflict with either clinical or pathological experience. So far as the prognosis is concerned, this necessarily must remain unchanged, for now that we have been made acquainted with the probable pathogenesis of the condition, the hopelessness of any efforts to relieve obstruction must be even more apparent.

## THE NATURAL DEFENCES OF THE ORGANISM AGAINST INFECTION.

ABOUT twenty years ago, Metchnikoff brought forward his theory of immunity against infection, which was based on the phagocytic action of certain cellular elements of the blood. Although this brilliant discovery was formerly quite generally accepted, there has been a tendency recently to discard it in favor of other conceptions, in which the normal or an acquired bactericidal property of the blood and body fluids is given the credit for resisting the invasion of pathogenic microorganisms. The factors of truth in the phagocyte theory as demonstrated by Metchnikoff and his followers, are too evident to be simply set aside for suppositions which are much less tangible, and show considerable limitation when applied to certain phenomena which characterize the defensive efforts of the body against disease. These limitations to the theories of Nuttall, Buchner, Erlich, and their adherents, need not, however, detract from their work, the results of which have been of great importance in elucidating the problems of immunity in general. Buchner's theory that natural immunity against bacterial infection is due entirely to the

presence of specific bactericidal substances in the blood, finds its strongest contradiction in the fact that in the case of certain animals which are refractory to infection by particular organisms, no such bactericidal power exists in the blood. Thus it has been shown that the great tolerance of the rat to diphtheria toxin and that of the chicken to tetanus toxin, is not due to the presence of an antitoxin in the blood of these animals, but merely to the affinity of certain cells in the body for such toxins, in this way protecting the cells of the central nervous system against the action of these poisons.

The studies of Bail have opened up another phase of the question. Infection experiments with anthrax, cholera, and typhoid fever in animals, prompted this writer to formulate his so-called "agressin" theory, according to which the disease-producing properties of a pathogenic organism are dependent upon the degree to which it has acquired aggressive powers to overcome the natural defences of the body, these being in large part cellular in their nature. This "aggressin" probably manifests some sort of a negative chemotactic action, affecting neither the life nor the activity of the leucocytes, but merely preventing them from exerting their effects. Wright and Douglas have also made investigations which demonstrate that the leucocytes themselves are incapable of taking up the invading bacteria until the action of phagocytosis has been inaugurated by a substance which is normally present in the blood serum, and which has been named by them, "opsonin." The latter exerts a peculiar effect on the bacteria, and, if the serum is heated to 50°-55° C., this property is lost and the leucocytes are apparently powerless to manifest their phagocytic properties. These observations have since then been confirmed by others.

In a recent investigation by D. H. Bergey (*University of Pennsylvania Medical Bulletin*, October, 1905), on the pathogenic properties of *Bacterium pseudodiphthericum* for guinea pigs, it is also shown how the phagocytic cells of the body exert a marked influence in preventing infection. Cultures of a low degree of virulence excite a more characteristic cellular reaction than those of a higher type, for in the latter case the cellular reaction appears to be overpowered in a short time and the animal succumbs to the inoculation. Following the intraperitoneal injection of large quantities of such organisms, there is induced a marked extravasation of leucocytes, principally polynuclear, which proceed to engulf large numbers of bacteria very rapidly. In addition there are also found the large mononuclear cells which are engaged in the act of ingesting the dead polynuclear cells filled with bacteria. These cells were called by Metchnikoff "macrophages," and in a number the bits of protoplasm from the polynuclears could be seen undergoing a process of digestion. If virulent cultures are employed for the injections, a relatively small number of phagocytes appear in the exudate, which is explained as being due to the increased "aggressive" property of the bacteria, and which, as already mentioned, is in the nature of a negative chemotaxis. In addition to this there also appears to be an inhibition of phagocytosis, and it is very probable that the acquirement of virulence by an organism rests upon these two factors. It seems not improbable from these observations that we have been a little too hasty in accepting the serum theories of immunity and defense without restriction, and that in many forms of infection, at least, the most important protective influences are exerted by the cellular elements of the body rather than by the blood and other fluids.

## THE ELECTRIC CONDUCTIVITY OF THE URINE.

The refinements which clinical laboratory methods have attained during recent years have been particularly marked in their application to the diagnosis of diseases of the kidney. In order to determine the indications for certain operations on this organ, it became necessary not only to gauge its functions, but also its functional capacity. In other words if it has been decided to remove one kidney, it is essential to know whether the remaining one will carry on the process of elimination unaided. In one class of methods this end is achieved by attempts to determine the functional activity of a kidney by testing the molecular, that is, the osmotic concentration of the voided urine. This includes cryoscopy and the estimation of the electric conductivity. The other group consists of methods for judging the character of the secreting renal epithelium, by introducing certain drugs into the circulation which act as stains and are known to impart a color to the urine after a certain length of time. The time which elapses before the apearance of the resultant stain and also its intensity afford a means for determining the condition of the kidney.

It has been found, however, that these procedures are by no means absolutely constant in their results, the latter depending on changes in the food, on exercise, etc., and no normal standard has been satisfactorily established with which they may be compared. A method is desirable which shall be sensitive and yet the end to be gained must not be subjected to the possibility of gross errors nor only to be worked out by the aid of extensive mathematical calculations. G. Kolischer and L. E. Schmidt (*Chicago Medical Recorder*, September 15, 1905) have attempted to devise such a method, in which every kidney would be a standard unto itself. They claim that the functional energy of the secreting epithelium may be tested by measuring the reaction that will occur if certain influences are brought to bear on the secreting portions of the renal parenchyma. They found that the electric conductivity would afford the most sensitive test, if a stain were used which would remain inert to the disassociating influences of the electric current. Indigo carmine was found to meet the required indications fully. It was learned that there is no absolute congruence in the electric conductivity of two specimens of urine taken at the same time from either kidney in a normal individual, but the introduction of the stain alluded to was always found to lower the conductivity. In the case of diseased kidneys, the electric conductivity was increased much beyond that observed in normal specimens and correspondingly decreased when even the slightest traces of stain appeared in the urine. This range of values could be quite accurately gauged, and among other things apparently demonstrated was that there may be cases of one-sided nephritis, a point still very much in dispute. The test proposed seems to be a truly functional one

inasmuch as the simple adding of the stain to the voided urine does not give rise to the same differences in the electric conductivity which result when the stain is brought directly into the circulation. There are many possibilities suggested by this investigation, and among others the fact that we may be able, before the administration of a general anesthetic, to tell whether the latter will produce any undesirable reaction on the kidneys. Further confirmatory researches along these lines are very desirable.

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### Insomnia.

Sleep, as Sawyer truly says, is a function of life, and life is itself dependent upon sleep, in man, in the animals which are a little lower than he is, in some sorts of plants, in everything which lives. The organism which cannot sleep cannot live. With regard to the physiology of sleep, Dr. Waller, referring to the cerebral circulation, says: "Although there is no doubt that in coma—a pathological state similar in some respects to physiological sleep—the cerebral vessels are congested, the observations of Durham on the exposed cerebrum of sleeping dogs, and of Jackson on the retinal vessels of sleeping infants, are to the effect that vessels shrink in sleep, and we may therefore feel reasonably assured that the sleeping brain, in common with other resting organs, receives less blood than in its state of activity. Moreover, Mosso's investigations on exposed human brains affords evidence that the organ becomes more vascular during mental activity." Howell believes that sleep is caused primarily by the diminution of cerebral blood supply which results from the relaxation of tone in the vasomotor center and the consequent fall of the arterial pressure. Fatigue of the vasomotor center is supposed to be induced by the constant instreaming of sensory impulses during the day's activity. These impulses produce reflex pressure effects and keep up a constant excitement of the center. When the center is exhausted the tone of the blood-vessels relaxes, the arterial pressure falls, the brain becomes anemic, and sleep ensues. Hill coincides with these views. Foster aptly points out that sleep concerns the whole body and not the brain alone. The amount of sleep required by a healthy person depends upon age, occupation, idiosyncrasy, and the quality of the sleep. It may be stated in a broad way that for the average adult in good health, from six to seven hours' sleep is sufficient. Persons of weak intellect, the very young, and the old need in increased amount of sleep. Insomnia is a symptom of disorder or disease, and to be successfully overcome, the cause of the condition must be discovered and treated. Sawyer says there is no "rule of thumb" for insomnia, but whatever the cause of sleeplessness, a holiday, with complete change of scene and with distinct change of activities, will often do much to cure. In all cases of insomnia the bedroom should be well ventilated, and of moderate temperature. Light should be carefully excluded, and the apartment should be scantily furnished. The bed should vary according to the habits of the individual and the covering should be light but warm. The bedroom window should be open all night and all the year round, but draughts should be avoided. A little nourishment just before going to bed acts as a soporific with some persons, while sometimes sleep may be induced by the temporary application of cold to the body or head. Out-of-door exercise should be practised by those afflicted with insomnia, but fatigue should be avoided. Sleep, like food and drink, is a primal necessity, and when the appetite for it is lost, the individual should take it as a warning that something is wrong with the machinery of his mind or body, and should forthwith proceed to endeavor to remedy the defect.

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## News of the Week.

**A Proposed Antivivisection Law in Massachusetts.**—Inspired perhaps by the author of several stories depicting the "brutality" of the vivisectionist, a Massachusetts legislator proposes introducing this winter a bill "to prohibit all experiments under any circumstances and for any purpose whatever, with or without an anesthetic, upon dogs or cats." A petition is now being circulated through the State, and the parties behind the measure hope to present many thousands of signatures in favor of the bill when it comes before the Legislature. We suppose the friends of scientific progress are equally alert to prevent the passage of such a foolish measure.

**How the Pneumococcus May Acquire Virulence.**—In the weekly bulletin of the Health Department of Chicago, Dr. Bielin gives the substance of the report of his investigations in regard to the pneumococcus, as follows: "Rabbits injected intravenously with the sputum of a single healthy person failed to develop pneumonia; injections with the mixed sputa of two or more healthy individuals never failed to produce a typical pneumococcus infection. These results demonstrate, among other things, the wide diffusion of the pneumonia germs; they are present in the secretions of the mouth and throat of the vast majority of healthy individuals, usually lying dormant and inactive. Mixed with the germs of others, they develop the disease. The practical point for prevention is the necessity of avoiding all unnecessary contact with a pneumonia patient, and the further necessity on the part of other members of the family, nurses, and attendants, for sterilizing their throats during the course of the disease."

**The Medicolegal Section of the Fifteenth International Medical Congress.**—The committee in charge of the International Medical Congress, which will be held in Lisbon from April 19 to 20, 1906, requests contribution of papers on the following medicolegal subjects: The signs of virginity and of defloration in medicolegal relations. Hand marks and finger prints; their medicolegal importance. The medicolegal importance of the carunculae myrtiformes. The mechanism of death by hanging. The value of bacteriological examination of vulvovaginal discharges in the determination of venereal contagion. The signs of death by drowning. Ecchymoses in legal medicine. Spontaneous and criminal abortions from a medicolegal point of view. Medicolegal investigation of blood stains. The relations between the seat of cerebral contusions and the point of application of the agent which produced them. Epilepsy in legal medicine. The induction of abortion; when is it permissible? The value of legal medicine in the study of criminal law. The best legislation for the protection of the "medical secret." The effects of the civil and penal law towards the newborn living infant. Distinction between the natural openings in the hymen and tears of this membrane. Criminal vulvar copulation. Organization of medicolegal services. Anyone who may intend to take part in the discussion of any of these topics is requested to communicate with Dr. Ramon Guiteras, Secretary of the American National Committee, 75 West Fifty-fifth street, New York.

**Tuberculosis in the Public Schools.**—The Minnesota State Board of Health has issued a circular to county superintendents of schools forbidding the employment as teacher of any person suffering from tuberculosis and debarring children suffering from that disease from admission to the schools. The order was issued not only to safeguard the public health but also for the benefit of the sufferers themselves, who could not be in a worse place than closely confined to a schoolroom.

**Tuberculosis in Ireland.**—The U. S. Consul in Dublin reports that the deaths from all forms of tuberculosis in Ireland during the quarter ended June 30, 1905, numbered 2,984, a figure which represents an annual rate of 2.72 per 1,000 of the estimated population of the country, and is 15.2 per cent. of the total number of deaths (19,616) registered during the period.

**Medical Reciprocity.**—As was stated in these columns two weeks ago, at a conference held between the Board of Regents of New York and the State Board of Medical Examiners of New Jersey, at Trenton, October 16 it was decided to indorse each other's examined licentiates without further examination, beginning January 1, 1906. The medical license of New Jersey is indorsed, at this time, in lieu of further examination by Maine, Vermont, Delaware, Virginia, South Carolina, Texas, Ohio, Illinois, Michigan, Minnesota, Wisconsin, Kansas, and Colorado. New Jersey will indorse the medical license issued by any State, after examination, whose educational, examining and licensing requirements are substantially equal to, or higher than, those of New Jersey, irrespective or reciprocity, provided the applicant complies with the conditions of indorsement. The Standard of Requirements of New Jersey consists of a high school diploma issued after four years of study, and a medical diploma issued after four courses of lectures of at least seven months each, in four different calendar years, in a medical college of approved standing.

**The Hippocratic Oath for Nurses.**—At the thirtieth annual commencement exercises of the New York City Training School for Nurses held last Saturday at the Nurses' Home on Blackwell's Island, a class of forty-one young women received diplomas. It was the first class that has graduated since the present course of three years was established. After listening to a good deal of excellent advice from clergymen and physicians, the members of the graduating class all took the hippocratic oath to preserve inviolate the secrets of the sick room.

**An Addition to St. Vincent's Hospital.**—A seven-story addition to St Vincent's Hospital, affording accommodation for 100 more patients than the institution has been able to receive, was opened on November 1. Archbishop Farley presided, and speeches were made by Dr. Frederick S. Dennis, John D. Crimmins, and Father O'Flynn, of St. Joseph's Church. About 300 men and women, who have assisted the hospital financially, were present.

**In Honor of the President.**—In a dispatch to *The Tribune* it is said that on the day following the visit of Mr. Roosevelt to New Orleans, to show the faith of the people in the Roosevelt anti-race-suicide doctrine, the city produced the highest birth rate in its history.

**Workings of the New Medical Law in Vermont.**—Seventy-eight physicians in seven of the northern counties of Vermont were recently summoned before the State Board of Medical Examiners in Burlington for examination, having failed to have their diplomas recorded within the time limit fixed by the new State law. All but five of these appeared for examination and several others also appeared who had recorded their diplomas, wishing to take the examination because of the reciprocal relations it would establish with other states. The board will begin immediately to get a list of those physicians in the remaining six counties who have not had their licenses recorded, and an examination will be conducted in Rutland in December for their benefit. Another examination will be held in Burlington in January.

**Changes in the Faculty of the Maine Medical School.**—Drs. Frederick H. Gerrish and Alfred King, both of Portland, who for many years have taught anatomy in the Maine Medical School, have been transferred to the Portland branch of the institution. Dr. Gerrish will be professor of surgery and Dr. King assistant professor of clinical surgery. Their places have been taken by Dr. Walter E. Tobie of Portland, as professor of anatomy, Dr. Hiram L. Horsman of Augusta as instructor and assistant demonstrator in anatomy, and Dr. Wallace W. Dyson of Portland assistant demonstrator of anatomy.

**The Cornerstone of the New Eye and Ear Hospital** was laid on November 2 by Mr. John T. Agnew, brother of the late Dr. C R. Agnew, one of the founders of the institution. The new building has a frontage of 125 feet on Sixty-fourth street between Second and Third Avenues, and will eventually run through to Sixty-third street. It is to be occupied in about a year from this time in place of the present quarters in Park avenue. The hospital is to be nine stories high, with an administration building in Sixty-third street, when completed. At the ceremonies the Rev. Howard Duffield delivered an address, and Dr. Frank Van Fleet spoke for the physicians.

**The Vermont State Medical Society.**—The ninety-second annual meeting of this Society was held at Burlington the second week in October. The following officers were elected: *President*, Dr. M. L. Chandler of Barre; *Vice-President*, Dr. E. S. Albee of Bellows Falls; *Secretary*, Dr. Geo. H Gorham of Bellows Falls; *Treasurer*, Dr. B. H. Stone of Burlington; *Auditor*, Dr. J. H. Blodgett of Saxtons River.

**The Medical Society of Virginia.**—The thirty-sixth annual meeting of this Society was held the last week in October in Norfolk The following officers were elected: *President*, Dr. Lomax Gwathmey, Norfolk; *Vice-Presidents*, Drs. S. T. Kent, Ingram, Greer Baughman, Richmond. T. C. Wuick, Falls Church; *Recording Secretary*, Dr. Landon B. Edwards, Richmond; *Corresponding Secretary*, Dr. John F. Winn, Richmond; *Treasurer*, Dr. R. M. Slaughter, Theological Seminary. The next meeting will be held at Charlotteville in October, 1906.

**The Kentucky State Medical Association.**—At the annual meeting of this Society, held the last week in October in Bowling Green, the following officers were elected: *President*, C. Z. Aud, Cecilia; *Vice-Presidents*, Drs. Murison Dunn, Richmond, M. Coleman, Paducah, J. M. Salmon, Ashland; *Secretary*, Dr. James B. Bullitt, Louisville; *Treasurer*, Dr. W. M. McClure, Lexington; *Orator in Medicine*, Dr. Wm. A. Jenkins, Louisville; *Orator in Surgery*, Dr. W. O. Bullock, Lexington; *Delegate to American Medical Association*, Dr. J. Garland Sherrill, Louisville. The next meeting will be held at Owensboro in October, 1906.

**The Colorado State Medical Society.**—At the annual meeting of this Society held in Colorado

Springs in October, the following officers were elected: *President*, Dr. H. G. Wetherill, Denver; *Vice-Presidents*, Drs. E. T. Boyd, Leadville; Perry Jaffa, Trinidad, and C. A. Ringle, Greely; *Secretary*, Dr. Melville Black, Denver; *Treasurer*, Dr. S. E. Solly, Colorado Springs; *Publishing Committee*, Drs. Edward Jackson, J. M. Blaine, and J. N. Hall, all of Denver; *Delegate to the American Medical Association*, Dr. Hubert Work, Pueblo; *Alternate*, Dr. H. R. Bull, Grand Junction; *Councillors*, Drs. A. S. Boyd, Leadville, and Frank Finney, La Junta. The next meeting will be held in Denver beginning the first Tuesday in October, 1906.

**Dr. Edward Fletcher Brush**, independent candidate for Mayor of Mount Vernon, carried that city in the election on Tuesday of this week by a plurality of 1,000 over the Republican and Democratic candidates. There were about 5,000 votes cast, Dr. Brush receiving 2,500.

**The Beth Israel Hospital** has received an offer of a donation of $5,000 from a friend of the hospital, with the provision that an additional $10,000 be raised in donations and membership dues, through the efforts of the directors and their friends, before December 1, 1905.

**The Jersey City Hospital.**—The cornerstone of Jersey City's new City Hospital, which is being built on the site of the present structure in Baldwin avenue, was laid by Mayor Fagan, on Wednesday afternoon of last week. Dr. F. D. Gray, a member of the Board of Hospital Trustees, made a short address.

**A Tuberculosis Hospital in Richmond Borough.**—The Board of Aldermen approved recently the appropriation by the Board of Estimate of $800,000 for a tuberculosis hospital to be established on Staten Island.

**To Drain the Staten Island Marshes.**—A number of men were put to work the first of the month draining the marshes near South Beach, Staten Island, to prevent the further propagation of mosquitos. For this and similar work on Staten Island an appropriation of $17,000 has been made by the city.

**Obituary Notes.**—Dr. George Benson Dunmire died at Philadelphia on November 2 at the age of sixty-eight years. He enlisted in the 125th Pennsylvania Regiment in 1862 and served as hospital steward with the command during the nine months of its service. Subsequently he received a commission as First Lieutenant in the Forty-sixth Pennsylvania Militia. At the close of the war he took up the study of medicine and was graduated from Jefferson Medical College in the class of 1865. He was for many years treasurer of the Medical Society of the State of Pennsylvania.

Dr. Frank K. Owen of Ypsilanti, Mich., died suddenly on October 14 in St. Mary's Hospital, Detroit. He was born near Knoxville, Tenn., in 1841. At the close of the Civil War he began the study of medicine and was graduated from the Medical Department of the University of Michigan in 1872. He served during the Spanish War as assistant surgeon to the Thirty-first Michigan Volunteers.

Dr. Richard M. Kerley of St. Louis died suddenly on October 29. He was a graduate of the Jefferson Medical College, Philadelphia, in the class of 1869.

Dr. George Johnson of Frederick, Md., died at the home of his son, Dr. William Crawford Johnson, on October 26, at the age of seventy-five years. He was educated at the Frederick Academy and Princeton College, graduating from the latter institution in 1851. He then entered the medical school of the University of Pennsylvania and received his degree in 1854. Returning to Frederick he established himself there in practice and continued actively occupied in his profession until 1891, when he retired, owing to ill health.

Dr. W. H. Walthal, aged seventy years, died at Roanoke, Va., on October 18, after an illness of nearly a year. He was a native of Prince Edward county, but had been living in Roanoke since 1880. He was surgeon in the Stonewall Jackson brigade during the Confederate war and was afterwards transferred to the hospital corps in Richmond.

Dr. Robert H. Harrison, Sr., of Columbus, Tex., died October 20 at the age of seventy-nine years. He was a graduate of the Cincinnati Medical College in 1846 and of the Medical College of Alabama, Mobile, in 1873.

Dr. Alexander Powe Hall of Mobile, Ala., died October 24, at the age of sixty-nine years. He was graduated from the University of Virginia and served during the entire war as a surgeon in the service of the Confederacy. After the fall of Richmond he returned to Mobile, where he resumed his practice.

Dr. Charles E. Dever of Lynn, Mass., died of apoplexy on October 25 at the age of forty-three years. He was a graduate of the University of Maryland School of Medicine in the class of 1891, and had practised in Lynn about ten years.

Dr. Charles G. McKinley died at his home in Kansas City, Mo., on October 24, at the age of eighty-four years. He was a graduate of Starling Medical College, Columbus. He had practised in Ohio twenty-two years and in Olathe, Kan., twenty-five years. He had lived as a retired physician in Kansas City for ten years.

Dr. John Robinson Buist of Nashville, Tenn., died October 24, at the age of nearly seventy-two years. He was born in Charleston, S. C., and was graduated from the New York University Medical School in the class of 1857. He served as surgeon in the Confederate Army in Col. Meaney's First Tennessee Regiment. From 1874 to 1880 he was a member of the Nashville Board of Health, and was one of the pioneers in the cause of improved sanitation in that city. For a while he was Professor of Surgery at Sewanee, and since 1895 he had held the chair of Diseases of the Nervous System and Mental Diseases. He was a member of the Edinburgh Medical Society of the American Medical Association, the Southern Surgical and Gynecological Society, the Medical Society of Tennessee, the Nashville Academy of Medicine, and the Alumni Association of Bellevue Hospital, N. Y. During the later years of his life he was associated in practice with his son, Dr. William E. Buist, who survives him.

Dr. Francena E. Porter died in Lynn, Mass. on October 23. She was born in Lynn, and for some time was employed as a clerk in a drug store, after which she entered the New England Hospital in Boston to study for a nurse. Some time later she entered the Women's Medical School, Philadelphia, and she graduated from that institution with the degree of M.D. After a year's experience gained in the hospital of the Drs. Blackwell in New York city, Dr. Porter went to Kansas and practised her profession in that State for some years. Returning to Massachusetts, she opened an office in Worcester and for a few years was one of the visiting physicians at the Lancaster Industrial School, but eight years ago failing health compelled her retirement from practice, and she moved to Reading Center, where she had since resided.

## THE HARVEY SOCIETY LECTURES.

The third lecture of the series, held under the auspices of the Harvey Society was delivered at the New York Academy of Medicine, by Prof. F. G. Novy of the University of Michigan, on Saturday evening, November 4, 1905. The subject was "Trypanosomes," a field with which Dr. Novy is familiar from his extensive experimental studies in animals. He has also been successful in obtaining pure cultures of this organism by means of a special medium. Before proceeding to the description of the trypanosomes, he outlined briefly the history of our knowledge of the subject.

The discovery of the protozoön of malaria by Laveran furnished an impetus to further researches on the parasitology of the blood, and soon afterwards Evans described a flagellated organism which he found in the blood of certain animals in India affected with a disease known as surra, which disease he attributed to the presence of the parasite. Although nagana or tsetse fly disease was faithfully and accurately described by Livingston in his book of African travels, the etiology of the disease was unknown until Bruce demonstrated that a native fly was the carrier of the infection and that the organism which he found in the blood of the affected horses and cattle was apparently identical with that previously discovered by Evans in India. A third form of epidemic disease was then described as occurring along the African shores of the Mediterranean and attributed to a similar organism. In 1901 the flagellated organism found in these animal epidemics was accidentally discovered in the human species, the patient being an inhabitant of the West Coast of Africa who was believed to be suffering from malaria. The immunity which was claimed for man was thus shown to be erroneous, and in 1903, Bruce and the English Government Commission established definitely the fact that the so-called African sleeping sickness was due to infection by trypanosomes.

Trypanosomiasis has been found to be widely distributed among nearly all the lower animals, although in most instances unattended apparently by any ill effects. Novy even found the organism in many species of our own native birds where it was demonstrated more readily in cultures however than in blood smears. It was found to affect more particularly the younger birds and nestlings.

The main part of the lecture consisted of the display of excellent lantern slides, which the speaker employed as the basis for his remarks. On a map of the world the wide distribution of trypanosomiasis was well shown, the disease being found in most parts of Africa, Asia, South America, and the Pacific Islands. An idea of its ravages may be gained from the statement that over 200,000 persons are believed to have died from its effects in Central Africa alone during the recent epidemic. Prof. Novy's personal observations were conducted mainly on trypanosomiasis in rats. In certain localities these animals were found to be invariably infected with the disease while in others they were completely free from it. He was able to cultivate the organism successfully in a medium composed of agar and blood serum from the animals. The growth and development of the trypanosome were vividly shown in a series of slides. A great and growing interest attaches to this parasitic protozoön, which has assumed such an important rôle as a cause of disease in both man and animals of the tropics. Through the acquirement of tropical possessions, American must necessarily take a more extended interest in this subject, and although we have thus far escaped at home, we cannot tell how soon we may be forced to be on the defensive.

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# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON TROPICAL SCHOOL—POST-GRADUATE EDUCATION—PROFESSOR OSLER—SIR THOMAS BROWNE—PROFESSOR CROTHERS ON NORMAN KERR—COLLEGE OF SURGEONS—VON BEHRING'S SENSATION.

London, October 13, 1905.

Wednesday was a red letter day at the London Tropical School, when a distinguished audience of doctors and gentlemen connected with the Colonial government assembled to hear an address by Professor G. H. Nuttall, the Professor of Tropical Medicine and Hygiene in the University of Cambridge. The chair was taken by Sir Alfred Maloney, who suggested that he was perhaps requested to occupy it as a sort of live exhibit in natural history—as one who had served for thirty years in the worst climates of the Empire, and successfully got out of them all. He also testified that he had always found the Colonial office give hearty thanks to suggestions to improve sanitary conditions in the tropical colonies, though sometimes local agents were not active in adopting measures on the spot.

Professor Nuttall, in his address, spoke of the benefits to mankind which resulted from recent discoveries, especially with regard to yellow fever and malaria. Research, he said, was a word heard on all sides, and it was the enemy of authority, that tyrannous spirit which retarded the advance of scientific medicine for centuries. It was experimental medicine which had made the great progress in our knowledge of disease—its causes, prevention, and cure. The majority of important discoveries of all kinds had but slight, direct influence at the beginning; their full significance was hidden for a time. Most of them were made by those engaged in research in the realms of pure science; and pure science was unselfish, not aiming at profit, but it was the forerunner of applied science. To study disease we should do so for the sake of knowledge, in the scientific spirit and though the practical man might not enter into that spirit, he was ready enough to use its discoveries. All are not born with the instincts of research, but it should be the function of educational institutions to detect them where they are present, and lead the men who possess them to do the work for which they are fitted. Too often such men drift into other pursuits from lack of means, for to succeed in research a man needs an assured income. Could it be that those who were anxious to help on human progress could ignore the devotion of those who had laid down their lines in the study of tropical medicine? Medical research needed endowment, and it was grievous that in a country where so much charity abounds, so pitiably little was done for its advancement. To teach science as it should be taught in fully equipped institutions, was more expensive in the case of medicine than in other professions. It did not suffice to build laboratories—they must be provided with funds to help them to become working entities.

The progress of the London School of Tropical Medicine had been an upward struggle from its inception, six years ago. This and the sister institution in Liverpool, were now known throughout the world for the excellent work accomplished by their staffs and students. The London school had a great mission to fulfill, to train men in methods they would have to employ in distant parts, and it was to be hoped that the public would second the noble efforts made to establish a center for the study of those diseases which affected the people of so many parts of this vast empire. The professor concluded by noticing the recent progress in parasitology, and showing that immunity would only be expected through the researches of experimental medicine.

Mr. John Tweedy, President R. C. S., addressed the West London Post-Graduate School on Wednesday. Remarking that medical education was a question always to the fore, he declared that the curriculum was increasing in complexity, but notwithstanding its higher requirements he was sincerely convinced that the system of to-day did not afford the same guarantee of competency as the less exacting curriculum of twenty-five years ago. The proper object of preliminary training was to qualify the student to begin his medical work. Scientific training should be removed from the medical curriculum, and delegated to

scientific institutions, and many subjects now crowded into the qualifying course should be transferred to the post-graduate period. No matter how well a doctor might have been equipped five or six years ago, if he had ceased his connection with his hospital and school and isolated himself, he would find great strides had been made in medicine, knowledge, and technique. Left to his own resources a man was apt to tend towards routine, and then thoroughness, and intellectuality diminished or even disappeared. He congratulated those who had the courage to leave their practices for a time, and take post-graduate courses, in order to acquire fresh knowledge and correct antiquated opinions. It was not the number of cases seen, but the reasoned consideration given to them which constituted intellectual experience, and that was the kind which post-graduate work obtained through the cases brought under the criticism of experts. The teaching of the medical schools dealt with principles. The post-graduate course applied these principles to practice, and this was on the true lines of medical progress.

Prof. Osler yesterday gave an address at Guy's Hospital, to the Students' Physical Society, which dates from 1830, and is in a way the child of an older society in connection with Guy's, dating from 1771. Dr. Osler took for subject Sir Thomas Browne, that 17th century doctor and literary man, whose career has lately been several times before the public. The professor said he had in early life studied the works of the author on whom he was about to speak. Born in October, 1605, Thos. Browne was educated at Winchester and Oxford, but did not seem, in after life, to entertain a high opinion of his alma mater as a school of medicine, for in one of his letters he wrote that he should as soon think of sending a lad to Oxford to learn shoemaking as to study medicine. In 1637 he settled at Norwich as a physician. Although he had previously professed antipathy to the sex, and thought it unfortunate that some less mean method had not been selected for the perpetuation of the species he took unto himself a wife, who proved a fruitful branch, and bore him ten children. He was a staunch Royalist, but did not suffer much inconvenience from the Civil War. He encouraged his children to cultivate self-reliance, and actually sent one boy alone to France at the age of fourteen. Sir Thomas was master of six languages. His first and greatest work, the "Religio Medici," was at first circulated in manuscript among his friends, and five copies now exist. The first edition was issued surreptitiously in 1642, but next year the second edition was published with a statement on the title page that it was a true and faithful version. It was thought by Dr. Johnson that the first issue was published with the author's knowledge, if not his authority.

The lecturer mentioned various editions and exhibited copies of several, relating interesting facts respecting them. He also referred to other works by Sir T. Browne, and presented the society with a complete collection. A number of pictures were thrown on the screen, including portraits and the church of St. Peter Mancroft at Norwich, which he attended for so many years and from which he was buried.

Next Thursday, being the 300th anniversary of the birth of Sir T. Browne, has been selected as the day for unveiling his statue at Norwich, the ceremony being performed by Lord Avebury. On the same day a memorial service will be held in the Church of St. Peter Mancroft, mentioned above. An address is to be given by the Master of Pembroke College—the representative now of Broadgate Hall (Browne's College). The anniversary of his birth is also that of his death, as he died on October 19, 1682, the day on which he completed his 77th year. More editions of his works have lately appeared, and others will follow. We are also certain to be entertained with numerous Browniana and appreciations of an author whose admirers seem continually increasing. The new volume of the "English Men of Letters" Series, is on Sir T. Browne, by Mr. Gosse.

Prof. T. D. Crothers is here, and on Tuesday he delivered the first Norman Kerr lecture before the Society for the Study of Inebriety, which has now a roll of 800 members. Dr. Crothers had a very warm reception, and as an old friend of Dr. Kerr and an ardent worker in the same cause, was able to impart a personal interest to his address. Norman Kerr devoted his life to the promotion of the scientific study of inebriety; he was not the first in the field, for Dr. Rush of Philadelphia took it up in 1809, and others followed. In 1844 the British Lunacy Commissioners spoke of it as a disease, but without attracting special attention to this point. Dr. Turner of New York established an asylum in 1863, the first of the kind, and the first effort to demonstrate that it should be treated as a morbid condition. Much controversy followed. In 1874 Kerr settled in London, took up the subject, and worked at it until his death in 1899. He advocated the establishment of institutions with legal measures for control, and succeeded in establishing the Dalrymple Home, opened in 1884.

In the same year he founded this society and was its president until his death. Its proceedings had influenced public opinion in a great degree. In 1887 he organized the international congress on the subject. Two years later he issued his "Inebriety; Its Pathology and Treatment," which remains a recognized authority. Its particular value the lecturer attributed to its giving a general survey of the whole subject, without exhausting any one phase. Dr. Kerr was a graphic writer, a great organizer, a leader of men, who, if he did not always convince his hearers, invariably secured their respect. In all his writings he urged the scientific study of the alcohol problem in the most practical way along conservative lines. He set men thinking, turned the tide of philanthropic temperance into new and broader channels, gave it new vitality, the result of which was already felt in all the civilized world.

At the quarterly meeting of the council of the Royal College of Surgeons, held yesterday, the best thanks were voted to Lieutenant-Colonel Havelock Charles for the presentation to the college of his collection of skulls and other specimens, representative of many castes and tribes of India, and other parts of Asia. The council pronounced it a most valuable addition to the museum, not only on account of the great number of specimens, but also on account of the authentic particulars attached to them.

We have, of course, had some excitement this week, and much food for conversation on account of von Behring's statement at the Paris congress about a cure for consumption. A small man would not attract international attention, but his previous achievements seem to entitle him to a hearing. Here, at present, so far as one can see, medical men are sceptical, though many profess to be unable to follow his statement, and dismiss the subject with a sigh for past disoppointment. Most of us are satisfied if we can keep an open mind. We agree, too, that the atmosphere of a congress is hardly suitable for so momentous an announcement.

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SOCIETIES BEGIN WORK—BRUNTON ON PROGRESS OF MEDICINE—CARCINOSARCOMA — ECTOPIC GESTATION — CYSTOSCOPIC APPEARANCES IN RENAL DISEASES—DIVERTICULUM IN A HERNIA CASE—CAISSON DISEASE—SIR T. BROWNE'S TERCENTENARY—DEATH OF COLLIER OF MANCHESTER.

LONDON, October 20, 1905.

WITH the early frosts our societies are getting into working order for the winter session. At the Medical Society of London the new president, Sir Lauder Brunton, having been inducted into the chair, delivered an address, describing advances in medical science that had been made within his own experience, and forecasts of other advances which seem probable. Passing on to more recent discoveries regarding the causation of disease, he instanced that of one protozoon as the germ of malaria, another as that of Texas fever, a third as that of tsetse fly disease, and a fourth as that of sleeping sickness. Then he mentioned as most remarkable the discovery that elephantiasis is due to a disease of a disease germ. The study of such germs may prove one of the most profitable fields of research. Carriers of infection have been made known, and this knowledge is already leading to the limitation, and perhaps the suppression, of several diseases. Some diseases of animals, exceedingly fatal in South Africa, have been shown to be caused by inoculations with protozoa by the bites of ticks, and the destruction of these pests bids fair to lessen the spread of those diseases. The tsetse fly conveys the protozoon from antelopes, in whose blood it seems pretty constantly present without injuring them, but it is very destructive to horses and cattle. When antelopes are destroyed the disease vanishes. In the case of sleeping sickness, which is spreading to so alarming an extent, it is not an animal, but human beings that supply poison to the flies, and what we need is some drug to act on the protozoon, as quinine does in malaria.

One of the chief difficulties in discovering the cause of tsetse disease was the fact that the antelopes were not themselves affected. It is not long since we learned that diphtheria germs may be present in the pharynx and those of typhoid in the urine of a patient who is apparently well, and that Malta fever may be conveyed by the milk of apparently healthy goats. In Australia rabies is not present, and the most stringent quarantine is enforced to protect the huge flocks. But here there are people who object to having their dogs muzzled for the protection of others, just as others refuse to protect their own children from smallpox.

At the Clinical Society, on Friday, Dr. David Newman gave a demonstration of the cystoscopic appearances of the mucous membrane of the trigone and openings of the ureters in certain renal diseases. Among the specimens shown were a recent tuberculous deposit close to the neck of the bladder, encysted stone, papilloma, sarcoma, calculus

impacted in the ureter, another coming through the muscular wall of the bladder and pushing the mucosa before it, so as to simulate a tumor, ascending ureteritis from septic infection, "shoots" escaping from the ureter, showing the escape of blood, stone, and clots. Differences between the two orifices, the mode of escape of the urine, the character of escaping fluid, and deformity of the orifices supply various indications. When one orifice is normal and the other abnormal, the lesion of the kidney will be found on the side of the morbid ureter. After the demonstration Messrs. E. M. Corner and C. W. Rowntree reported a case of operation for a supposed irreducible inguinal hernia in a boy eighteen months old. No sac was found, but a diverticulum of the bladder holding a few drachms of urine was excised. The bladder and inguinal canal were sutured and healed by first intention. Two months later the boy was readmitted for tuberculous peritonitis, laparotomy performed, and much fluid evacuated. The viscera were covered with miliary tubercles, but the boy steadily improved, and is now well, twelve months after the first operation.

Mr. Clutton said he had several times seen the bladder in operating for hernia, but never a case like this, which seemed unique. He had seen tuberculosis of the sac once, and the operation was followed by peritonitis; perhaps the diverticulum was the result of the tuberculous lesion. But on this Mr. Corner said the lump had been present since birth, so that it was not likely to be secondary.

The Obstetrical Society began its session with a paper by Dr. Herbert Spencer on carcinosarcoma uteri, a term applied to cases in which cancer and sarcoma coexist in the same uterus. Cases of malignant growth which are partly cancerous and partly sarcomatous in structure are to be distinguished as sarcoma carcinomatodes. He described a case in which two growths occupying the body of the uterus differed much in appearance. Under the microscope one was a typical glandular carcinoma, the other a small-celled sarcoma. He had met with the coexistence of the two diseases once out of ten cases of sarcoma, and thought careful examination would show the association to be less rare than published records indicated.

Dr. Handley suggested that the coexistence might be due to simultaneous invasion by the two parasites; but he thought it more likely that any lump in the uterine wall might so irritate the endometrium as to cause cancer. It was possible in this case the sarcoma might have originated in a fibromyoma. Dr. Spencer admitted this, and it was possible examination of additional sections might determine the point.

Captain J. C. H. Leicester, I.M.S., reported a case of ectopic gestation in which the sac appeared to have ruptured twice. The second time the abdomen was opened and a distended Fallopian tube and clots were removed. The patient, a Hindostani, made an uninterrupted recovery.

Mr. H. J. Paterson described a case admitted for, as was supposed, ruptured extrauterine gestation with peritonitis. But the woman improved rapidly. Swelling increased slowly and regularly. Six months after the last normal period the abdomen was opened and a fetus of eleven and one-half ounces removed, which died in a few minutes. The placenta was found on the front and upper wall of the sac, the deeper portion being slightly detached. The free hemorrhage was controlled by packing with dry gauze. After an interval this was removed and the sac irrigated with hot water. Many bleeding points were clamped and ligatured. About two pints of clots were taken from the bottom of the sac, but much was left, as it was adherent. The sac was secured to the wound and packed with sterilized gauze. Severe vomiting followed, and on the third evening the patient's condition seemed desperate, but calomel was given and a turpentine enema. Relief followed, and slow recovery, the sinus into the sac persisting above a year.

Mr Doran said packing the sac and ligaturing its vessels were often necessary, but, unfortunately, the ligatures were apt to get infected, especially when the deeper part of the sac was formed by the large intestine.

Dr Galabin said there was a great advantage gained when it was in any way possible to remove the whole placental site, and he related a case in illustration of this.

Dr Amand Routh thought packing was almost always followed by infection of the ligatures and a resulting sinus. Calomel was more likely to allay vomiting than morphine.

Mr. Paterson, in his reply, said the removal of the sac was impossible in his case, on account of the extensive adhesions to the intestines. The ligatures were necessary, as the bleeding vessels were large. He believed the old clot at the bottom of the sac became infected, owing to its proximity to the rectum.

On Wednesday Prof. Thomas Oliver, physician to the Newcastle Infirmary, concluded a course of lectures at the Royal Institution here on maladies caused by the air one breathes in the home, factory, and mine. Caisson disease was his concluding subject. He showed on the screen illustrations of various types of caisson, and stated that during compression the results were not serious. Imperfect ventilation, caused by passing through various strata, such as soft coal, and muscular fatigue were contributory causes of the disease; but the one essential cause was the sudden liberation of the gas in the blood which had previously been in the state of solution. On the appearance of symptoms the treatment was to recompress by putting the patient again into the airlock, and afterwards decompressing very slowly. Of twenty cases admitted into the Newcastle Infirmary only two had had their lives threatened and the others recovered the use of their limbs in a few days.

It is a great thing for a doctor to be remembered for more than two hundred years after his death, even though his literary work is the occasion. Yesterday the statue to Sir Thomas Browne was unveiled at Norwich, the day being the tercentenary of his birth and the 223d anniversary of his death. We claim him as a Londoner by birth, but he lived so long in Norwich, being knighted as her most representative citizen, that it seems appropriate that the long-delayed statue should be placed there. He is the most distinguished of a long line of learned literary physicians, beginning in the sixteenth century, which proves that medical practice is by no means incompatible with the highest culture in literature and arts. The names of Dr. Caius, Sir R. Blackmore, Sir Hans Sloane, Sir W. Petty, Sir Richard Garth, Arbuthnot, Akenside, Smollett will occur. We may continue to our own time, if we include those who somewhat deserted medicine for literature, as Goldsmith, Crabbe, Keats, and Oliver Wendell Holmes. In some respects the autocrat of the breakfast table reminds one of the author of "Religio Medici," though if I cited instances you might think them rather far-fetched.

The ceremony of unveiling the statue was performed by Lord Avebury, whose scientific reputation is appreciated by the profession. He said Sir T. Browne held a unique position, not only in English libraries, but in the literature of the world, and Lowell regarded him as "our most imaginative mind since Shakespeare." The statue, cast in bronze, represents Sir T. Browne sitting in an antique chair, contemplating a piece of ancient pottery, which he holds in his right hand. The figure, of heroic size, stands on a massive granite pedestal. The memorial has been subscribed for by people in all parts of the civilized world.

At the luncheon Lord Avebury, responding to the toast by the High Sheriff of Norfolk, dwelt on the value to the nation, and the world in general, of Browne's works, their profound thought which charmed Johnson, who wrote his life, and Peter, who compared him to Jean Paul Richter among Germans and Montaigne among Frenchmen. The toast to his memory, proposed by Professor Stuart, was drunk in silence. Sir R. Douglas Powell replied in the name of the Royal College of Physicians, and Mr. Edmund Owen in that of the Royal College of Surgeons. In the evening a memorial service was held in St. Peter Mancroft Church.

Joseph Collier, M.B., F.R.C.S., surgeon to the Royal Infirmary, Manchester, and lecturer in the university, died on the 13th inst., aged 50. His early death is a great loss to the school, and is very deeply lamented by his colleagues and pupils. He was for many years surgeon to the Children's Hospital (Pendlebury), and in 1869 came on the surgical staff of the Infirmary. He had served as president of the Pathological Society, and was long a teacher of practical surgery at Owen's College. The vice-chancellor of the university said: "In Mr. Collier they have lost a very brilliant surgeon and inspired teacher, to whose influence many medical men looked back with gratitude, and to many of whom he was one of their most valued friends."

## OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

DECREASE IN CHOLERA—A MIRACLE WORKER—A DESTRUCTIVE TYPHOON—STUDY OF BERIBERI.

MANILA, P. I., Sept. 29, 1905.

THERE has been a most gratifying decrease in the number of cholera cases reported in the city of Manila during the past week. From Saturday, September 23, up until this morning there has not been a single case of cholera reported in the city of Manila. There was, however, a suspected case that occurred to-day; the result of the autopsy, however, has not yet been learned. The total number of cases in the city of Manila to date has been 196, of which 170 died.

The disease is still present in the provinces, and so far the health authorities have not succeeded in stamping it out. About ten days ago there was discovered what, in all

probability, was one fertile cause of the spread of the disease in the provinces. In the little town of Tay Tay, about fifteen miles from Manila, it was reported that a Filipina woman was engaged in performing miracles in the cure of disease. Her fame was spreading rapidly, and people were flocking from all directions to consult her; among others were persons who, in all probability, had cholera; at any rate, it was only a short time until the disease made its appearance in Tay Tay.

The alleged miraculous cures are said to have been performed by the application of water by the means of a leaf which grew in the immediate neighborhood. It was reported that the alleged curative water was obtained from a nearby estero, placed in a tank, and afterwards the woman bathed in it, in order to give it its healing properties. The applicants for relief then had the particular portion of the body which was supposed to be diseased washed in the water, and afterwards this water was drank. Among her patients there were, no doubt, some who had cholera, and it seems quite probable that at times the tank in which the water was stored became infected. For those who were bedridden, or otherwise incapacitated from "consulting" the miracle worker in person, samples of water were bottled and sent to them at their homes. In view of the fact that the water was obtained from an estero (small canal or creek), along the banks of which cases of cholera were occurring, it can be readily seen that it is quite possible that the water may also have become infected in this manner. The assembling of people in large numbers was in itself a distinct menace, and there seems but little doubt that a number of the cases of cholera which occurred in nearby towns were correctly ascribed to having received their infection from Tay Tay.

One feature of the situation which gave particular cause for anxiety was the fact that the town of Tay Tay is situated very close to the watershed of the Manila water supply, and at any moment the same was liable to become infected at a remote place, and become a source of great danger to the city of Manila. The health authorities have, however, taken the matter in hand, and the alleged miracle working has been stopped.

Cases of cholera continue to occur on the watershed, and particularly at San Mateo, which is a small town situated very close to the banks of the Maraquina River, above the intake of the Manila water supply. The river, at that point, is well guarded by the military, and so far there has been no infection, yet the presence of the disease at that place continues to be a serious menace. The total number of cases in the provinces since the beginning of the outbreak is 288, with 234 deaths. Bilibid Prison has continued to remain entirely free from the disease since the sanitary control of the prison was transferred to the Board of Health. So far cholera is still confined to within a radius of forty miles of Manila.

On September 26 Manila was visited by one of the worst typhoons that has occurred in the past twenty-five years. Ten lives were lost in the city of Manila by the falling of electric wires charged with heavy currents. The damage to the city has been estimated at about a million dollars. So far but meager reports have been received from the provinces, but it is feared they have suffered very heavily. Considering the great network of wires in Manila, and the heavy currents which pass through them, and the great number of them that were blown down during the storm, it is remarkable that no more persons were killed.

Dr. Maximilian Herzog, of the Bureau of Government Laboratories, went to Japan several weeks ago, for the purpose of studying beriberi. The necessary material for a scientific study of that disease in Japan is most abundant. It is understood that in one hospital alone several hundred cases of beriberi are being treated at the present time.

Dr. William J. Mallory, formerly resident physician at the Civil Hospital, has been appointed attending physician and surgeon of the Benguet Sanatorium at Baguio, Benguet.

## OUR BERLIN LETTER.

(From Our Special Correspondent.)

BERLIN September 22, 1905.

ALTHOUGH peace has been established between Russia and Japan, nevertheless the results of the late war are now being felt in Germany. Even in times of peace it is not expected that strict hygienic measures will be enforced in Russia on account of the inferior character of the lower grade of officers. Still worse are these conditions in time of revolution. Surely the statement of the Russian Government that no case of cholera had been observed in Russia since April 21 is absolutely untrue, and Germany has to pay the penalty of being neighbor to these infected districts. It is well known that the congress of physicians which was held in the first part of April at Moscow discussed the subject of cholera. But the government suppressed the publication of the proceedings. Russia signed the regulations which were drawn up by the Paris International Sanitary Convention in 1903; she agreed at this time to inform at least once a week all of the neighboring countries concerning all epidemics. Russia has neglected her duty, and Germany has to bear the consequences of this neglect. The first cases of cholera were found in the smaller towns of Prussia; that is, in west Prussia. All of these towns were situated on the Weichsel, a river, the longer part of which lies in Russia. All of these cases were Russian raftmen. As the writer was born not far from the Weichsel, he is well acquainted with this class of people. Accepting the fact that cleanliness is the first principle of hygiene, these people offer a most excellent starting point for infectious diseases. Their dress is disgustingly filthy; their hair matted together like felt, bulges out under a small, round, dirty hat. Water is a stranger to them. A shirt covers the body down to the knees. This garment is never changed, and over it is worn a coat of dirty fur. The legs are swathed in filthy rags. These people are accustomed to live in stables like animals. Their food consists mostly of salt herring and sauerkraut. It is never cleaned in any way. Potatoes are a rare addition to their meals.

The first three cases occurred at Kulm. In the meantime many new cases broke out in other small places on the Weichsel and on another small river tributary to the Oder, but communicating with the Weichsel by a much traveled channel. At Hamburg a Russian emigrant, perhaps after having drunk Weichsel water in the course of his journey, fell sick on August 24, and died of cholera on the following day. Hamburg succeeded in stopping the further spread of the disease, but in the provinces situated on the infected river new cases of cholera were reported almost daily. Up to date statistics show two hundred and seventy-six patients and eighty-five dead. All kinds of precautions were taken at once. Sixteen stations have been established in the infected territories. The attention of the people was called to the official notices, bathing places were closed, and establishments for good water were instituted. Berlin is directly connected with these infected quarters by a water route. The most stringent measures are observed. A station was established about ten miles east. As is customary, a military physician was appointed supervisor and the necessary bacteriological examinations are made. A government steamer controls the river traffic of Berlin so that there is no possibility that any vessel passing this way will not be carefully examined. Not only are physicians stationed here, but also policemen. Dr. Schuster most courteously gave the writer a great deal of information concerning these hygienic measures. The plan of employing military physicians is an excellent one, chiefly because these physicians are accustomed to carry out their instructions without any wavering. And a certain severity is almost necessary in carrying out hygienic measures, especially among this uneducated class. All vessels are obliged to stop at a certain distance from town. Without any exception, all passengers are examined. The straw stables have been burned. When there is the slightest suspicion of illness the suspect is taken on board the government vessel and brought to land. Cholera patients are put in a hospital and suspects are placed on a ship in the river not far from the Government station. Up to this time no cases of cholera has occurred here, and frequent bacteriological examination of the water proves that no cholera bacilli have yet infected the river. Up to this time also no case of cholera has occurred in Berlin, although several suspects have been examined. The Government has given special instructions to every physician in Berlin. The utmost precautions are taken. The writer declares that he sees no chance of the spread of this epidemic in Germany. It is possible that certain cases will be discovered in the larger towns of the neighborhood, Breslau, Posen, and so on. But the vigilance of the government, the activity of the physicians, and the winter season now near at hand will entirely exterminate the epidemic. Since writing the above the writer has heard, after leaving Berlin, that the first case of cholera in that city was detected by the examination of Professor Gaffky. The family of the dead seaman was isolated. Berlin has been divided into one hundred and sixty sanitary departments which have already instituted hygienic measures.

**Spinal Anesthesia.**—Freund says that now that its probationary period is over and the proper technique has been learned by experience, spinal anesthesia has been placed on a secure footing as one of the greatest advances in surgery. The author describes a number of hysterectomies and other major abdominal operations performed to great advantage under this anesthesia, and he lays great stress on its superiority over inhalation anesthesia in marantic individuals.—*Zentralblatt für Gynäkologie.*

# Progress of Medical Science.

*Boston Medical and Surgical Journal, November 2, 1905*

**The Active Treatment of Muscular Rheumatism.**—B. B. Cates emphasizes the necessity in this malady of quickening the circulation, opening up freely all the excretory channels, and eliminating all waste material. He finds that nearly all patients with muscular rheumatism have torpid livers, heavily-coated furred tongues, offensive breaths, constipation, and frequently headaches; in other words, they often show the classic signs of a condition we are wont to term "biliousness." Moreover, chronic rheumatics are often heavy eaters. They eat fast, chew their food improperly, are sluggish in thought and action, and complain much of indigestion. Treatment calls for proper muscular exercise, preferably on rising, cold tubbing, and brisk rubbing. Sufficient time must be spent in masticating the food, and the first step to insure this is to see that the teeth are in good condition. Special directions are given by the author as to exercise. He declares that a rigid adherence to the rules he lays down will not only cure the most obstinate case of muscular rheumatism, but will develop the muscles, bring back the bright eye, banish indigestion and constipation, give elasticity to the step, and soon your patient, unless he has his daily exercise and cold plunge, will feel uneasy all day long.

*New York Medical Journal, November 4, 1905.*

**Three Vices of Blood Pressure.**—These are summarized by L. F. Bishop as follows: First, primary low arterial tension, met with in all enfeebling disease, in great physical emergencies, and following either to diseases of the heart structure, or to a failure of the vital force and tissues of the body. Second, high arterial tension, indicating that the circulation is laboring under stress, and due to nervous causes, such as overwork, excitement, and dissipation, or chemical causes, such as the over ingestion of food, or the failure of kidney elimination; indeed all the causes which can arise from a life of mental hardship combined with physical luxury. Third, secondary low arterial tension, which represents the final outcome of pre-existing high arterial tension.

**Status of the Fetus in Utero.**—H. Hughes makes a strong plea against the present legal status of unborn children. If, she says, regarding murderers, we were lax in obeying the law, failed to report cases of murder, received the murderer into good society, forgave his offense and read scientific papers on the expediency of destroying one life that another may reap the benefit, how many papers read before a select society whose doors are practically barred to the public, would make life safe in our midst? This is exactly the protection we extend to unborn children. The young and strong who are able to defend themselves, the old and feeble whose life is nearing its completion, are safeguarded, but the seeds of the race, the tender young shoots, the hope of the future, are unprotected. The lawmakers who discriminate between the legal status of the born and the unborn are particeps criminis in the awful destruction of the young that is going on to-day. It is not higher education, nor religion, nor moral persuasion, nor natural affection, that we depend on for our own safety, but the strong arm of the law. Why should only these virtues be called upon in the case of the unborn? Let the law, she says, require that every birth, no matter at what stage of gestation, be registered and the cause of death reported to the civil authorities, as is done in the case of every human being, and the people will soon awaken to a proper understanding of the status of the fetus in utero.

*Medical News, November 4, 1905.*

**The Treatment of General Peritonitis.**—A thorough consideration of this subject is made by A. J. McCosh, who discusses in detail the several points of anesthesia, incision, rapidity of operation, methods of cleansing, drainage, evisceration of intestines, removal of lymph, enterotomy and enterostomy, injection of magnesium sulphate and post-operative position. His conclusions are as follows: (1) No one plan of treatment is applicable for all cases; (2) the majority of cases are best treated by operation, but there are also many cases where operation diminishes the chances for recovery; (3) Undoubted cases of general peritonitis recover without operation; (4) Rapidity, gentleness, and removal of the cause are the most important features of the successful operation; (5) irrigation with saline solution is generally recommended. All chemicals and mechanical irritants are to be avoided; (6) drainage should be provided, but the drains should be smooth, nonadhesive and of small diameter. The cigarette drain is preferred; (7) enterostomy is not advocated; (8) gauze packing is injurious; (9) Fowler's position after operation is most advantageous.

**The Duodenal Ulcer, by one of its Victims.**—This paper is a general discussion of the subject by F. E. Cooke. Concerning etiology he reminds us that it is a well established fact by the modern theories of immunity that intestinal parasites are protected from the digestive ferments in which they live by antidigestive ferments found in their skin. It has also been proven that the alimentary walls are able to protect their tissues from self-digestion (autolysis) by certain antibodies contained in their epithelial cells. Any diminution of these bodies may, and a marked diminution does result in autolysis, or self-digestion. The author suggests that it is conceivable that in external burns, toxic substances are absorbed and are specific and destructive to the antibody in the epithelial cells of the duodenum. As soon as the antibodies are diminished to a sufficient quantity, an ulcer results. He further notes that any disproportion between the composition of the blood and gastric juice may give rise to ulcer, either in the stomach or duodenum. How does it do this? By diminishing the antibodies in the epithelial cells. The disproportion may be due to two causes, viz., anomalies in the composition of the blood, as chlorosis, anemia, suppression of menses, etc., or an increase of secretion of the gastric juice, particularly the hydrochloric acid. In case of the former it is a matter of lowered resistance; in the latter, an increased virulence. This explains the greater frequency of gastric ulcers in women, and duodenal in men. It also accounts for the fact that gastric ulcer, which is more common in the female, is usually not associated with hyperchlorhydria, whereas in the male the reverse is the case.

*American Medicine, November 4, 1905.*

**Examination of the Leucocytes as an Aid to the Diagnosis and Prognosis of Disease.**—Thomas R. Brown states that a thorough appreciation of the exact significance of leucocytosis will not be possible until we have definitely determined the mode of origin of the various forms of the white blood cells and their relationship to one another. It seems proved beyond doubt that the determination of the leucocytes by careful investigators under proper conditions is of real value in the diagnosis and prognosis of disease, and that the more careful and more systematic the studies of the blood, the more help we may hope to derive in drawing correct inferences. Leucocyte counting has not and never will reach the point at which it and it alone will furnish us without possibility of error with correct diagnosis and prognosis, but it has been in the past a great, and it will be in the future an even greater, help to the physician and surgeon who value correctly its possibilities and its limitations.

**Mercury in Syphilis.**—Otto Lerch explains why mercury is more effective when given by inunction than other methods. By inunction it is absorbed by the lymphatics and comes in direct and immediate contact with the virus. Enlarged glands will yield to inunction after resisting every other treatment. Lesions of blood-vessels and viscera of bones and of the nervous system follow the lymphadenitis. Enlarged glands are found early in the disease and they may be palpated when every other symptom has disappeared. They contain the virus and a late secondary infection may be explained originating from them when the resisting power of the organism is lowered. Deep-seated glands cannot be inspected and it is therefore impossible to say when a patient is cured. Dr. Lerch urges that in tabes and paresis antiluetic treatment should be tried, as it is often impossible to make a positive diagnosis. A certain analogy between syphilis and tuberculosis has led him to give inunctions of iodoform in tuberculosis. He has had good results.

**Nasal Septum in Children.**—Arthur Ames Bliss believes that traumatism is the most frequent cause of deflections in the nasal septum in children, and that, when this is the case, the resulting deformity should be corrected as soon as possible after its production. Congenital deformity of the nose is the cause in a minority of cases. In cases of deflection of long standing it is not necessary to defer the operation of resection and replacement until the development of the nose is complete, at about the twelfth or fourteenth year. Dr. Bliss prefers the operation devised by Dr. Harrison Allen, or that of the Gleason-Watson method, but believes that no special form of procedure will apply in every case, the method of operation depending upon the character and extent of the deformity. As a splint, the author prefers to use a section of rubber drainage tubing, cut to fit the nares, in each case, rather than the usual hard rubber or metal tubes. Those cases of deflection,

in which distinct symptoms are produced by the bend of the septum, are the only ones referred to as needing operation. Mouth-breathing results from deflections causing occlusion, quite as serious as that from adenoids and hypertrophied tonsils; while the facial deformity caused by efforts to open the occluded nares by the local muscle supply, becomes very pronounced Reference is made to the nerve reflexes, caused by intranasal pressure, in the sympathetic nerve system and in the branches of the fifth nerve.

**The Corroding Action of the Ovum in Ectopic Pregnancy.**—J. Riddle Goffe calls attention to recent researches that have demonstrated the destructive action of the impregnated ovum in its implantation on the uterine tissues. He utilizes this fact to explain certain cases in which, with the symptoms of ectopic pregnancy and the presence of more or less extensive pelvic hemorhrge, microscopic examination reveals no traces of the products of conception, or of the source of the bleeding. The effect of the corrosive action above mentioned, he says, ir readily conceived in cases in which the implantation of the ovum is transferred from the uterus to the thin-walled Fallopian tube. While generally successfully accomplished, it must frequently happen that the corrosive process extends completely through the tubal wall or brings the intervillous spaces so near the surface that the blood pressure ruptures the peritoneum and causes serious hemorrhage. He gives an account of a case in which this seems to have occurred, and refers to another reported by Paul Zweifel, in which hemorrhage occurred eight days after the first omission of the menses and the ovum was found to have eroded completely through the tube and serosa into the peritoneal cavity. It would be a fair inference, he thinks, that when a woman has missed one menstrual period and is attacked with sharp hypogastric pain, collapse and vomiting, with marked feeble pulse, and without rise of temperature, that an erosion has occurred through a gravid tube, and the need of prompt operation should be at once suggested.

**Extrauterine Pregnancy.**—J H. Carstens remarks the occasional occurrence of cases of extrauterine pregnancy not manifesting the usual symptoms and rendering possible mistakes in diagnosis, even by very well-posted diagnosticians. Two such cases are reported by him, and he draws from them the following conclusions: (1) Extrauterine pregnancy must always be in the physician's mind in cases of sudden onset of pelvic trouble; (2) the least irregularity of menstruation is suspicious of extrauterine gestation; (3) inflammation and sepsis following a supposed miscarriage often are due to ruptured ectopic pregnancy; (4) prompt operation is always indicated; the choice of the vaginal or abdominal route depending on circumstances."

**Non-Gastric Diseases with Gastric Symptoms.**—J. H. Musser enumerates the principal diseases in which gastric symptoms are prominent without there being necessarily any organic disease of the stomach whatever. First among those mentioned are the disorders of the eyes, ears, and of the nose and throat, the gastric symptoms of which are familiar to all. In the diseases of the nervous system he refers to the gastric crises of tabes, the vomiting attending apoplexy, meningitis and brain tumor, and especially to the gastric symptoms of epilepsy, which are sometimes misinterpreted in obscure cases of this disorder. Acute affections of the cardiovascular system may have gastric symptoms as their sole expression, and they are still more pronounced and continuous in failure of compensation. Among lung diseases apex pneumonia and tuberculosis are examples, and in children with severe vomiting the possibility of the former infection should be borne in mind. The gastric symptoms of liver disease, or disorders of the intestines and appendix and of the genitourinary organs are well known, and in blood disorders the vomiting, etc., of chlorosis is a familiar example. Among the infectious disorders, special mention is made of tuberculosis, gonorrhea, and syphilis, and among the intoxications, those of tobacco and lead, exophthalmic goiter, internal suppuration, Addison's disease, and uremia. The gastric neuroses of hysteria and neurasthenia sometimes cause special difficulties of diagnosis. Non-gastric diseases generally require the closest examination of all the organs and study of all the secretions and excretions, as well as of the clinical course and history. The symptoms bear more or less relation to pathological or physiological fluctuations of the primary cause in eye, heart, kidneys or whatever other organs may be affected, and have not the constancy of those of organic gastric disease.

**Gonorrhea in the Female.**—L. H. Dunning concludes that the estimate of some high authorities as to the importance of gonorrhea, as a cause of sterility in women and of severe pelvic disease, is too high. He claims that while acute gonorrhea is easily diagnosed in the female, both smear and culture being available, in the chronic and subacute cases the diagnosis is often impossible, even with the use of all secondary aids, such as questioning the patient, sudden onset of inflammatory conditions without other causes, etc., and that in many cases of gonorrhea in women the patients recover quickly, leaving no traces so far as physical examination can detect. As proof of this, he gives the account of a patient whom he treated in a severe attack of gonorrhea contracted from her husband. When, nine years later, he was consulted by the same woman on account of her sterility, he could find no pelvic disease whatever, and she had no symptoms beyond somewhat painful menstruation. This difficulty of diagnosis makes it impossible to say just what part gonorrhea plays in the production of female sterility. His belief is that the most frequent cause is the intentional prevention of pregnancy, and that next to this come errors of development of the reproductive organs of women. He finds also that the records of his private practice show no such preponderance of gonorrhea as the cause of severe pelvic lesions, as is claimed, and the same is true of those of the only charlty hospital of Indianapolis. He admits, however, that there is a great difference in the prevalence of gonorrhea in different communities, and that studies covering a wider field will be required to settle the question.

*The Lancet, October 28, 1905.*

**A Case of Emphysema Occurring During Parturition.**—F. H. Sprague reports the case of a healthy primipara with normal head presentation and prolonged labor due to deficient liquor amnii. When the head began to distend the perineum (chloroform being used), swelling was noticed on the right side of the mother's face and neck. Later the swollen area involved the whole front of the right chest down to the fourth rib; the supraclavicular fossa was distended as well as the cervical triangles. The characteristic crackling was evident on palpation and the voice had sunk to a whisper. The child had in the meantime been delivered. Dyspnea and dysphagia were both present. For two days the patient was in great discomfort, but then all symptoms began to abate, and by the eighth day conditions were normal. The emphysema did not interfere with the progress of the puerperium. No treatment was adopted beyond the protecting the chest and neck with cotton wool restraint of cough and of all respiratory effort.

**Multiple Abscesses of the Kidney Due to Ascending Infection of the Normal Urinary Tract by Bacillus Coli Communis.**—One personal case is reported by H. L. Barnard, and reference is made to cases previously reported by Rigby, Brewer, Lennander, Wilms, and Blake. The author notes that in each case the affection has been unilateral. He advises the exposure of the kidney through the loin, and, if the organ is engorged and covered with subcapsular hemorrhagic abscesses, its rapid excision. In two of the cases quoted, however, recovery followed splitting, partial resection, and drainage. This method should probably be reserved for slight cases in which the infection is restricted to one or two small areas and for bilateral cases. After nephrectomy the temperature falls to normal, the pyuria ceases, the toxemia disappears, and the wound does not suppurate. The kidney may be infected through the blood lymph, urine, and by extension of a neighboring suppurative process, such as the colon or a retroappendical abscess. Ordinarily the urethra protects the bladder from infection. The short urethra in women is undoubtedly the cause of the more frequent occurrence of (non-gonorrheal) cystitis in women. The male urethra normally protects the bladder from its length, the passage of urine scours it out. Moreover, its muscular fibers clear it out thoroughly by a peristaltic wave at the end of micturition. Similarly the ureters protect the kidney and are even better adapted for their purpose, being emptied some fourteen times every minute. But all of these safeguards are circumvented by any obstruction which leads to a dilatation of the urinary cavities and channels. In the author's case urethritis and cystitis existed at the time of operation, and the only exciting cause of these that could be ascertained was overindulgence in coffee and beer.

**Membranous Colitis.**—A study of sixty cases is made by W. Hale White. A tabulated record is made of findings in sixteen cases that, although not fatal, did not recover; of six cases much improved, of twenty-one cases that recovered, of twenty-one cases with some disorder of the female generative tract, and of eight cases associated with appendix disease. The author declares that the most important part of the treatment is to keep the large bowel empty. Castor oil is the preferable remedy and should be given as soon as the patient wakes. Often this will cure the patient. If the oil is not well borne magnesium sulphate may be given in its place, or calomel may answer. Should these methods fail, the bowel should be washed

out with plain water at blood temperature. In very severe and intractable cases the bowel may be kept clear by a right-sided colotomy. This entails, however, an awkward state of affairs. The opening must remain patent for one year and its closure may be difficult. Should it be done there is no need regularly to wash the bowel through from the artificial opening to the anus. All that is necessary is for it to be empty and to start it in this condition. One washing may be given at time of operation. High-frequency electric currents through the abdomen are of uncertain value. The so-called intestinal antiseptics are worse than useless. The abdomen should be warmly clothed. Improvement under any plan is not infrequently delayed until it has been continued for months.

*British Medical Journal, October 28, 1905.*

**Graves's Disease.**—Hector Mackenzie thinks it probable that the parathyroids play an important part in the pathology of Graves's disease, and that their atrophy may be the cause of some of the more serious symptoms. In speaking of the presence of the thymus in fatal cases of this disease, he states that perhaps every case of persistent thymus is one of potential or latent Graves's disease. Although there are no obvious naked-eye changes in the nervous system, certain microscopic lesions have been found after death in some cases. The writer believes that it is most probable that the hypertrophy and over-activity of the thyroid is the cause of the symptoms of the disease and of most of the changes in the organs of the body. It is not known what it is that starts the hypertrophy of the thyroid. The disease is more common in the female than in the male. It may occur at any age but it is rare in children or over the age of fifty. The four cardinal symptoms are well known to all —goiter, palpitation, exophthalmos, and tremor. Progressive emaciation may well cause anxiety, and with it goes loss of strength. Slight degrees of pyrexia are not uncommon. Edema is occasionally seen. Looseness of the bowels, alternating sometimes with constipation, is another trouble. Irritability is nearly always present; and even insanity develops in some cases, the type being either melancholia or mania. There are two varieties of the disease, the acute and the chronic. The prognosis should be guarded in all cases, but especially in the acute ones. Time is a most important element in combating the disease. Massage, which is beneficial in certain cases, as in patients who are confined to bed, must be judiciously employed. There is no rule as to the climate that will suit one of these patients. Peaceful rest and quiet are most essential. Wholesome food, pure and bracing air, and pleasant and cheerful surroundings are indicated. As to drugs, Mackenzie has found potassium bromide useful. Belladonna also affords relief. In certain cases, treatment with thyroid gland is beneficial, but usually makes the patient worse. Local treatment also has its place. On the whole, the risk attending thyroidectomy is too great to justify the adoption of the operation save in exceptional circumstances.

**Open-Air Treatment of Addison's Disease.**—Byrom Bramwell gives the history of a patient who was suffering from Addison's disease. He had been ill for eighteen months. There was a good covering of fat, although the patient had lost in weight. This loss evidently had to do with muscle and not with fat. There was extreme asthenia. There was some degree of anemia. The hemoglobin equaled 70 per cent. There was considerable excess of lymphocytes (40 per cent.) which was suggestive of a tuberculous lesion. There was deep pigmentation of the skin of the parts which had been exposed to the air. There was some pain in the back over the region of the suprarenal capsules, but there was no tenderness on pressure in the lumbar region. After the patient had been in the hospital for three weeks, it was decided to try the effect of open-air treatment. Although the weather was most inclement and cold, the patient stood the exposure well. He did not complain of the cold and felt quite comfortable. At the same time, suprarenal extract, five grains, three times daily, was administered. Improvement was remarkable. The patient, after his discharge, came for inspection from time to time and declared that he felt well. Eight months after his discharge from the hospital, he returned to work (he was a ship steward) without asking permission of the physician. In three months he complained of great weakness and inability to work. The next day he was better, but in two days he was dead. The final attack and death seemed to be due to rapidly developed asthenia and failure of the heart's action, perhaps the result of autointoxication. There was no post-mortem examination. Bramwell emphasizes the fact that the life of a patient with Addison's disease, even when marked improvement takes place, is an extremely precarious one. This is due to the abolished function of the suprarenal glands. Such patients, even if they have apparently recovered, should lead inactive lives, as anything likely to depress the heart's action may be attended with great danger.

*Berliner klinische Wochenschrift, October 16, 1905.*

**The Local Effects of Tubercle Bacilli at the Portal of Entry.**—Von Baumgarten combats the theory that tubercle bacilli can pass through the superficial coverings of the body without causing local lesions at the point of entry. In a long series of experiments such lesions were constantly present, although a microscopic examination was sometimes necessary to determine their existence in rapidly fatal cases, or where, as the result of a diminished virulence in the organism, the disease was limited to the regional lymphnodes for a long time. Inoculation of bacilli into the abraded skin or mucous membrane is invariably followed by the development of tubercular lesions at the site of inoculation. Similarly the administration of milk containing tubercle bacilli to rabbits is followed by typical tuberculosis of the intestinal mucosa, the mesenteric lymphnodes and the liver. Frequently the lungs, throat, and cervical lymphnodes are also affected. Here also in rapidly fatal cases, although the cervical and mesenteric lymphnodes were microscopically involved, the lesions in the mucosa were often microscopic. Tubercle bacilli can pass through the intact intestinal mucosa only at the site of the lymphoid follicles, whence they pass to the mesenteric lymphnodes. Here they are collected in large numbers, and the nodes may therefore in the early stages of the disease present a more advanced stage of tuberculosis than the mucosa. Later the mucosa is broken down by the action of the bacilli in the follicles and typical ulcers result. The author thus explains the infection of the mesenteric nodes in the presence of an apparently intact mucous membrane. Pulmonary infection as the only result of feeding experiments is due to the aspiration of a portion of the bacilli, while the inhibitive action of the gastric juice or the rapid expulsion of the remainder from the intestine prevents an infection of the intestinal canal. Baumgarten has further shown by experimentation that the injection of tubercle bacilli into the trachea is followed by tuberculosis of the lung tissue, and that the bacilli are unable to pass through the alveolar endothelium to the bronchial lymphnodes without infecting the former.

**A Contribution to the Pathogenesis of Diphtheria.**—Scheller and Stenger call attention to the frequency of diphtheria of the throat arising from the extension of the specific organism from the nasal cavities. Rhinitides, especially rhinitis fibrosa, is often due to the presence of diphtheria bacilli. Pharyngeal diphtheria is often ushered in by a mild rhinitis that the authors regard either as an initial process in the disease or as a factor predisposing to infection with the diphtheria bacillus. Mechanical, chemical, or infectious agents affecting the nasal mucosa may give rise to a diphtheritic infection of the pharyngeal mucosa where diphtheria bacilli are present, although dormant, in the nose, even though the organism has not previously been lodging on the tonsillar or pharyngeal mucous membrane. The writers record a case in which an operation upon the nose was followed by a tonsillar diphtheritis. Diphtheria bacilli had been found in the nasal, but not in the pharyngeal cavity, before operation.

**Fever During Menstruation in Tuberculous Women.**—Franck believes that in the absence of disease of the genital organs even a mild pyrexia during menstruation is to be regarded as a sign of probable tuberculous infection. Anemia, sweats, a tendency to contract colds, and a tuberculous family history tend to strengthen the assumption of the presence of tuberculosis, and warrant the institution of the customary treatment, even though the lesion cannot be found by examination of the patient.

*Deutsche medizinische Wochenschrift, October 12, 1905.*

**Multiple Scelerosis and Trauma.**—Grossman first reviews the literature relating to the subject, which appears to show that authorities are divided in regard to the possibility of traumatic origin of multiple sclerosis. Strümpell, Krafft-Ebing and Pierre Marie are all opposed to a belief in trauma as an etiological factor, while such authors as Leube, v. Leyden, and v. Jaksch think it must be reckoned with as a possibility. Grossman's own case was that of a man of 28, who was alleged to have been in perfect health until he fell from a height while washing windows and struck on a bench below. He was unconscious when picked up and suffered from general pains all over his body, so that after staying in bed for two days at home he went to a hospital, where the diagnosis of multiple sclerosis after trauma was made on account of the already existing optic atrophy, nystagmus, intention tremor, unequal patellar reflexes, vertigo, and forced laughing. The man's comrades attested that he had been in perfect health and able to do hard work up to the

time of the accident, so that it would appear that this was an excellent case of post-traumatic multiple sclerosis. Closer analysis shows, however, that the symptoms described could not possibly have developed so promptly, and the author believes that the patient had the disease in a latent form for some time without suffering from any impairment of his faculties until suddenly the process was started into activity by the accident.

**Ligation of the Ovarian and Internal Iliac Veins in Puerperal Pyemia.**—Haeckel recommends this procedure highly in cases of puerperal pyemia, particularly if of chronic course. Through extension from the dilated vessels of the placental site the venous plexus on either side of the uterus becomes choked with infectious material. From time to time portions of this are carried into the general blood stream and cause the typical pyemic chills and temperature. By ligating the ovarian and the internal iliac veins in each side a stop is put to this process of deportation of septic emboli and prompt improvement follows in the patient's general condition. Of course the septic products are left in the occluded vessels, but they no longer can enter the general circulation, and the best opportunity is afforded for their gradual absorption. The author describes one case of chronic pyemia in which he carried out the measure with great success, and another of the acute form in which it did not seem to influence the course of the disease appreciably. He considers the operation as representing a valuable addition to the surgeon's resources in dealing with this complication of the puerperium.

*French and Italian Journals.*

**Senile Trembling in the Nursling.**—Raymond writes that besides the tremblings due to intoxications or to the diverse lesions of the nervous system there exists another special form. It is hereditary and may descend from father to son. Aside from this symptom, the patients are healthy. There is no other morbid symptom. Senile trembling is the term applied to that symptom when it is observed in old age, but it is encountered at every period of life. The writer reports the case of a child seven months old. From the time he was two months old he presented all the characteristics of senile trembling. The head alone was affected, no other part of the body taking part in the trembling. The oscillations of the head were slow and were made from side to side, indefinitely repeated. The child was placid and looked well. It had never suffered from convulsions. As to the etiology of this affection only one factor could be discovered: the mother had suffered during four months of her pregnancy with whooping-cough. The maternal infection, without a doubt, had caused certain degenerative changes in the brain of the child, hence the trembling. In the treatment of these cases all offensive medication ought to be rejected. Baths, certain preparations of the valerian, and careful attention to the digestive tract are the most important features. Nothing else is of any consequence.—*Journal des Praticiens*, September 2, 1905.

**Two Nephrectomies for Renal Tuberculosis.**—Carlier reports two cases of this kind that have recently come under his care. The first patient was a young woman twenty years old. Failing to determine with certainty the integrity of the left kidney from the separation of urine, Carlier did a nephrotomy on the right kidney. This operation resulted in the outlet of from four to five hundred grammes of pus, which had been dammed up in three different pockets. The general condition being so much improved after this operation a secondary nephrectomy was done. Numerous adhesions about the kidney necessitated a subcapsular nephrectomy. The patient is now almost well. The left kidney is healthy although the bladder is not yet normal. Section of the kidney which was removed showed four large empty cavities. A fifth was filled with caseous material. Nephrotomy does not bring about the cure of such lesions. The second case was that of a little girl ten years old. The affected kidney was completely riddled with cavities. The ablation of this organ, together with its capsule, was easily accomplished by the lumbar route. The patient made a perfect recovery after operation.—*Le Nord Médical*, September 1, 1905.

**Action of Massage on the Precordial Region in Affections of the Heart.**—Cautru declares that massage effects arterial pressure. It may be soothing in its effects, lowering the pressure which is accomplished by manual vibrations and gentle movements, or it may be exciting, raising the pressure, as brought about by petrissage. Whatever the nature of the massage, the indication for its variety is based on the condition of the arterial pressure. By massage the number of the pulse beats may be regulated. The rhythm, also, may be influenced. This effect may be permanent after several treatments. The writer has obtained sphygmographical tracings in his work, which definitely demonstrate his results. Besides its effect upon the arterial pressure and upon the pulse, massage also influences the volume of the heart. However, in cases of pericarditis with effusion and in pericardiac symphysis the absolute dullness is not changed by means of massage, and this fact offers an important element in diagnosis. Aside from its action on the heart the good effects of massage have been noted in relation to intercostal neuralgia, which occurs so frequently in cardiopathies, and on the general condition—diminution of dyspnea, increase of diuresis, sensation of well-being—especially if the action of cardiac massage is combined with that of abdominal massage.—*Le Progrès Médical*, September 2, 1905.

**The Alimentary Régime of Epileptics.**—Jules Voisin and Roger Voisin, after discussing the advisability of the lactovegetarian régime in epilepsy, conclude that this treatment is based on a faulty theory. They believe that the ideas concerning the phenomena which accompany the digestion of meat which the advocates of the lactovegetarian régime have advanced are probably false. The consumption of meat or of nitrogenous elements, whatever may be their nature, provided that such food is not taken in excess, does not result in the increase of the number of epileptic attacks. It is useless to prescribe in such cases then the lactovegetarian regime, or even the hyponitrogenous régime. It is sufficient that the epileptic, along with his ordinary bromide treatment, follow the rules of good general hygiene, avoiding digestive troubles.—*La Presse Médicale*, September 2, 1905.

**Statistics of 731 Laparotomies.**—Casati has done 731 consecutive laparotomies, among which he finds the greatest mortality in cancer of the stomach and of the uterus, and of these in cases of occlusion of the intestine. In such cases, of 164 patients, 47 have died, that is a mortality of 28.65 per cent. Of all the other cases, 567 in number, among which there were 176 abdominal tumors, 122 removals of the adnexa, 24 appendicitis operations, 11 removals of the spleen, 19 removals of the kidney, there have been only 28 deaths, that is a mortality of 4.93 per cent. The author believes that in case of appendicitis the operation should be undertaken in the acute stage of the disease.—*La Riforma Medica*, August 26, 1905.

**Tumors of the Sella Turcica.**—Umberto Parodi tells us that there have been observed typical adenomata of the hypophysis, as well as sarcomata and ghiomata; on the other hand, there have been found in many cases tumors that are not clearly adenomatous; these have been called angiosarcomata, and have also been ascribed to the epithelial adenomata or adenocarcinomata. Other tumors have no adenomatous structure and are still considered adenomata. A diagnostic element consists of the chromphyl cells characteristic of the hypophysis. The author describes a tumor examined by him, which occurred in an old woman who was entirely blind and deaf, but otherwise was entirely healthy, having no signs of acromegaly. She died of pleuropneumonia. The tumor occupied the sella turcica, and the region covering it. The optic chiasma and nerves were compressed and atrophied. There was found a small band of tissue that resembled atrophic tissue of the hypophysis. The hypophysis was destroyed and functionless. The tumor included tissue of two distinct types: perivascular tissue, and a portion having an irregular alveolar structure. It was not a typical adenoma, nor a sarcoma; the location of the tumor, the absence of transitional forms from residual hypophyseal tissue, and the absence of likeness to tumors produced by the bones, nerves, or meninges, make it probable that it was derived from parahypophyseal embryonal germs.—*Archivio per le Scienze Mediche*, Vol. XXIX, Fasc. 4.

**An Unusual Case of Rheumatic Arteritis.**—Andrea Conti describes a case of rheumatism in a boy of seventeen years, who, two years previously, had had an attack of articular rheumatism, which had produced marked lesions in the heart. There were mitral systolic and aortic murmurs, a very much enlarged heart, and visible pulsation in the great vessels of the neck and in the upper intercostal spaces. During the attack described, in combination with high fever and dyspnea, there was severe pain over the abdominal and thoracic aorta, and these could be felt, and were very tender to pressure, and their pulsation could be felt through the abdominal walls. The author believes that there was an arteritis of rheumatic origin involving the arch of the aorta and its thoracic and abdominal portions. Under treatment the symptoms of arteritis disappeared, and the patient recovered as far as could be expected in one with so severe a heart lesion.—*Rivista Critica di Clinica Medica* September 16, 1905.

# Book Reviews.

Vital Questions. By Henry Dwight Chapin, M.D. New York: Thomas Y. Crowell & Co., 1905.

The author of this little volume of sociological essays has done a good work for his fellows. The thoughts here expressed are not revolutionary, the work proclaims no panacea for the ills of humanity, the several chapters contain no great truths that have not been expressed before, yet some lives will be better for the book having been written, some ills will be assuaged, some of the idle who are wasting their talents because they do not know how to employ them will be stimulated to work for others, and in relieving the sorrows of their fellows will find real happiness for themselves. Though the truths discussed are not new, the author deals in no platitudes; he regards his subjects from a fresh view-point and treats of them in a dispassionate and practical way that brings them home to the reader. The keynote of the book is sound common sense without a trace of radicalism or striving after the sensational. The questions discussed in the several chapters are "opportunity," relating to individual inequality; "survival," dealing with the unfit; "subsistence," having to do with poverty; "hope," the child; "vigor," health; "training," education; "achievement," as expressed by success; "contentment," the basis of happiness; "faith," dealing with religion; and "the final question"—death.

But altogether apart from the vital importance of these questions and from the interesting way in which they are presented, the book contains a lesson for the physician which he should take to heart. Dr. Chapin offers no apology, in the modern English sense of the Latin *apologia*, for entering, as a physician, upon a discussion of purely sociological questions, but boldly asserts that, as a physician, he is better qualified than the average layman to treat of such subjects. "The public may," he says, "and can get from the medical profession much more than the mere healing of their physical ills," and if they do not, the fault lies with the profession. Physicians as a class are narrow, they concern themselves too much with the physical and neglect the vast opportunities which their training and experience give them for promoting the welfare of the community. Here is a vast body of educated, thinking men brought into intimate daily contact with the poor and the wretched and the criminal, yet how seldom does one of them come out of the rut and give the world the benefit of his sociological experience. No "settlement worker," and no priest even, can ever get so close to the real life of the poor as the physician who sees them with the mask thrown off, to whom they reveal all their misery and their pain, and to whom their very souls are laid bare in the intimacy of professional confidences. Who, then, is better fitted to discuss the prophylaxis and treatment of social ills than the one to whom their nature and their causes are so familiar? Dr. Chapin has done a good work in emphasizing the fact that the physician owes more to the community than he gives in treating the physical ills of the individual. To him is also given the opportunity of laboring in a broader sense for the betterment of mankind. The medical man should be a power working for the elevation of humanity; he should come out from his retirement and take the part in the work of the world that his education and his opportunities peculiarly fit him to take. The author of this little book has shown what can be done in a modest way by every physician, and it would be well did others follow his example.

Krankheiten des Verdauungskanals. Von Dr. Paul Cohnheim, Berlin: S. Karger, 1905.

The newer methods of examination in diseases of the digestive tract are of great importance in this special field of medicine. In many of the every-day cases, however, a diagnosis and a rational line of treatment can be well established by taking into consideration the history of the disease and the physical examination of the patient—without a thorough investigation of the gastric secretion. This fact is adhered to through the present volume. Cohnheim's book is, therefore, a useful addition to medical literature.

A Guide to Anæsthetics for the Student and General Practitioner. By Thomas D. Luke, M.B., F.R.C.S. (Ed.), Instructor in Anæsthetics (University Surgical Classes), Royal Infirmary, Anæsthetist to the Deaconess Hospital, and the Dental Hospital, Edinburgh. With 45 Illustrations. Second Edition, 135 pages. Edinburgh: William Green & Sons; Philadelphia: J. B. Lippincott Company, 1905.

The growing popularity of ethyl chloride as a general anæsthetic has been the reason of this new edition. The author prophesies that in a few years it will be the most frequently used anæsthetic in England. The work, as a whole, covers the subject of local and general anæsthesia in a practical and thorough manner.

A Treatise on the Nervous Diseases of Children. For Physicians and Students. By B. Sachs, M.D., Alienist and Neurologist to Bellevue Hospital; Neurologist to the Mt. Sinai Hospital; Formerly Consulting Physician to Manhattan State Hospital, East and West; Formerly Professor of Mental and Nervous Diseases in the New York Polyclinic; Ex-president of the American Neurological Association. Second Edition. New York: William Wood & Co., 1905.

That the medical world appreciates the value of this work is evidenced by the fact that it has been translated into German and Italian and a French edition will soon follow. This popularity is well deserved since the author has produced a work distinctly original, the material of which has been supplied by a large personal experience in hospital and private work in the department of neurology. Moreover it has a breadth of scope not always noticeable in special treatises.

The present edition differs from its predecessors mainly in compactness and in its being thoroughly brought up to date in a specialty in which there have been important advances in the last few years. The author has omitted those chapters, present in the regular text-books on neurology, and having no special bearing here, such as the anatomy and physiology of the nervous system; detailed histories and bibliographies have also been dropped from the text.

The work is meant as much for the general practitioner as for the specialist, and its direct style, helpful therapeutics, and useful diagnostic hints will be appreciated by all who have to treat convulsions of all types, chorea, paralyses, etc., and enable him better to advance a prognosis when requested by anxious parents. The one critical remark that might be made against this volume is that its index is too limited and makes much valuable material difficult to obtain for ready reference.

Clinical Diagnosis. The Bacteriological, Chemical, and Microscopial Evidences of Disease. By Rudolf v. Jaksch, M.D., Professor of Special Pathology and Therapeutics, Director of the Medical Clinic in the German University of Prague, Ordinary Member of the Supreme Sanitary Council. Fifth English Edition. Based upon the Fifth German Edition, but containing additional matter and illustrations. Edited by Archibald E. Garrod, M.A., M.D., F.R.C.P., Assistant Physician to and Lecturer in Clinical Pathology at St. Bartholomew's Hospital, Physician to the Hospital for Sick Children, Great Ormond Street. With 172 illustrations (many in colors), including one colored plate. London: Charles Griffin & Co., Ltd.; Philadelphia: J. B. Lippincott Company, 1905.

Owing to the death of Dr. Cagney, the original translator, Dr. Garrod's name appears upon the title page of the new edition of this authoritative work. Among the more important additions to be noted are a section on trypanosmata with a colored plate, and one on cryoscopy. The author states that he has given up the use of Beckman's apparatus for freezing point determinations and is now using his own modification of Zikel's pectoscope. The interpolations of the English editor are numerous and contribute their share toward keeping the work fully abreast of the times in this most progressive branch of medical literature.

The Diagnostics of Internal Medicine. A Clinical Treatise upon the Recognized Principles of Medical Diagnosis, Prepared for the use of Students and Practitioners of Medicine. By Glentworth Reeve Butler, Sc.D., M.D. Chief of the Second Medical Division, Methodist Episcopal Hospital; Attending Physician to the Brooklyn Hospital, etc. With five colored plates and two hundred and eighty-eight illustrations and charts in the text. Second revised edition. New York and London: D. Appleton & Company, 1905.

This handbook of clinical diagnosis met with such a warm reception almost immediately upon its first appearance that it is not surprising that a second edition has been required so soon. In this issue the author has taken advantage of the opportunity to add many more of the instructive diagrams and other illustrations which are so prominent a feature of the book. In addition to minor changes in the body of the text two new sections have been added, one of 14 pages by Dr. Paul M. Pilcher on the use of the *x*-ray in diagnosis, and another of 33 pages by Dr. W. A. White on diseases of the mind. Other notable additions are found in the lists of infectious diseases which now includes discussions of such recently studied conditions as paratyphoid fever, Malta fever, trypanosomiasis, spotted or tick fever, milk sickness, glandular fever, etc. A section on cryoscopy has also been introduced. The subject of diagnosis is of itself one of the most interesting departments of medicine, but when pursued by the aid of so original and attractive a guide as this, its study becomes doubly fascinating.

# Society Reports.

## NEW YORK COUNTY MEDICAL ASSOCIATION.

*Stated Meeting, Held October 16, 1905.*

DR. FRANCIS J. QUINLAN, PRESIDENT, IN THE CHAIR.

THE evening was devoted to a discussion on the Dispensary Abuse.

**History of the Dispensary Law.**—Dr. E. ELIOT HARRIS presented the salient facts connected with the history of the law. He quoted a learned economist who had said that civilized communities had enacted laws having for their object the enforcement of certain restraints upon the appetites; the so-called benevolent impulse of our nature which moved us to give relief to those who appeared to be in distress might often be the cause which created a new lot of beggars. The Dispensary Law, which required all dispensaries to obtain a license, was enacted to restrain such impulses and to act as a deterrent to the fraud so easily practised on this form of medical charity. Scientific workers in the field of charity had educated the press and the public to the full danger of the moral degradation consequent upon misdirected charity. Dr. Harris quoted a number of excerpts from newspapers, to show that when the first dispensary bill was introduced into the Legislature, in 1897, the press and the public were alive to the questions at issue and ready to cooperate to secure the enactment of the law. Notwithstanding the general support of the press, the Dispensary Bill was vetoed by Governor Black in 1897; and in 1898 it was again defeated, although supported by a joint committee representing thirteen medical societies. In 1898 the Dispensary Bill was placed in the hands of the Committee on Legislation of the New York State Medical Association. In the investigation which followed, the Governor stated that every person had a right to establish a dispensary, so long as he used his own money in maintaining it, but if he used other money he could properly be subjected to State supervision. Dr. Harris said he could not see what privilege was gained when Section 23 of the law read as follows: "Nor shall any person, corporation, institution, society, association, or agent thereof, except a duly licensed dispensary, display or cause to be displayed, a sign or other thing which could directly or indirectly or by suggestion indicate the existence of the equivalent, in purpose and effect, of a dispensary." Certain unincorporated clinics, as those connected with medical schools and hospitals, had to be cared for in the bill, in order to avoid their opposition, hence the following Section: "A license shall be issued on application to all dispensaries legally incorporated and to unincorporated dispensaries connected with incorporated institutions at the time of the passage of this Act." The fears of some of the schools of medicine were quieted by Section 21 of the law: "The State Board of Charities shall make rules and regulations, and alter and amend the same, in accordance with which all dispensaries shall furnish, and applicants obtain, medical and surgical relief, advice or treatment, medicine or apparatus. But such rules and regulations shall not in any case specify the particular school of medicine in accordance with which a dispensary shall manage or conduct its work or determine the kind of medical or surgical treatment to be provided by any dispensary." The Governor objected very decidedly to giving the State Board of Charities power to revoke the license of incorporated dispensaries for disobedience of its rules. To meet these views Section 22 of the bill was added, which is now the law: "The said board is hereby directed to apply to the Supreme Court to revoke the license and annul the incorporation of any dispensary legally incorporated or conducted in connection with an incorporated institution at the time of the passage of this Act for wilful violation of the rules and regulations made by said board." The Dispensary Bill was introduced into the Legislature on February 24, 1899, and was signed by Governor Theodore Roosevelt on April 18, 1899.

**Dispensary Rules Adopted by the State Board of Charities and the Policy of the Board in the Enforcement of the Dispensary Law.**—Dr. STEPHEN SMITH reviewed Chapter 368 of the Laws of 1899, which was "An Act to Amend the State Charities Law, relating to the Licensing and Regulation of Dispensaries, by the State Board of Charities." This law went into effect on October 1, 1899. He also presented the Report of the Board's Special Committee on the Rules and Regulations for Dispensaries; together with the Rules and Regulations, the form of Application for a License, and the Form of License Adopted by the Board, Pursuant to the Provisions of Chapter 368, Laws of 1899. In this report it was stated that the form and manner of application for a license of a dispensary consisted of issuing to parties desirous of a license a circular, which Dr. Smith submitted in full, which was designed to secure, in writing, such information in regard to the institution as would enable the board to form a correct judgment as to the propriety of issuing its license. The form of the license issued was that usually employed by the State authorities, which granted license. In preparing the rules and regulations a circular of inquiry was first sent to the managers of all the dispensaries in the State, and to persons known to be interested in their reform, requesting opinions and suggestions as to the rules and regulations best adapted to the objects contemplated by the law. A large number of replies were received, containing many suggestions which were useful to the committee. The committee endeavored to create as little embarrassment as possible in the management of existing dispensaries and yet secure the needed reforms. Rule I. required that each dispensary should post a notice conspicuously in the waiting-room, announcing the fact that the dispensary had been duly licensed by the State Board of Charities to furnish medical and surgical relief to the sick poor who were unable to pay for the same. Added to this notice was the penalty for false representations by applicants in their efforts to obtain medical or surgical relief. This penalty stated that any person who obtained medical or surgical treatment on false representations should be guilty of a misdemeanor, and on conviction thereof should be punished by a fine of not less than $10 and not more than $250. Rule II. created the "Registrar," a new office in the dispensary, or, rather, a new title to the officer known as the "House Physician." The advantage in this provision would appear in the appointment of a competent person to have charge of the daily management of routine duties, keeping records, etc. Rule III. was the most important, because it aimed directly to control the alleged abuse of the indiscriminate treatment of applicants. It prescribed the rules governing the admission of individual applicants. Two classes were to be admitted at once, emergency cases and those evidently poor and needy. Those about whom there was doubt were to be given one treatment and then investigated. The results of investigation had to be filed in the dispensary. Any who refused to sign the card of admission were rejected. On the admission card was printed the representations to which the applicant subscribed and which covered those subjects most liable to conceal the frauds hitherto practised upon the dispensaries. The committee regarded this card as the most important of the rules, as it brought directly to the applicant the responsibility which he incurred in signing the card containing his representations. Rule IV. provided for a matron, who, in addition to her general duties, should attend women who had to submit to gynecological examinations and operations. Rule V. gave force and effect to existing rules of most dispensaries against the treatment of contagious diseases in these institutions. The enforcement of the rule had, however, been so lax that dispensaries had come to be regarded as prolific means of spreading diseases. Rule VI. governed the utilization of the dispensary for purposes of instruction and was designed to prevent the use of harsh and compulsory methods of compelling reluctant patients to submit to examinations and operations. Rule

VII. would eliminate from dispensaries druggists who had had no training for their responsible duties, and would prevent the dispensary being the medium for the refuse stock of wholesale dealers. Rule VIII. insured periodical sanitary inspection by the local health boards and immediate compliance with their orders. Rule IX. was designed to prevent an inadequate number of seats in the waiting-room, the indiscriminate mingling of the sexes. The committee suggested, in conclusion, that there should be at least two women in the Board of Managers of all dispensaries operating under their own charter and which received and treated women and children. It also suggested that there should be two classes of physicians and surgeons, visiting and assistants. The term of service was limited to three years in a division. The members of both classes should be elected annually by the Board of Managers. Physicians and surgeons should be held more rigidly responsible for the proper treatment of the patients of the classes to which they were respectively assigned. After the rules were prepared a public hearing was given, to which all the managers of dispensaries in the State were invited. On October 10, 1900, these rules and regulations were amended. One of the amendments provided that the "Registrar might select a deputy to perform his duties or to assist him;" instead of "every applicant," the phrase, "or parent or guardian of such applicant," was inserted. Several other minor changes were also made. In 1901 a special report of the Committee on Dispensaries, in relation to the enforcement of the Rules and Regulations of the Board was made in April, 1901, after the amended rules had been in operation for five months. In the opinion of the Board the time had arrived when action should be taken to secure compliance with the rules. At this time tables were presented, showing the results of the inspection of the dispensaries of the State and how far the Rules and Regulations on the State Board of Charities were complied with.

**The Practical Application of the Law to the Dispensaries.**—Mr. W. N. Beck, Chief Inspector New York State Board of Charities, after briefly reviewing the history of the dispensary law as already outlined, said that the question had recently been raised whether the dispensary law had not been a failure. He then compared conditions in 1899, before the dispensary law was in effect, and those of the present time, as revealed by a special inquiry made by the Board's inspector of dispensaries, Mr. John B. Prest. He took up each of the rules noted in Dr. Smith's paper, and showed that these rules had been complied with to a great extent. He summed up his detailed statement by saying that a condition of anarchy had been replaced by one of law and order; dispensaries had been driven from drug stores and tenement houses, and their location restricted by law and the requirements of the State Board. The dispensary buildings were now usually suitable and clean and their equipment adequate. The responsibility of dispensary managers had been consistently emphasized. Women patients were no longer examined or treated alone. An officer was provided to make and preserve accurate accounts of the work done and statistics were collected yearly of this work. Faithful and thorough medical service was now usually the rule. In a majority of dispensaries care was taken in the admission of applicants. The system of regulation provided had resulted in a diminution in the number of dispensaries from 136 in 1899 to 119 in 1904, and that in spite of the marked increase in population. The number of beneficiaries had increased only slightly in this period, from 932,172 to 1,009,334, or about 77,000, while the number of treatments given had increased from 2,106,723 to 2,825,640, an increase of more than 800,000. This would seem to indicate that the number of persons receiving charity in dispensaries was not increasing in proportion to the population, and that more attention was given to the individual patient than formerly. The statement showed, however, that much remained to be done. A uniform system of keeping records and accounts of dispensaries should be adopted, and more care in the admission of applicants, and the subsequent investigation of doubtful cases was imperatively needed. Inquiry at the office of the Charity Organization Society developed the fact that doubtful cases were often not reported by the dispensaries until several days, or even weeks, after the application was made. These cases were not investigated until after more pressing cases were disposed of, and the reports did not reach the dispensaries in time to be of much use. The interest and cooperation of dispensary officers, physicians and managers was essential if further progress of a lasting character was to be made. The Dispensary Law was not the creation of the State Board of Charities, or of a few physicians, or of any one group of people, but it was the expression of the serious purpose of the community to safeguard its social interests by restricting the bestowal of medical charity and by insuring the actually poor, prompt, careful and considerate treatment.

**The Experience of the Special Inspector of Dispensaries of the New York State Board of Charities.**—Mr. John B. Prest said that his qualifications to speak on this subject consisted of five years' service for the State, during which time he had visited every dispensary from New York to Buffalo from five to upwards of twenty times, and had investigated a considerable number of unlicensed dispensaries, medical companies, and medical institutes; he had studied the growth and operation of the dispensary from many points of view. He said that when he first began the work of inspection he met with considerable opposition, but the attitude on the part of those in authority in the dispensaries had changed. While some years ago the law was little thought of by the medical men in charge of dispensaries, now, to a large extent, these same persons looked upon the law with favor. At that time they seemed to care nothing at all for a State license and considered the formalities necessary to acquire one an unnecessary bother. Many of them now looked upon the license as a valuable asset, and they indicated that they believed applications for new licenses would be closely scrutinized and issued only in most desirable cases. The records kept were now very complete and were compiled each month. This was accomplished by asking at each inspection for the number of cases treated month by month. Of all regulations governing dispensaries those which were designed to restrict the dispensary privilege to the needy poor, and the requirement that doubtful cases be investigated, have caused the most opposition. Hospital superintendents had told him that if registrars should restrict the cases admitted to those who were clearly too poor to pay, the clinics would be so reduced that they could not retain the most experienced specialists on their medical staffs. However, this much-abused regulation was now more generally observed than formerly. He spoke of the reforms in the drug departments of dispensaries, but related instances that went to show that second-hand bottles and those brought by the patient were frequently used. He believed that in the State of New York, where the regulation of dispensaries by statute had been tried for six years, the problems that the dispensary presented were nearer solution than anywhere else. In conclusion, he said that the law had resulted: (1) In placing a permanent and desirable check upon the indiscriminate establishment of dispensaries throughout the State of New York; (2) it had, to a large extent, weeded out the institutions not having real merit; (3) it had secured the adoption of more uniform methods of administration; (4) it had greatly improved the record systems at the several institutions resulting in more trustworthy statistics; (5) it had secured better cooperation between dispensary officers and charitable societies; (6) it had strengthened the institutions now existing and closed the less desirable ones. The law had failed to effect a permanent check upon the total volume of medical and

surgical relief given at the dispensaries. He did not think this was the fault of the law, but was due to other causes: (*a*) The growing competition for cases, fostered by the medical schools, and the operation of dispensaries as feeders for hospitals; (*b*) the commercializing of the dispensaries to make them self-sustaining; (*c*) the subsidizing of the dispensaries by the public authorities.

**The Practical Value of the Investigation of Dispensary Cases.**—Prof. Edward T. Devine of Columbia University said that, so far as he could see, there was but very slight change in the dispensary abuse of to-day, comparing it to what existed a few years ago. If one judged by any effect which was produced upon the dispensaries by the reports and investigations of the Charity Organization Society, he would say desirable, material and direct effects of such reports and of such investigations were very slight indeed. There were 34 dispensaries in New York city, out of a total of 119 in the State; during the past year these 34 dispensaries had asked for reports of 1,500 cases, *i. e.* not more than one out of every 200 or 300 reported for investigation. He said that many of the registrars were not of a suspicious nature, and no doubt many that should be investigated escaped him. Professor Devine said he was far from being as pessimistic about dispensaries and their abuse as a whole, and that excellent effects could and would be produced by the enactment of dispensary laws. It was a simple thing for the dispensaries to cooperate with the State Board in the literal and complete enforcement of the law. The cost of these investigations was very reasonable, about $200 being paid for looking into these 1,500 cases. Professor Devine then considered the question, why the practical effect was so slight. The cases were apt to come in bulk after dispensary treatment was finished; there were two and a half times as many treatments as patients. Again proper records were not kept in the dispensaries and information was not obtainable. Of the 1,500 patients investigated only a very slight proportion were people who would be able to pay for services. Quite a number of the people said that they had gone to the dispensary at the suggestion of their own physician. The question of dispensary abuse was not so simple as many believed, especially those who have so much to say on the subject. The difficulty lay in the fact that with the best of intentions to restrict free medical treatment, they had not yet agreed upon standards as to who should pay for the medical treatment.

Dr. Joseph D. Bryant spoke of the manner in which records of cases were kept, or unkept, in the dispensaries a few years ago, and the scribbling that was done in such a hurried manner; to-day a great change had occurred, so far as the patients and the service were concerned. Dr. Bryant said he had much experience in a general way with dispensaries, especially in the appointment to the dispensary staff of young men who were, as a rule, first-class men, able, competent, with hospital experience in the majority of the cases. To be sure, many were late, detained, or did not come at all. He was not disposed to blame the visiting or attending physician or surgeon so much as those who were over them. Many claimed dispensary treatment because they were taxpayers. The question arose, Where should the line be drawn? The abuse of dispensary treatment he did not believe was so great as those opposing it would have us believe. Dr. Bryant believed in the dispensary law; he believed in rules, and practical rules, that had been established by the Commission, and he believed that they should be reasonably enforced. But he could not understand why Dr. Smith should feel so discouraged because the reports of those who followed him seemed marked with great improvement and created a strong incentive to continue the work. Dr. Bryant closed by saying that he was willing to influence, and aid in carrying into effect rational rules, and such aid would be given cheerfully, materially, and promptly.

Dr. G. W. Gay of Boston said that the Massachusetts Homeopathic Hospital was managed upon strictly business principles, the physician sharing with the hospital in whatever the patients were able to pay. A patient occupying private rooms and paying $15 or over had to pay the attending physician a reasonable fee. A member of the staff might take a private patient to the hospital and charge a fee if the patient paid $7 a week for board. The Boston Dispensary had over 40,000 patients annually. Its doors were wide open, and there was no inspection of any kind. In fact, with the exception of the Children's Hospital, so far as he knew had any system of inspection or of exclusion. For more than a quarter of a century a portion of the profession, for various motives, had educated the public to the idea that the hospital was the cheapest and best place to obtain advice and treatment in time of accident or sickness. The trend of the people toward the free clinics was never so universal as at the present time. It devolved upon the profession to correct this. There was no concerted action among hospitals and dispensaries in Boston looking to an abatement of the evil, yet considerable was being done by certain institutions. The Boston City Hospital received over 9,000 house patients, and more than 60,000 out-patients annually, and had no system of exclusion. At the Massachusetts Charitable Eye and Ear Infirmary during the three months that it had been in operation over a thousand patients had been directed elsewhere as not being worthy recipients of charity. Over 300,000 persons received practically free treatment in the hospitals and dispensaries of Boston every year. The surgical operations approximated 25,000. A conservative estimate of the commercial value of this work would be about ten million of dollars annually. That the profession was alive to the evils resulting from this wholesale, promiscuous and unrestricted charity was made evident recently when the reader sent a series of questions to over 400 physicians in his vicinity of all grades and schools and in all social and professional circles. The first question was this: "In your opinion is medical charity abused in the hospitals and dispensaries in Boston and the vicinity?" One gentleman, a noted pathologist not in active practise, answered in the negative; two replied, "Not much!" and 302 replied in the affirmative. Another query of the series: "Do you think that the patients who are able to pay for a private room in a hospital should, as a rule, pay the physician who takes care of them?" Eighteen said no, four were doubtful, and 205 said yes. Again: "Do you think that physicians who give their services to the poor should be required to treat the rich and well-to-do patients in our hospitals and dispensaries for nothing?" Ten said yes, two were doubtful, 310 said no, and most of them said it in italics. Massachusetts had no dispensary law; that she needed one was shown by the fact that the number of persons who annually received free treatment in the seventy-five hospitals and dispensaries in the city of Boston was equal to one-half of its entire population. After making all due allowance for repeaters and rounders and for the out-of-town patients, it would be safe to say that at least one-fourth of these people were able to pay for the necessary services and were unworthy of the charity which they received. In Philadelphia more than one-fifth of the population were annually treated as charity patients; in New York, with about ninety hospitals and nearly as many dispensaries, approximately one-fourth of the people received free medical treatment every year. Sir Henry Burdett was authority for saying that one-third the inhabitants of London depended upon charity for medical services. Boston seemed thus to hold the unenviable position of having the largest number of mendicants in proportion to her population of any of the cities under consideration. As she was said to be one of the richest cities *per capita* in the country, it was difficult to explain this peculiar condition, unless it was that a considerable number of these people were able to pay for what they needed and abused their privileges. Common sense and common honesty

were the requisites needed, and it was our duty to insist upon their ruling the management of our charitable medical institutions.

Dr. Frederick Sturgis spoke of a paper on this same subject that he had read several years ago before the New York State Medical Society, when he stated that the dispensary would control the physicians and not the physicians the dispensary if care was not exercised. In order to better understand the dispensary abuse, he applied for a position on the staff of one of the largest dispensaries in the city. In 1897 and 1898 there were some patients at these dispensaries who could pay the doctor a small fee, and in those days charity did mean something. The board did not want to make a business of charities, but Dr. Sturgis told the board that if they did not charge a small fee they would have to shut the doors. In a short time after the adoption of his suggestion this institution netted $12,000 a year and only ten per cent. of the applicants paid this money. The result of the dispensary law enacted and carried out seemed to have done extremely well. He believed the whole thing depended upon the doctors, and not upon anybody else. The general pith of the thing was this: you could not mix charity with business. The dispensaries should conform to certain rules. A dispensary should be only not alone in name, but in fact, and the State Board of Charities should insist that no remuneration should be received from any patient that applied for treatment or medicine; it should be purely a charitable affair, and the patients should not be charged even ten cents, as was done in some institutions to-day. He said he had been struck by the strong desire evinced by some physicians to start a dispensary. He did not entertain such a hopeful view of ever being able to cut off treatment of persons in dispensaries who were able to pay.

Dr. Egbert Le Fevre said that he had been connected for twenty years with dispensaries, and he could bear testimony to the efficiency of the present State law in many respects. At one time he investigated thirty-five patients that applied for treatment at the dispensary who seemed able to pay, and in every case he found they were worthy objects of charity. He asked what should be considered medical charity, and how could they discriminate between the deserving and the undeserving ones. These were most difficult problems. Many who really needed medical charity were those who were trying to live respectable, and trying to keep above the poor conditions which surrounded them. To all appearances they were unworthy objects of charity, yet, when investigated, they were found to be worthy. He said that the claim was made that medical colleges and institutions were the causes of charity abuse, and to this he took exception. Dispensaries were a necessary part of medical colleges to day, just as much so as the anatomical or the laboratory. Medical schools could not get along without this material for teaching. Most dispensaries connected with medical colleges provided the teaching material, and these patients gave something for the advancement of medical science, and were not objects of charity in the broad sense of the word, and they should be looked upon in a different light. The question of medical abuse should be thought of in another manner. How many physicians would care to be bothered with these charity patients? In this city it was absolutely impossible; therefore, the dispensaries for the poor would always be with us. Many of the physicians overestimated the abuse of medical charity when taken in its broad sense. We should look at it not only as a charity which covered a multitude of sins.

Mr. Edward T. Devine said, in answer to Dr. Le Fevre, that the danger was just as great among the dispensaries connected with the medical schools as elsewhere, and it was particularly true in the obstetrical practice, lying-in hospitals and allied institutions. The feeling was becoming widespread that there was no disgrace in accepting entire medical treatment in such cases. They were encouraged to expect not only medical treatment, but nursing treatment as well. These confinement cases presented dangers which were subtle and attacked the integrity of home and family life of society.

**Officers Elected.**—*President,* Dr. Francis J. Quinlan; *First Vice-President,* Dr. John A. Bodine; *Second Vice-President,* Dr. H. H. Seabrook; *Secretary,* Dr. William Ridgely Stone; *Corresponding Secretary,* Dr. Charles G. Child, Jr.; *Treasurer,* Dr. Charles E. Denison; *Member of Executive Committee,* Dr. Frederick P. Hammond for one year, Dr. Alexander Lambert for two years, Dr. H. A. Dodin for three years.

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## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, Held October* 19, 1905.

Dr. Charles L. Dana in the Chair.

**Wesley M. Carpenter Lecture: The Etiology of Syphilis.**—Dr. Simon Flexner delivered this lecture. He said that we could not definitely maintain that the etiology of syphilis had been certainly and wholly resolved, yet we were permitted to hope that this great event had possibly been achieved. We had in any case as a permanent addition to the knowledge of syphilis many important facts which came to us on established grounds, and which could not be affected by any fate overtaking the recent discovery of a special organism in syphilitic products. He thought that the successful inoculation of monkeys and apes with syphilis might be an aid to the study of the difficult and tangled subject. He gave a brief history of the experimental work done in the attempt to inoculate monkeys with the virus of syphilis, and he thought these experiments might be taken as proving not only the susceptibility of certain monkeys to the local lesions of syphilis,, but also the possibility of successive transmissions of the virus from animal to animal. However, since in the greater number of tests the results were *nil,* the positive results partook of the nature of accidents. The use of animals had already partially answered certain questions relating to the manner of entrance of the virus into the body, and the comparative virulence of different products of the syphilized animal; and it might also help to explain better than we now knew, the important question of reinfection in syphilis. Cutaneous inoculations with primary syphilides and primary lymphatic glands caused lesions; subcutaneous injections of chancre and condyloma produced no specific manifestation; insertion of infected glands directly in the peritoneal cavity was without effect. Defibrinated blood and blood serum from cases of recent syphilis in man, were innocuous when injected subcutaneously and intraperitoneally. Blood serum from syphilitic men was also without protective action against subsequent inoculation with active virus. The internal organs of recently infected monkey and ape possessed neither infective nor protective properties of high degree. These were some of Neisser's results, which if not conclusive, had yet a bearing upon the relative infectiousness of the blood and internal organs of syphilities, and bore on the questions of the avenue through which the virus ought to enter the body, and its capacity to enter directly into the interior of the body, and cause the secondary lesions of the disease without first having undergone incubation at some local superficial site. It had been ascertained that the poison was easily injured or destroyed by low degrees of heat. Particles of chancres and condylomata suspended in salt solutions or in aqueous humor, were rendered inactive upon the monkey and chimpanzee after heating for one hour at 51° C., and one-half hour at 60° C. Glycerin did not deprive the virus of its power to set up specific lesion in the ape. He said that evidence would seem to indicate that the microbe of syphilis was microscopic, not ultra-microscopic. He related the early experiments which revealed the existence of a spirillum in the interior of a chancre and in a mucous patch, and the points of interest connected with the discovery of the *Spirochæta pallida.* This organism was described by the discoverers as measuring from four to ten

microns. In width it varied from immeasurable thinness to one-half a micron. It had from three to twelve curves which were sharp and regular, and resembled the curves of a corkscrew. The organism was motile and the motions consisted of rotations on the long axis, forward and backward movements, and bending of the entire body. Flagella had not been seen. The character of the curves and the tenuous form made its identification relatively easy. As it was frequently the only spiral organism present in the preparations, there was usually no difficulty surrounding its identification. Its detection was not entirely easy since, with most stains recommended, it was tinged so lightly that it required practice in order to see it. The fluids obtained from the interior of syphilides were most favorable for examination since, in this location, the organism was scarcely ever attended by the coarser kinds of spirilla or with extraneous bacteria. The spirilla might be entirely missed among the saprophytes of the surfaces of ulcerating lesions. Dr. Flexner did not doubt that *Spirochæta pallida* occurred on the surface of these lesions, but evidently its growth was more restricted. This organism seemed not to thrive so well on dead as on living tissue. There was evidence that the pallida type might be simulated more or less closely by spiral microorganisms occurring in other pathological conditions than syphilis. Until a method of cultivation was found, we had to rely upon superficial characters. He was, however, convinced that the morphological characters of *Spirochæta pallida* were sufficient to identify it in specimen made from specific lesion; but he would not be surprised if similar morphological forms occurred in nature among the saprophytic organisms. The lesions that had been studied chiefly were those that appeared on the skin and mucous membranes, but nevertheless a small number of observations had been made on the blood and deep organs, while a fairly large number had been carried out with material obtained from the superficial lymphatic glands. The evidence was conclusive that primary lesions contained the spirochete either constantly or in the majority of cases. The later papers recorded fewer failures in finding the organism in chancre, condylomata, and mucous patches than the earlier ones. This was probably due to increased experience. The ulcerated papules of the mucous membrane of the mouth and throat seemed from his experience to contain the spirochetes in good numbers, and to be particularly suitable for demonstrating the organism. He assumed that should *Spirochæta pallida* be established as the cause of syphilis, for which he thought the evidence still inadequate, its presence would be sought systematically to confirm or prove the diagnosis. He thought it not improbable that valuable time might be saved in this way, but possibly some of the distressing and disfiguring stigmata of the disease might be avoided. His experience taught him that the spirochete occurred in gland juice, but that long search might be required to discover it. He had always endeavored to obtain aspirated fluid which contained masses of gland cells since the blood alone was not likely to yield the organism. He related a case in which the origin and nature of an eruption was in doubt in which he applied the test and found the organism. He did not claim that this case proved anything definite, but it showed possibilities. The finding of the spirochete in the regional lymphatic glands was imperative, if the organism was to have any position as the probable cause of syphilis. His experience did not suggest that the enlarged inguinal lymphatic glands contained an indiscriminate mixture of organisms. The question arose as to whether this organism invaded the deeper parts of the body, and as to whether it inhabited the circulating blood. Our knowledge on these questions was still highly defective. One experimenter had found the organism in aspirated splenic juice from a case of recently acquired syphilis; Hoffmann had obtained it from the juice of a submental gland in a case in which chancre of the lip existed. The circulating blood had been studied by a few investigators, but with a very small number of successful findings. He had studied the blood from two cases, but in neither were organisms found in the centrifugalized specimens. The blood should be selected from a part of the skin which was free from the lesions of the disease. There was abundant evidence of the distribution of this microorganism by the general circulation, from which it would appear to be taken out by the blood-vessels of the skin and mucous membranes, and possibly the internal organs. It seemed permissible to assume that the inflammatory and productive lesions were associated with, and perhaps caused by, this localization, although it must, for the time being, remain unsettled, whether the direct causes of the local reaction were vascular emboli or perivascular infections. He thought it would be of interest to learn whether the pallida existed in the vaccine pustule. He had made two experiments for this purpose, but conditions were not favorable and results were negative. The great length of time during which the microorganism of syphilis must, under some conditions, endure in a living state in the body, constituted a fact of high importance in the history of the recurrences and the congenital transmission of the disease. Hence, the question arose whether there was reason to believe that congenital syphilitic manifestations were associated with the occurrence of *Spirochæta pallida*, whether the number and distribution of this organism were such as to explain the lesions and the infectiousness of this disease, and whether the spirochete existed equally in those cases of congenital syphilis which were the offspring of a parent suffering with florid syphilis, and of another in whom the disease had not manifested itself for many years. The evidence at hand indicated that the organism survived in the body for many years, and was transmissible by a parent, herself free from the usual signs of the disease. He cited several cases illustrative of this point. The literature already contained the records of a sufficient number of examinations of infants, the subjects of congenital syphilis, to show that the organism regularly occurred in the disease. It had been detected in the lesions of the skin and intestinal organs, sometimes in large, sometimes in small numbers. In several cases studied after death, a general infection with the spirochete could be demonstrated. That congenitally syphilitic children were capable of infecting with syphilis healthy persons was, of course, established, and it was in conformity with this fact that Bakes and Panea could demonstrate the spirochete in the pharyngeal secretions of a congenitally syphilitic child. They also found them in the conjunctival secretion. So far, therefore, as a study of congenital syphilis could serve to establish *Spirochæte pallida* as the cause of syphilis, this had been done in part only. Perhaps data could be secured bearing upon the question whether the placental circulation was or was not previous to syphilitic virus, and thus to shed light upon those cases in which the child had become infected from a post-conceptional infection in the mother, and some light might be shed on that remarkable condition of supposed immunity. Dr. Flexner did not wish to be accused of having assumed that the spirocheta was the immediate cause of syphilis, for he said he was far from having this conviction. In regard to tertiary syphilis he said that a small number only of gumma and other tertiary syphilides had been studied for the pallida with almost constant negative results. The exceptions to the rule he thought must be viewed with suspicion for the present. He thought that the finding of the pallida in experimental primary syphilides in monkeys might have some significance. He had had three successful inoculations of syphilitic virus upon two macaco species of monkeys. Thus far, only one of the series had been studied for the pallida which were found present in small numbers. Kraus of Vienna had since followed the organism through two monkeys, the second monkey having been successfully inoculated with the virus from the first. One or two writers had claimed to find the pallida type of spiral in ulcerated tumors, and in a non-syphilitic papilloma. The question of similarity of species found in these growths with the pallida was a disputed one. The means at our command at present upon

which to base a classification, were too few and inadequate to settle so important a discussion. There would doubtless be described among the host of spiral microorganisms that must exist in nature forms which approached more or less closely to the pallida type. Until cultivation could be secured and experimental inoculation tested, we would have to be content with such considerations of their morphology staining reaction and relation to specific lesions, upon which data we would have to place our faith or disbelief that a great and epoch-making discovery had been made.

## AMERICAN PUBLIC HEALTH ASSOCIATION.

*Thirty-third Annual Meeting, Held in Boston, September 25, 26, 27 and 29, 1905.*

(Concluded from page 636.)

**Pathology and Pathogenesis of Smallpox.**—Dr. W. T. COUNCILMAN, Boston, presented a general consideration of the pathology and pathogenesis of this disease. He discussed the cause, mode of infection, mode of production of exanthema, immunity, secondary infections, and concluded with an experimental study of smallpox in monkeys.

**The Pathology and Etiology of Human Vaccina.**—Dr. WILLIAM TRAVIS HOWARD, Jr., Cleveland, O., discussed this subject under three heads:

*Material and Methods.*—The material upon which this study is based consisted of twenty-three pieces of skin excised from successful vaccinations on twelve men, each of whom was vaccinated in three places at the same time. The vaccinated areas were excised at various periods, from forty-eight to 168 hours after vaccination. As controls, skin was also excised from three unsuccessful vaccinations. The skin was fixed in Zluker's fluid, cut in paraffine, and sections were stained by various methods, eosine and methylene blue and Borrell's stain giving the best results.

*Pathology.*—The skin lesions of vaccina closely resemble those of variola, but are in general of more rapid growth and more constant. Contrary to the current belief, destruction of the epidermis and the formation of the vesicle are well-nigh complete in forty-eight hours after vaccination. The vesicle at this stage is composed of a reticular meshwork of coarser and finer strands of a hyaline fibrinoid material, formed from degenerated epithelial cells. The meshes of the reticulum contain fluid and fine, granular material, and but few cells. Swelling and reticular regeneration comprise the earliest cytoplasmic changes. Later, larger and smaller hyaline droplets appear, and the cells are transformed into hyaline fibrinoid material. Invasion of one epithelial cell by another, a conspicuous occurrence in vaccina of the rabbit's cornea, is also seen here. Nuclear degeneration is marked and takes several forms, the earliest being (1) swelling with increased prominence of the reticulum, (2) massing of the chromatin in the center and along the nuclear rim, and (3) wrinkling and retraction of the nuclear rim. Later, the nuclei becomes condensed and shriveled, and often fragment, with the dispersion of chromatin dust in the cytoplasm and intercellular spaces. Comparatively few blood corpuscles are found in the epidermis at this stage. The internal changes in the corium consist of edema, leucocytic infiltration, and swelling and proliferation of endothelium of the blood and lymph vessels. These changes are much more marked than in the corresponding stage of variola. In the 72-hour lesion all the epithelial cells below the horny layer are necrotic or have disappeared. The spaces of the reticulum are smaller and the strands coarser. In the mild and deeper parts of the lesion fibrin and leucocytes are prominent. The leucocytes are of the large and smaller mononuclear and eosinophilic types. On each side of the original vesicle, early secondary vesicles (analogous to those occurring at the margins of the variola vesicle) are conspicuous. Here the earliest changes in the epithelium may be traced; they are identical with those seen at the margins of the 48-hour lesion. The changes in the corium are still more intense. From seventy-two hours on, the chief additional changes are (1) condensation of the reticulum into a dense, hyaline material, containing broken-down leucocytes, (2) further necrosis of epithelial cells at the margins of the primary vesicle, and (3) persistence of the inflammatory changes in the corium. The scab or crust is formed by the condensation of the reticulum and exudate of the vesicle. It is thrown off on the renewal of the epidermis, the cells of which proliferate at the margins of the lesion and push their way under the scab.

*Etiology of Vaccina.*—No bacteria were found in any of the lesions. There were found in the early lesions structures corresponding to the primary cytoplasmic stage of cytoryctes variolæ, as described by Councilman and his coworkers and by Howard and Perkins in the early stages of variola and by Tyzzer in vaccina of the calf and rabbit. There was entire absence of the secondary cytoplasmic and the intranuclear stages of cytoryctes variolæ, which is in accord with Tyzzer's experience in vaccinia of the calf and rabbit. Therefore it is believed that vaccinia of man, the calf, and the rabbit, is caused by the primary cytoplasmic stage of cytoryctes variolæ, which is to be regarded as the asexual cycle of this organism.

**Experiments with Vaccine Virus.**—Dr. W. F. ELGIN, Glenolden, Pa., discussed this subject under various heads. In concluding, he called attention to two important questions in connection with the production of vaccine virus—purity and potency. It was shown that, up to the present time, no sure method had been universally accepted which would accomplish both in virus prepared for general distribution. Attention was also called to the fact that many of the laboratories, particularly those under state control in this country and abroad, had practically given up bacteriological control as a routine procedure. The question that was propounded to this association last year was again emphasized, as to "How far we are justified in clearing vaccine of bacteria at the expense of its potency?"

**The Dissemination of Tuberculosis as Affected by Railway Travel.**—Dr. CHARLES B. DUDLEY, Altoona, Pa., stated that during the past few years the railroads had been called quite sharply to account for their remissness in sanitary matters. It was obvious that if the spread of tuberculosis was largely due to contact of the healthy with those who were affected, the railroads under present conditions could hardly be held responsible, since there was no means by which ticket agents or conductors could be sure as to diagnosis, and to refuse transportation on an erroneous diagnosis would lead to serious trouble. If, on the other hand, the spread of tuberculosis was largely due to pulverized dried sputum, the railroads might fairly be regarded as responsible, and be required to take greater precautions. The danger of infection from dried sputum on cars had, however, been greatly magnified. As items pointing in this direction, he mentioned: (1) The length of time of passengers on cars was small at the longest, while prolonged exposure seemed to be agreed upon as a marked characteristic in the acquisition of this disease; (2) tuberculous sputum was extremely difficult to dry; (3) even though artificially dried, it was extremely difficult to pulverize; (4) although artificially dried and pulverized, it was heavy, and did not readily remain suspended in the air; and (5) cars, from their construction, afforded very great advantages to the access of sunlight and air, which were more or less fatal to this form of disease germ. Furthermore, if cars were such a menace as had been supposed, it would seem that employees of the sleeping car companies and of the railroad companies, whose occupation required that they spend much time on the cars, would be largely affected. The statistics gathered at the last census, as reported by Dr. George M. Sternberg in his book, "Infection and Immunity," showed that railroad men were less affected by tuberculosis than the average of persons of the whole country. Furthermore, information from

the Pullman Company did not show that the colored porters who were supposed to be predisposed to tuberculosis, and who spent a large portion of their lives on sleeping cars, were more affected than others. Also the records of the Pennsylvania Railroad, in connection with its Relief Department, showed that passenger conductors and brakemen were not as infrequently affected with tuberculosis as were the freight conductors and brakemen. Again, bacteriological examinations of the air from cars known to have transported tuberculous patients, the results of which had been recently published by Dr. J. J. Kinyoun, did not indicate any alarming prevalence of tubercle bacilli in these cars. Finally, experiments made for the purpose, as to the behavior of tuberculous sputum on carpets and plush, showed that analogous material was less likely to become dry and to be pulverized and disseminated in the air than if this material was on a hard, non-absorbent surface.

**A Few Points in Regard to Car Sanitation.**—Dr. HENRY M. BRACKEN, Minneapolis, Minn., said that to advance car sanitation it was not only necessary to improve the methods of car construction, but to instruct railway employees in the proper care of cars. Special duties should be imposed upon them as to ventilation, car cleanliness, etc. Their instructors should be medical men connected with railway companies and familiar with sanitary problems. He pointed out the dangers from spitting upon the floors or furnishings of cars. He discussed car cleaning, and said more attention should be given to this subject. The drinking water for railway cars should be of unquestionable quality, distilled or equally pure, and should be kept out of reach of passengers except as drawn from the faucet; it should be stored in well-cleaned cans or coils, and iced with well-selected ice that had been handled in a cleanly manner. He advocated improvement in the toilet rooms of the day coaches.

**The Restriction of Contagious Diseases in Cities.**—Dr. CHARLES V. CHAPIN, Superintendent of Health, Providence, R. I., said that municipal sanitary practice was at first based on the filth theory of disease. During the last twenty-five years it had been largely determined by the recognition of the contagiousness of the infectious diseases. Future practice would be modified by specific knowledge as to the etiology of each disease. The chief sanitary discovery of recent years was that unrecognized foci of infection were the principal factor in the spread of contagious disease. This was bound to modify present methods, rendering them less burdensome. Stringent measures could not stamp out disease. All that could be hoped for was to limit extension from the recognized cases. This could be done substantially as well by moderate means. No restriction of personal liberty was advisable in influenza, pneumonia, typhoid fever, or cerebrospinal meningitis. In measles and whooping-cough there should be some restriction of school attendance and the occasional closure of school. In scarlet fever and diphtheria the patient should be isolated for three or four weeks, other children in the family kept from school. Wage earners should rarely be interfered with. The use of cultures to terminate isolation in diphtheria as ordinarily practised was illogical. Hospital facilities were needed only for the poor. Official disinfection did more harm than good. When the above diseases appeared for the first time in small places, or, rather, when rarer diseases appeared in large cities, the most energetic measures were called for.

**Modification of Present Port Inspection.**—Dr. A. H. DOTY, Health Officer, Port of New York, pointed out the necessity for a change in the present method of quarantine inspection, which would insure a more thorough examination of passengers and crews on incoming vessels. He called attention to the necessity of a closer observation for the detection of mild or ambulant cases and recognition that this type of disease was commonly the cause of outbreaks, the origin of which was unknown, and which were frequently improperly attributed to infection by cargoes, clothing, etc. While five days might be regarded as the maximum period of incubation of yellow fever, the fact that a person had been five days away from an infected area should not permit him to pass quarantine without having his temperature taken and the use of other means to detect the presence of mild cases. This should also be applied to the examination of those held to complete the period of incubation of other diseases. Furthermore, the possibility of occasional cases having a longer period of incubation than that generally accepted must be remembered. He spoke of the detention, annoyance, and expense to commerce caused by unnecessary disinfection.

**Communicability of Cerebrospinal Meningitis and the Means of Controlling Its Spread.**—Drs. WILLIAM H. PARK and CHARLES BOLDUAN, New York City, stated that fifteen hundred cases of cerebrospinal meningitis occurring in New York City investigated by Dr. Bolduan revealed the fact that 200 of the patients had been in direct contact with other patients, and that many of these latter showed evidence of infection from still others. These 200 represented eighty-eight families. Bacteriological examinations conducted by Dr. Goodwin in the laboratory revealed that about half those sick with meningitis had abundant meningococci in the nasal cavity during the first two weeks of the disease, and that the nasal cavities of five attendants were badly infected. The conclusion was drawn that the meningococci were spread by the discharges from the nose and mouth of the sick and those in immediate contact with them.

**Method of Securing More Uniform Instruction and Co-operation in Health Work.**—There was a symposium on this subject. Drs. F. C. ROBINSON, Brunswick, Me., and W. T. SEDGWICK, Boston, discussed educational cooperation with the general public in public health work. Dr. H. C. ERNST, Boston, spoke of graduate and undergraduate instruction in hygiene in universities and medical colleges. Mr. W. D. FROST, Madison, discussed the teaching of hygiene in the public schools. Dr. S. H. DURGIN, Boston, pointed out the present regulations and laws as to the qualifications and methods of appointment of executive and technical health officers; while Dr. H. D. PEASE, Albany, emphasized the importance of sanitary conferences and schools of instruction for health officers.

**Lessons to be Learned from the Present Outbreak of Yellow Fever in Louisiana.**—Dr. JAMES CARROLL, Washington, D. C., read a paper on this subject, in which he drew the following conclusions: "(1) The methods now in vogue for handling and reporting cases of yellow fever in cities exposed to the importation and epidemic prevalence of yellow fever in the United States are generally lax and need to be changed. (2) It is time to acknowledge that many cases of yellow fever cannot be diagnosed with certainty in the early stages, and the only real safeguard in the epidemic zone, during the epidemic season, is to handle all recent cases of fever, not diagnosed, as if they were yellow fever. (3) Bilious remittent fever, occurring in the yellow-fever zone, should be regarded as yellow fever, unless it is shown by microscopical examination that the infection is one of malaria, relapsing fever, etc. (4) Physicians who make an early diagnosis of yellow fever are often subjected unjustly to severe criticism, and as the result they naturally hesitate to commit themselves even when the diagnosis is fully justified. They should be relieved from this duty by a special diagnosis commission in every city exposed to the danger of infection. The commission should be composed of three eminent diagnosticians who should be controlled by the department of health, and whose duty it would be to examine promptly and report in writing upon every case of fever occurring during the season from about May 1 to October 31. Practising physicians should be required, under penalty, to report promptly to the health authorities during the season in question every case of fever coming under their observation, whether in a patient or not. The health authorities should immediately notify the members of the commission, whose duty it would

be to visit the case at once and every day following until the diagnosis was made clear or the case shown to their satisfaction to be not one of yellow fever. All cases suspected of being yellow fever should be treated in a mosquito-proof ward or hospital set apart for the purpose and under the control of the diagnosis commission. Appointments of resident physicians or clinical assistants to have charge of the patients should be made only on the recommendation of the diagnosis commission. The decision of the commission in the matter of diagnosis or the removal of a patient to the hospital should be final. (5) In exceptional cases, to be decided by the commission, certain patients might be retained in their homes, protected by mosquito nets and wire screens, awaiting a final decision. The responsibility for the proper disposition of such patients should rest upon the commission, who should be aided, when necessary, by sub-commissions appointed upon their recommendation. (6) The members of the commission should be paid a stated fee for each visit to a patient necessary to establish the diagnosis or decide upon his removal to hospital. In this way the expense to the city would be trifling, the responsibility for diagnosis and treatment would rest upon the commission, and the occurrence of an epidemic would be impossible, if the law were rigidly enforced."

**Yellow Fever in Mexico.**—Dr. Eduardo Licéaga, Mexico City, discussed this subject under the following heads: Isolation of the patients; disinfection of the home occupied by the patient; destruction of the mosquito larvæ. Since they had instituted modern methods in Mexico, yellow fever had been diminished to a marvelous extent. He predicted that at no distant date this disease would be completely exterminated, as it had been in the Island of Cuba.

**Etiology and Prevention of Yellow Fever.**—Dr. John Guiteras, Havana, Cuba, confined his remarks to new points that had arisen in the struggle with yellow fever during the past year. The French Commission from the Pasteur Institute, experimenting in Rio Janeiro, had produced a case of yellow fever by applying to a non-immune mosquitos raised from eggs laid by an infected mosquito. This raised a very interesting question as to the transmissibility of yellow fever by the progeny of infected mosquitos. The speaker thought in Havana that they had by experimentation settled this matter, that an infected mosquito could not transmit infection through its progeny or eggs. He was inclined to believe from a perusal of the experiments of the French Commission that there was some mistake. Marchoux, the French experimenter, acknowledged that he had only one such case. He worked in an infected locality, and it was possible. Dr. Guiteras thought, that the man was accidentally bitten by another infected mosquito without Marchoux knowing it. There was another argument against the transmission of yellow fever by the progeny of infected mosquitos. It seemed to him that it would have been impossible to have eradicated yellow fever in Havana as they had done if the theory of the French Commission of the transmission of the disease by the progeny of infected mosquitos was true. In getting rid of yellow fever in Havana, they began to attack the epidemic in the beginning, so that it was comparatively easy to wipe out the disease in that city. This would have been impossible if the progeny of infected mosquitos had been also infected. Another interesting point to which Marchoux called attention was that one source of infection was to be found in young children affected with a mild form of yellow fever. Dr. Guiteras said this was not new, as Blair, Chaillé, and himself had pointed this out in their investigations at Key West and in Havana, and they had shown that there were many cases of unrecognized mild yellow fever among children who became sources of infection through the mosquito. It was a study of the problem of yellow fever in young children in the yellow-fever zone that led him to call attention to and insist upon the great danger of mild cases of yellow fever. He had been calling attention to this for many years, not only in cases of young children but also in young adults, especially of the colored population, who were apt to develop mild cases of the disease. These he had always considered the most dangerous transmitters of the infection.

*Early Diagnosis.*—Special attention was directed to the high percentage of hemoglobin found in yellow fever cases, which he said was an important differential diagnostic point between this disease, typhoid fever, malaria, and influenza, three affections that were frequently confounded with yellow fever. In influenza, typhoid fever, and malaria the percentage of hemoglobin was low—70, 75, and perhaps 80. In malaria and typhoid fever, on the second day of the disease, one noticed a decline in the percentage of hemoglobin in the blood. On the other hand, in yellow fever the percentage of hemoglobin was high, very often 100, sometimes above 100, during the first three, four, and five days of the disease, and rarely below 90. If the percentage of hemoglobin went below 90, and the case proved to be one of yellow fever, he considered that there was a complication, or the patient previously suffered from malaria. Another point that had been of considerable aid to him during the present epidemic of yellow fever, especially in Florida, where they were confronted with the existence of an epidemic of dengue, and where the question came up as to whether or not yellow fever was present, was the diazo-reaction of Erhlich. The diazo-reaction of Ehrlich was an important diagnostic sign in typhoid fever, but it might be present in other infectious diseases. He could say positively, however, that this was never present in uncomplicated cases of yellow fever, and on two occasions his mind was completely relieved as to the existence of yellow fever during the past summer in the South by finding the Ehrlich diazo-reaction in the urine. He was therefore able from his experience in Havana to exclude at once yellow fever in these two cases. Another diagnostic point was the presence of albumin in the urine. Albumin in the urine was a characteristic sign of wellow fever. He insisted more than he had ever done before upon the importance of this symptom, and upon a certain interpretation that must be given to the presence of albumin in the urine. After a careful study of many kinds of fever in Havana, he had found that albumin in the urine was more common in other infectious diseases than he had thought. It was common in cases of influenza and of typhoid fever, but not so common in malaria. It was only occasionally found in cases of malaria. Albumin in the urine was found in cases of dengue. The special point he brought out was that the quantity of albumin found in the urine in cases of yellow fever was out of all proportion to the other symptoms present.

Dr. Guiteras concluded his remarks by referring to the methods of disinfection that were being employed in New Orleans, and complimented the physicians in charge of yellow fever cases in Louisiana on the efficient work they were doing. He spoke of the use of superheated steam for the destruction of mosquitos, saying that this agent was being used to great advantage in the present epidemic in Louisiana, and it was a valuable and efficient adjunct.

**The Collection and Preservation of Samples of Sewage for Analysis.**—Mr. Stephen De M. Gage and Mr. George O. Adams, Massachusetts, stated that in collecting samples of sewage and the effluents of sewage filters for analysis, more representative samples would be obtained if each sample was the average of a number of small samples taken at short intervals. The preservative used must prevent chemical changes. Two preservatives which best met these conditions were chloroform and carbon bisulphide. Both would destroy the bacteria and prevent all bacteriolytic decomposition; both were sparingly soluble in water, and, being heavier than water, they did not evaporate rapidly, requiring small amounts to be used in each sample. Both

were comparatively inexpensive, and neither interfered with any of the usual analytical methods.

**The Cause, Course, and Treatment of Beriberi.**—Dr. HAMILTON WRIGHT, Beriberi Research Commissioner, London School Tropical Medicine, referred to previous publications on this subject. The cause of the disease appeared to be a bacillus which gained entrance to the alimentary canal in contaminated food and drink, choosing for its active site the stomach and small intestine, *i. e.* chiefly the pylorus and the duodenum. The disease began in necrosis of the mucosa; congestion; small-celled infiltration; seemingly an extracellular toxin was formed which poisons the peripheral terminations of the fibers in the systems of neurons, inducing symmetrical, bilateral, sensimotor, cardiac, and vasomotor paralyses. A description of the symptoms, of the microorganisms which seem to be the cause of the disease, and the course of the disease were given, together with a working theory of the cause and nature and treatment. Reference to preventive measures, such as care in the disposal of feces, etc., with statistics in jail beriberi before and after the adoption of such measures, were given.

**Methods of Bacteriological Examination of Milk.**—Dr. FRANCIS H. SLACK, Boston, Mass., described the apparatus and methods in use at the Boston Board of Health Laboratory for collecting, plating, incubating and counting; also for direct examination of milk sediments and the microscopic estimate of the number of bacteria present, together with pus and streptococci determination. The methods of examination described were recommended as a system which had been reasonably successful in practice for city laboratory work where quick reports were needed as well as the accurate examination of large numbers of samples.

**Consideration of Some of the Problems and Difficulties of Bacteriological Diagnosis.**—Mr. BERT R. RICKARDS, Boston, discussed some of the everyday problems and difficulties met with in making bacteriological diagnoses. Each disease discussed was considered, first, in relation to any special points connected with the preparation of the specimen submitted; secondly, in regard to those problems which have to do with accuracy in diagnosis; and, thirdly, with reference to results and their relation to the clinical aspect of the case.

**Longevity of the Bacillus Typhosus in Surface Waters and Sewage.**—H. L. RUSSELL and C. A. FULLER, Madison, Wis., contributed a paper on this subject. From their experimental work it appeared that in relatively pure waters of a surface character the typhoid bacillus was capable of retaining its vitality for about eight days. The results of their experiments confirmed and extended on a broader basis the data obtained in the investigations made on the Chicago Drainage Canal. They had been carried out under sufficiently diverse conditions to warrant the belief that the typhoid organism in natural sewage did not live as long as it would in relatively pure water.

**Mosquito Transmission of Yellow Fever.**—A committee consisting of Drs. John Guiteras, Frederick Montizambert, P. H. Bailhache, James Carroll, William Bailey, and Eduardo Licéaga, presented the following preambles and resolutions:

"*Whereas*, The results obtained during the present epidemic of yellow fever in New Orleans by the methods of mosquito extermination, and by the prevention of the access of the mosquito to the patients, have been far in advance of the results obtained by the older methods; and

"*Whereas*, It has been possible by the new methods to hold in check and gradually to reduce an epidemic that has taken a firm foothold in the midst of the largest non-immune population that was ever exposed to yellow fever; therefore, be it

"*Resolved*, (1) That the association sees in these results a further confirmation of the view that yellow fever is naturally transmitted only by the bite of an infected mosquito. (2) That the association is of opinion that an efficient plan of defense against the propagation of yellow fever at the beginning of an epidemic can be easily established upon the basis of this doctrine. (3) That the successful carrying-out of such plan depends upon a thorough understanding of the mosquito doctrine by the people, and the support that they may give to the prompt and frank reporting and to the proper handling of the first cases and of all suspicious cases. (4) The association wishes further to congratulate the Public Health and Marine Hospital Service for the brilliant work done by Dr. Joseph H. White and his colleagues in New Orleans, and to urge upon all concerned that the said service be called upon to take charge permanently of maritime quarantine along the Gulf Coast."

These resolutions were adopted.

**Officers.**—The following officers were elected: *President*, Prof. F. C. Robinson, Brunswick, Me.; *First Vice-President*, Dr. J. J. Kinyoun, Glenolden, Pa.; *Second Vice-President*, Dr. Domingo Orvananos, Mexico City, Mexico; *Third Vice-President*, Dr. Richard H. Lewis, Raleigh, N. C.; *Secretary*, Dr. Charles O. Probst, Columbus, O.; *Treasurer*, Dr. Frank W. Wright, New Haven, Conn.

Mexico City, Mexico, was chosen as the place for holding the next annual meeting, in 1906.

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## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

IMMUNITY IN INFECTIVE DISEASES. By ELIE METCHNIKOFF. Translated from the French by Francis G. Binne. 8vo, 591 pages, illustrated, muslin. The Macmillan Company, New York. Price, $5.25.

THE NATIONAL STANDARD DISPENSATORY. CONTAINING THE NATURAL HISTORY, CHEMISTRY, PHARMACY, ACTIONS, AND USES OF MEDICINES. By various authors. 4to, 1,858 pages, illustrated, muslin. Lea Brothers & Company, Philadelphia. Price, $7.25 net.

CLINICAL DIAGNOSIS: THE BACTERIOLOGICAL, CHEMICAL, AND MICROSCOPICAL EVIDENCES OF DISEASE. By RUDOLPH V. JAKSCH, M.D. Fifth English edition. Edited by ARCHIBALD E. GARROD, M.A., M.D., F.R.C.P. 8vo, 602 pages, illustrated, muslin. J. B. Lippincott Company, Philadelphia.

ARBEITEN AUS DEM PATHOLOGISCHEN INSTITUT DER UNIVERSITÄT HELSINGFORS. Herausgegeben von PROF. DR. E. A. HOMEN. Bend 1, Heft 1-2. 4to, 378 pages, illustrated, paper. S. Karger, Berlin.

A TEXT-BOOK OF DISEASES OF WOMEN. By BARTON COOKE HIRST, M.D. Second Edition. 8vo, 741 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price, $5.00 net.

LECTURES UPON THE PRINCIPLES OF SURGERY—Delivered at the University of Michigan. By CHAS. B. NANCREDE, A.M., M.D., LL.D. Second Edition. 8vo, 407 pages, illustrated, muslin. W. B. Saunders & Co., Philadelphia. Price $2.50 net.

SURGICAL ASPECTS OF DIGESTIVE DISORDERS. By JAMES G. MUMFORD, M.D., and ARTHUR K. STONE, M.D. 8vo, 395 pages, illustrated, muslin. The Macmillan Company, New York. Price, $2.50.

METHODS OF ORGANIC ANALYSIS. By HENRY C. SHERMAN, Ph.D. 8vo, 245 pages, muslin. The Macmillan Company, New York. Price, $1.75.

A PRACTICAL TREATISE ON SEXUAL DISORDERS OF THE MALE AND FEMALE. By ROBERT W. TAYLOR, A.M., M.D. Third Edition. 8vo, 525 pages, illustrated, muslin. Lea Brothers & Co., New York and Philadelphia.

TRANSACTIONS OF THE WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Fourteenth Annual Meeting, held at Milwaukee, Wis., December 28 and 29, 1904. 8vo, 474 pages, illustrated, muslin.

LES INDICATIONS DES INTERVENTIONS CHIRURGICALES DANS LES MALADIES INTERNES. Par le PROFESSEUR DR. HERMANN SCHLESINGER. Part 3. 12mo, 33 pages, paper. Vigot Frères, Paris.

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 4, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 169 | 5 |
| Diphtheria and Croup | 279 | 22 |
| Scarlet Fever | 79 | 6 |
| Smallpox | .... | .. |
| Chickenpox | 132 | .... |
| Tuberculosis | 363 | 150 |
| Typhoid Fever | 77 | 11 |
| Cerebrospinal Meningitis | 9 | 15 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | .. .. |
| Totals | 1,108 | 209 |

**The Results of Decapsulation of the Kidneys for Nephritis in Children, with Report of a Case in a Child of Twenty-six Months.**—Edwin E. Graham, on studying the literature of this subject, discovered reports of only eleven cases of children operated upon, while hundreds of adults have been treated. He gives a very brief résumé of these cases. The description of his own case is most interesting. The patient was twenty-six months old. The family history was good, and the child was in excellent health until seven months of age, when she had a mild attack of scarlet fever. Three weeks later dropsy developed, and still later the urine contained a large amount of albumin and many casts. The child continued to grow worse and was admitted to the hospital. Medical care for a week failed to be of benefit, and an operation was performed. Both capsules were easily separated and pushed thoroughly forward anteriorly and posteriorly. The result was most satisfactory, and at last reports the child appeared to be perfectly well. The writer believes that if it is possible to separate earlier the cases suitable for this operation from those in which such treatment is likely to result fatally, a decided decrease in the total mortality might be attained. He believes that chronic interstitial nephritis associated with arterial sclerosis, perhaps with changes in the heart and liver, does not offer much prospect of a cure from a decapsulation. He thinks that if the nephritis is of comparatively recent origin, and if under the best medical care, the case does not improve, but grows progressively worse, and there is more or less renal insufficiency, a rapid improvement may follow decapsulation. A true nephritis is probably rarely, if ever, one sided, and it seems to be a growing practice to operate on both kidneys. Probably renal mobility is a factor of very little importance in relation to the symptoms of the child. Careful bacteriological examination of the urine collected by catheterization of the ureters is important, for the bacteria present may decide the question of a decapsulation or a nephrotomy. As to the ocular symptoms, the eye ground changes are less significant in the child than in the adult. The form of nephritis most benefited by operation is the acute and subacute cases, and those only which are not doing well under appropriate medical treatment.—*Archives of Pediatrics.*

**Subcutaneous Hebotomy.**—Sellheim has performed the operation three times with excellent results. In each case a hematoma of considerable size formed immediately after the operation, but only in one case did this give rise to anxiety; and even in this instance it was absorbed without serious consequences. In carrying the saw around the bone Sellheim considers it very important to guide it with the gloved finger in the wound, in order to be sure of making the cut in the right direction; and he also points out the necessity which exists in many cases of sawing a little more after complete division of the bone, in order to insure division of the anterior ligaments, which are sometimes very heavy, and, if not cut through, prevent the necessary separation of the bone ends.—*Zentralblatt für Gynäkologie.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, Public Health and Marine Hospital Service, during the period from October 20 to November 4, 1905:

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| California, Los Angeles | Oct. 14–21 | 2 | .. |
| San Francisco | Oct. 14–21 | 3 | .. |
| District of Columbia, Washington | Oct. 21–28 | 3 | 1 |
| Illinois, Chicago | Oct. 21–28 | 2 | .. |
| Galesburg | Oct. 16–23 | 3 | 2 |
| Michigan, Kalamazoo | Oct. 21–28 | 1 | .. |
| Ohio, Cincinnati | Oct. 13–27 | 7 | .. |
| Washington, Seattle | Sept. 7–14 | 1 | .. |
| Tacoma | Oct. 14–21 | 2 | .. |
| Wisconsin, Milwaukee | Oct. 21–28 | 1 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Azores Islands, St. Michael's | Sept. 16–Oct. 4 | 7 | .. |
| Brazil, Bahia | Sept. 23–30 | 2 | .. |
| Pernambuco | Sept. 1–15 | .. | 231 |
| Canada, Toronto | Sept. 23–Oct. 21 | 15 | .. |
| China, Hongkong | Sept. 8–16 | 1 | .. |
| Ecuador, Guayaquil | Sept. 21–Oct. 3 | .. | 10 |
| France, Paris | Sept. 23–Oct. 4 | 28 | 5 |
| Great Britain, Liverpool | Oct. 7–14 | 2 | .. |
| India, Calcutta | Oct. 8–23 | .. | 4 |
| Madras | Sept. 16–20 | .. | 10 |
| Italy, General | Sept. 28–Oct. 5 | 10 | .. |
| Russia, Odessa | Sept. 23–Oct. 7 | 13 | 4 |
| Spain, Barcelona | Oct. 1–10 | .. | 1 |
| Cadiz | Sept. 1–30 | 3 | .. |
| Uruguay, Montevideo | Aug. 1–30 | .. | 8 |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Alabama, Castleberry | Oct. 15 | 2 | 2 |
| Florida, Pensacola | Aug. 29–Oct. 30 | 538 | 77 |
| Louisiana, Ascension Parish | To Oct. 18 | 80 | 5 |
| Assumption Parish | To Oct. 16 | 48 | 2 |
| Avoyelles Parish | To Oct. 28 | 15 | 2 |
| East Carroll Parish | To Oct. 18 | 341 | 41 |
| Iberia Parish | To Oct. 15 | 14 | 1 |
| Iberville Parish | To Oct. 13 | 34 | 8 |
| Jefferson Parish | To Oct. 28 | 505 | 55 |
| Lafourche Parish | To Oct. 19 | 424 | 55 |
| Madison Parish | To Oct. 28 | 344 | 19 |
| Natchitoches Parish | To Oct. 28 | 83 | 7 |
| St. Mary Parish | To Oct. 21 | 845 | 36 |
| Terrebonne Parish | To Oct. 28 | 334 | 14 |
| Mississippi, Gulfport | Aug. 15–Oct. 28 | 120 | 2 |
| Hamburg | Sept. 15–Oct. 26 | 50 | 8 |
| Long Beach | Oct. 18 | 1 | .. |
| Mississippi City | Aug. 31–Oct. 17 | 71 | .. |
| Natchez | To Oct. 26 | 142 | 7 |
| Port Gibson | Sept. 27–Oct. 24 | 63 | 2 |
| Rossetta | To Oct. 17 | 32 | 7 |
| Roxie (vicinity of) | To Oct. 26 | 16 | 1 |
| Vicksburg and vicinity | Aug. 30–Oct. 30 | 176 | 26 |
| Ohio, Cincinnati | Sept 15–19 | 3 | .. |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Cuba, Habana | Oct. 16 | 1 on S S. *Vigilancia.* | |
| Ecuador, Guayaquil | Sept. 28–Oct. 3 | .. | 1 |
| Guatemala, Livingston | Oct. 18 | 1 | .. |
| Honduras, Choloma | Oct. 3–17 | 3 | 1 |
| Puerto Cortez | Sept. 26–Oct. 3 | .. | 1 |
| San Pedro | Oct. 3–17 | 5 | .. |
| Mexico, Omealca | Oct. 8–21 | 12 | 1 |
| Soconusco | Oct. 8–21 | 3 | 2 |
| Tuxtepec | Oct. 8–21 | 19 | 9 |
| Vera Cruz | Oct. 8–21 | 5 | 5 |
| Panama, Colon | Oct. 4 | 1 Removed from Matachin. | |
| Bocas del Toro | Oct. 6 | 1 | .. |

CHOLERA—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Laguna Province | Sept. 8–16 | Present in two localities. | |
| Manila | Sept. 8–23 | 32 | 31 |
| Rizal Province | Sept. 8–16 | Present in 8 localities. | |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| India, Bombay | Sept. 19–Oct. 3 | .. | 4 |
| Calcutta | Sept. 9–23 | .. | 75 |
| Madras | Sept. 16–29 | .. | 349 |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Hawaii, Honolulu | Oct. 23–24 | .. | 3 |
| Philippine Islands, Manila | Sept. 16–23 | 1 | 1 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Argentina, Choya | Sept. 10 | 9 | Recrudescence. |
| Australia, Townsville | Sept. 8–16 | 2 | 2 |
| China, Hongkong | Sept. 8–23 | 1 | 2 |
| Manchuria | Oct. 4 | Present. | .. |
| Niuchwang | Oct. 17 | .. | 3 |
| India, General | Sept. 2–9 | 3,439 | 2,482 |
| Bombay | Sept. 9–23 | .. | 72 |
| Karachi | Sept. 17–Oct. 1 | 33 | 32 |
| Peru, Lima | Sept. 21–20 | 8 | 1 |
| Payta | Sept. 11–20 | 6 | 3 |
| Mollendo | Sept. 11–20 | .. | 1 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 21.
Whole No. 1828.

New York, November 18, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### THE TREATMENT AND CARE OF ADVANCED CASES OF PULMONARY TUBERCULOSIS.*

By S. A. KNOPF, M.D.,

NEW YORK.

The subject which the officers of the Committee on Clinical Medicine of our association have assigned to me is indeed an important one, and I approach it with great hesitation. In my humble opinion there is nothing in the whole domain of medicine which is more important, and which demands from the physician more skill, more judgment, more perseverance, more patience, and, may I add, more kindness of heart, than the treatment of advanced cases of pulmonary tuberculosis.

The responsibility which rests upon the family physician treating a consumptive in the advanced stage is as great, if not greater, than that of the surgeon in the presence of a patient on whom he is to perform a difficult capital operation. There are more cases of advanced tuberculosis to be treated than any other disease, and there is no condition more difficult to define than the one designated as advanced pulmonary tuberculosis. There is no disease in which the prognosis as to the time of the final issue is more difficult than in pulmonary tuberculosis after the incipient stage has been passed, for, has it not been the experience of all of us that an apparently light and seemingly favorable case would be fatal within a few months, while a relatively advanced case would linger for years, or even get well? Again, there is no disease where so much can be done to render the patient comfortable and hopeful as in pulmonary tuberculosis in the advanced stage. There is no disease where one case in a family can more readily become the cause of infection of other members, particularly in the stage when the consumptive begins to be confined to the close association of the family members only. Again, in no other condition can the teachings and the guidance of the family physician be productive of so much good, even though the family may be predisposed to the disease under consideration. By the inauguration of timely preventive treatment in such a family the disease can be limited to the one already afflicted, and all other members can be made strong and vigorous. Finally, there is no disease in which the successful management and treatment depends so much on the personal equation of the doctor as in an advanced case of pulmonary tuberculosis.

By advanced pulmonary tuberculosis we generally understand all cases which can no longer be classified as incipient or early. I believe that by incipient we usually mean early cases in relatively young people; and by early I mean, of course, a disease of relatively short duration, with a fairly good physique and nearly normal chest formation, with slight rise of temperature, a normal or only occasionally rapid pulse, the systemic derangement slight, cough and expectoration moderate. The physical examination usually reveals an involvement of only one side, an increased fremitus, a slight dullness on percussion, not extending over the fourth or fifth rib anteriorly, and auscultation reveals the prolonged respiratory sound, rough breathing, sometimes cogwheel breathing, and râles of relatively less magnitude. Even if both apices are slightly involved, and other conditions fairly good, we are justified in calling the case incipient, or at least early.

To do justice to my subject, I must divide the advanced cases into two large classes, namely, ambulant and bed cases. Among the ambulant advanced cases I would place all those who are most of the time without fever, and in whom the systemic disturbances are only a little more aggravated than in the early stage, and who should be treated as incipient with the one exception that if there is a loss of weight instead of gain, or at least retention of their normal weight, they should be put at rest in bed or on the reclining chair, constantly exposed to the open air. I would make this condition *sine qua non*, whether there is fever or not, and to facilitate the metabolism and bring about a gain of weight, I would have them massaged daily during the apyretic hours. Hydrotherapy should be used with all ambulant cases as a tonic and stimulant. The diet should be good and nutritious, of milk, eggs, meat, vegetables, and fruit; in short, they should have the hygienic and dietetic treatment the same as the incipient cases, and their rest cure should alternate with properly gradated breathing exercises. In some the medicinal symptomatic treatment will have to be resorted to where aëro- and hydrotherapy do not suffice to overcome increased cough, digestive disturbances, local pains, etc. It goes without saying that the advanced ambulant tuberculous case needs even more personal supervision, guidance, and direction than an incipient case. Any imprudence on the part of the patient may aggravate his condition beyond repair, and unless the family physician can see his ambulant tuberculous patient daily, or place him in charge of an intelligent nurse or a trained member of the family, such a patient would certainly be better off in a sanatorium. Unfortunately, there are not enough sanatoria for either rich or poor for this class of cases. In a number of cities in this country and in Europe we are treating them in our clinics and dispensaries. While, owing to an insufficient hygiene at home, the result in these cases has been unsatisfactory, a fair amount of good has been accomplished through the work of the dispensaries, particularly when a system of regular visits by trained nurses to the homes of the patients has been connected with the dispensary treatment. The hygiene of the home and the dietetic management of the patients are, as a rule, materially improved by these trained coworkers of the dispensary physician.

One thing, however, which we physicians and our health boards should bear in mind in regard to the

*Read before the first annual meeting of the National Association for the Study and Prevention of Tuberculosis, at Washington, May 19, 1905.

management of these ambulant and advanced tuberculous patients is that they, when careless, really constitute the greatest danger. It is this class of patients who must be considered the most frequent source of infection. The careless, ignorant, or helpless consumptive, when confined to his bed, is not

Fig. 1.—Aluminum spit-cup for bedside.

likely to infect more than the four walls and the floor of his room, but the ambulant advanced case, being up and about, doing odd jobs, or even following his regular occupation, can, if he is careless, disseminate his 7,000,000,000 bacilli daily with the greatest ease. Of all the tuberculous patients he should be the most disciplined and most carefully trained, and in many cases it is wise to tell him that by expectorating anywhere except in a proper receptacle he lessens materially his chances for recovery. The method of disposing of the expectoration, which experience has taught me they are most willing to abide by is not the pocket flask of metal or glass, or the pasteboard purse, but a method which will not attract attention to their infirmity. I advise these patients, if they are men, to have two pockets in their trousers lined with impermeable material, and when they leave in the morning to fill one with either cheap handkerchiefs or muslin cut in squares to look like handkerchiefs, and then use the empty pocket for the reception of the soiled ones. These soiled cloths are to be burned on the patient's return home. I advise the women patients to have a leather bag with two compartments and have them follow the same rule. Such persons must be urged always to wash their hands before touching food.

Another important item is to teach these patients that the moment they become feverish they must return home, and instruct them also what to do in case they should be seized by a hemoptysis. I make it a practice to tell all my patients that a pulmonary hemorrhage may happen, but that it does not necessarily lessen their chances of recovery; and to the ambulant I add that, in case of a slight hemorrhage, they should go home, and if they have a severe hemorrhage, they should seek a place to lie down and send for a carriage to take them home or to a hospital.

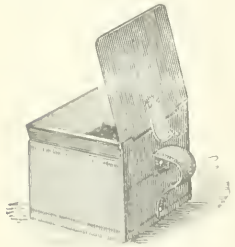

Fig. 2.—Frame for Seabury & Johnson's sputum box.

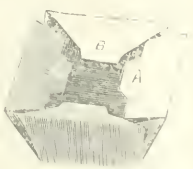

Fig. 3.—Folded pasteboard cup for Seabury & Johnson's frame.

And now we come to the second class of advanced, or bed cases. I will subdivide these into four classes, namely, sanatorium patients, hospital patients, home patients—well-to-do, living either in cities or country, and the consumptive poor, living in villages or in city tenements.

The treatment of advanced cases in a sanatorium has occupied the attention of sanatorium physicians in this country and abroad ever since Brehmer started the sanatorium treatment 50 years ago. There has always been a decided disinclination to receive patients in the advanced stages into sana-

Fig. 4.—Nickel-plated, oval pocket flask, manageable with one hand.

toria, or even to keep cases when they are no longer considered favorable. There is, of course, a justifiable excuse for this policy, as there not being room for all, the advanced cases take up room that might be given to those who still have a good chance for recovery. The managers of pay sanatoria are always anxious to make a good showing, which is not possible when advanced cases are received or previously early cases allowed to remain after their condition no longer assures a favorable issue. It is usually stated also that advanced cases act as depressing factors on the rest of the patients. Whether or not the policy just referred to is a wise or humane one, I do not wish to judge here, but I know from personal experience that there is nothing more difficult in our own country than to find a sanatorium willing to take an advanced tuberculous patient, even where there are slight prospects of recovery. This is a sad condition of affairs, and I sincerely hope that existing sanatoria will either make a division for advanced cases willing to pay,

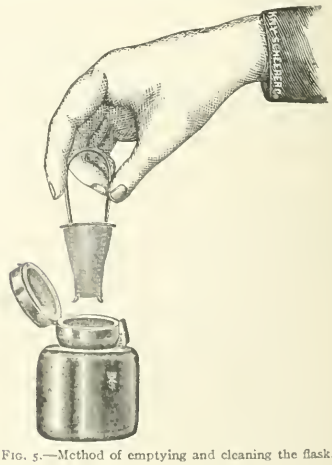

Fig. 5.—Method of emptying and cleaning the flask.

or that special sanatoria for such cases may be established.

How should such patients be treated and taken care of in a special institution? The general hygiene must, of course, be the same as in all well regulated institutions for the treatment of pulmon-

ary tuberculosis. If at all possible, each patient should have his own room and own veranda space, which should be arranged so that it can be separated by sliding doors. The room itself should have painted walls and such furniture as will permit of no accumulation of dust. The walls, floor, and

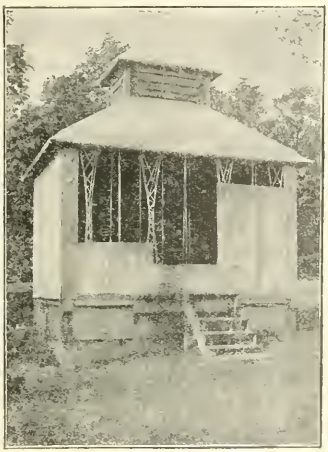

Fig. 6.—Professor Fisher's tent.

furniture should frequently be wiped off with cloths moistened in a sublimate solution of 1 to 3,000. The frequent wiping becomes particularly necessary in the latter stages of the disease, when the patient is weak and becomes less careful to prevent drop infection through the so-called dry-cough. As a receptacle for his sputum he should be provided with a light porcelain or aluminum cup partially filled with scented soap-water. (Fig. 1.) I prefer soap-water because it renders the expectoration less visible and less repulsive to look at than when collected in clear water. Strong smelling antiseptic solutions are not necessary, since the cup is frequently emptied and the sputum destroyed, either by burning or by being poured into the water closet. It is well known that

Fig. 7.—Dr. Millet's sleeping shack.

the saprophytic organisms in cesspools and sewers destroy the tubercle bacilli. The Seabury and Johnson pasteboard sputum boxes, with cover, are also convenient as a receptacle for the sputum if the invalid is willing to use them. (Figs. 2 and 3.) These boxes, removed with their contents from the frame, can easily be destroyed by fire. When the patient is yet strong enough to make use of the sputum pocket-flask (Figs. 4 and 5), he often prefers this to the use of the cup, for he can place the hermetically closed flask under his pillow, and on very cold nights, when he has to expectorate, he can

Fig. 8.—The Tucker tent; a combination of roof and fly ventilator.

do so without much effort and without being obliged to expose his back to the cold.

When the patient has become too feeble even to make use of the light aluminum cup or pocket-flask, moist cloths should be placed where he can reach them easily and into which he may cough and expectorate. In the last days of his sufferings it may become necessary to have a nurse constantly watching the patient to receive the sputum in the moist rags. These should, of course, always be burned before they have a chance to dry.

Every patient should be provided with two handkerchiefs, one for the purpose of wiping his mouth after expectorating and to hold before his mouth during the dry coughing spell, and the other for his nose.

Fresh air must be given to all advanced cases, whether they are bed or ambulant patients. In the

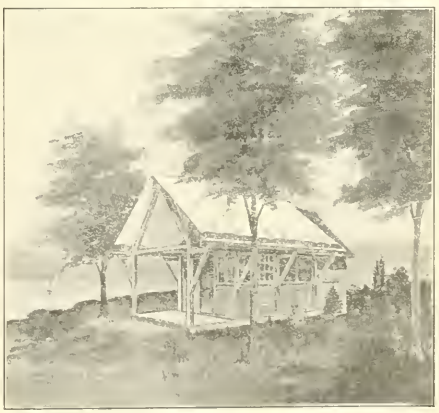

Fig. 9.—The Biggs Adirondack tent house; it can be used with perfect comfort during eight or nine months of the year

well-equipped modern sanatorium this is done during the day by placing the patient in the reclining chair on the rest-cure gallery. At night his bed is moved on to the veranda. In the special hospital for consumptives, with large wards and few special rooms, veranda space and rest-cure galleries are, as

a rule, not of sufficient abundance to supply the demand. We must often content ourselves with well-ventilated wards at night and during the day with a little solarium, often altogether too crowded to be considered sanitary. In the future construction of special hospitals for the treatment of advanced cases

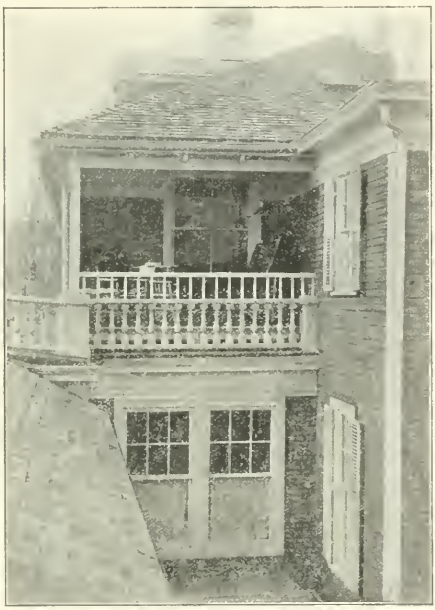

Fig. 10.—Sleeping porch for the open air treatment.

of tuberculosis it should be borne in mind that with more air space and facilities for open-air treatment, by day and by night, such symptoms as chronic fever, night sweats, and persistent cough will be more easily controlled than with most of the antipyretics, anti-sweat, and anti-cough products of our pharmacopeia.

One feature which is so frequently overlooked in the construction of special hospitals for advanced cases of tuberculosis is the necessity of a number of small rooms for dying patients, gangrenous cases, or patients where isolation is desirable or necessary for other reasons. The well-to-do consumptive living in a small town or village may have a Fisher tent (Fig. 6), a millet sleeping-shack (Fig. 7), a Tucker tent (Fig. 8),* or a Biggs tent-house (Fig. 9) near his residence for permanent quarters. All these are practically and easily constructed, and inhabitable throughout the year. These sleeping out-of-doors arrangements are, of course, of equal advantage for the open-air treatment in earlier cases.

Another almost ideal way of making a sanatorium installation in the home of the patient is to utilize the porch or to make an addition to one's house for this purpose. The illustrations (Figs. 10 and 11) were taken from an admirable article on "Sleeping out of Doors" by the pen of our distinguished and beloved president, Dr. E. L. Trudeau, which appeared in the May number of *Outdoor Life*. To show the facility of constructing such a sleeping-out veranda, allow me to quote from Dr. Trudeau's article:

"Ideal sleeping-out places of this kind are built out from a second-story room, and on them the comparatively well patient can sleep at night, or the bed-ridden invalid may spend the entire time out of doors and in close proximity to family and friends. The bed can be moved out at will on this little structure, and the patient can step at once into a room heated when necessary, to bathe or dress at any time, or to get warm if chilled.

"These second-story sleeping-out verandas can be built at comparatively small cost and attached to almost any country house, and the consumptive who, for any reason cannot leave home, can do much to arrest and cure the disease by equipping his house with such an out-of-door sleeping-place, which will enable him to live at rest out of doors the year around, for in winter one step will take him into a warm room where he can bathe and dress in comfort.

"The window of an ordinary second-story room is cut down to the floor and replaced by a door; the floor of the little sleeping-out porch is supported by wooden brackets attached to the sides of the house; the two ends are boarded up with thin boards, with or without glass casings, supplied with dark shades; an overhanging shingle roof completes the structure, and by its overhang prevents the rain from beating in directly on the patient. An awning is a great additional comfort against sun and rain.

"When the invalid has selected an ordinary veranda for a sleeping-out place, his bed should be placed in a corner, if possible, so that he is sheltered from the wind on two sides, at least, and far enough back to prevent the rain from beating on the bed. One end of the veranda can thus, with a bed, a rug, a table and a chair, be turned into a sort of open-air room, where the patient can spend not only the nights, but most of the days, as well. A slender-bowed switch will do to attach the often indispensable mosquito net, or the entire end of the veranda can be screened off for this purpose."

Another permanent arrangement for the open-air

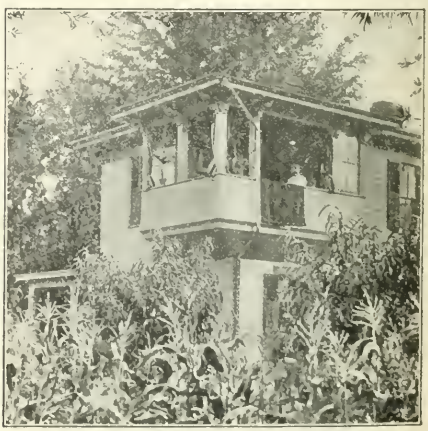

Fig. 11.—A more elaborate sleeping porch than that shown in figure 10.

treatment, easily attached to a home, is the one devised by Dr. Millet, of Brockton, Mass., and shown in the illustration (Fig. 12.)

The open lean-to or "shack" (Fig. 7) is one of the best constructions for applying the open-air method when camping or in the country and at a dis-

*The Tucker tent and Biggs tent house have been reproduced from the pamphlet on County and City Care of Consumptives, issued by the Committee on the Prevention of Tuberculosis of the Charity Organization Society of New York City.

tance from houses. Such a shack is practically like the sleeping-out veranda described above, with the house removed. It is closed on three sides, open in front, can be built of rough boards, and roofed with rubberoid or some of the waterproof roofing papers, or shingled, as desired. Its depth should be sufficient, when combined with a marked projection of the roof, to keep the rain from beating in. If intended for cold weather, as well, it should have a small room at the back, with a stove, where the patient can get warm, wash, and dress.

Fig. 12.—Permanent arrangement for open-air treatment at home; devised by Dr. Millet of Brockton, Mass.

The wealthy advanced tuberculous patient, desiring or being obliged to remain in the city, and so situated as to make the building of a shack or addition to his house an impossibility, must make a sanatorium of his home as best he can. He should choose for his bed and sitting-room the lightest and best-ventilated rooms of the house or his apartment. The half-tent (Fig 13), which protects him against the wind, the hot sun, and the gazes of his neighbors, can be placed either on the roof, the extension, or in the yard. The comfortable reclining chair, with the characteristic knee-bend and adjustable back (Fig. 14), for taking the rest-cure, which should be an indispensable article of furniture for all tuberculous patients, should be placed in the tent, and here the patient will probably spend most of his time during the day. This half-tent and the reclining chair in the home of the well-to-do patient must replace the rest-cure gallery of the sanatorium. For poorer patients the simple steamer chair and a few boards joined together to replace the costly half-tent will have to answer the purpose. A large and stout umbrella, such as is often used at seaside resorts, can be fastened to the back of the steamer chair, and will answer the purpose where the tent cannot be provided. The poor patient will probably be obliged to resort to the roof for his rest-cure, as the small yard of the tenement house, with many children playing in it, will scarcely be suitable. I do not favor the use of the fire-escape for this purpose. A recent conflagration in New York City, where many lives were lost owing to the obstruction of the fire-escape, showed the dangerous results of evading the law in this way.

For all tuberculous patients, and particularly for our consumptives obliged to remain in the city, we must seek to provide as much fresh and pure air as possible. In hot weather no one objects, as a rule, to having all the windows open, but in winter it becomes exceedingly difficult in the houses of the poor. In the hopes of solving this problem in a measure, I devised an arrangement which I call a window tent. Through the kind cooperation of my former house physician at the Riverside Sanatorium, Dr. W. B. McLaughlin, I was able to present the first model of our modest invention at the meeting of the New York County Medical Society last February. I recommended the tent first to a tuberculous physician living in Brooklyn, and he reported such a marked improvement of all his symptoms that I have since suggested its use to a number of my colleagues for their patients. All have reported gratifying results. I recommended the tent in a case of pernicious anemia, and there was a marked improvement after a few days of constant exposure to the fresh air in the tent. The device not being patented, a number of out-of-town physicians have constructed the window-tent themselves, and have written me about their success with it, and suggested some improvements. To Dr. H. F. Stoll, of Harford, Conn., I am particularly indebted for the idea of having an observation glass sewed into the canvas. A number of other modifications and improvements have suggested themselves to me by watching patients use the tent. With the help of Mr. Rich-

Fig. 13.—The half tent.

ard Kny, of the Kny-Scheerer Co., I have incorporated these in a new model which I have the pleasure to present to you herewith.

As you see, this window-tent is an awning which, instead of being placed outside of the window, is attached to the inside of the room. It is so constructed

that air from the room cannot enter nor mix with the air in the tent. The patient lying on the bed, which is placed parallel with the window, has his head and shoulders resting in the tent. (Figs. 15, 16, 17.) By following the description closely, it will be seen that the ventilation is as nearly perfect as can be produced with so cheap a device.

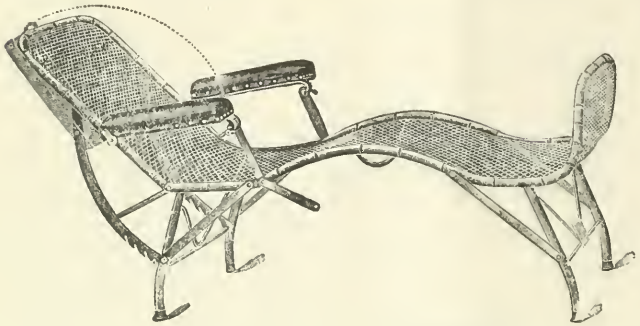

Fig. 14.—Reclining chair with knee-bend and adjustable back.

In the lower half of an American window is placed the frame to which is attached the awning, stretched over a quarter-circle, with a radius of 40 inches.* The frame of the tent does not quite fill the lower half of the window; a space of about three inches is left for the escape of the warm air in the room. By lowering the window, this space can be reduced to one inch or less, according to need. On extremely cold and windy nights there need not be left any open space at all above the window-frame. The patient's breath will rise to the top of the tent, and the form of the tent aids in the ventilation. The awning is made of stout duck and is waterproof.

The patient enters the tent through a flap which can be made either on the right or the left side of the tent. The lower edges of the canvas that come at the head and side of the bed are long enough to be tucked well under the mattress to exclude the air from the room and protect the patient from draught. The flap is so constructed as to admit of easy access to the patient.

The change of hot and cold air in the window-tent takes place in the following manner: In Fig. 18 *ab* represent the roof of the window-tent, it rests on the bed at *b*, and is attached to the window at points *a* and *c*. Now, *d* is the outside air, and *e* is the air in the warm room. If *e* is warmer than *d*, then the roof of the tent will be warm, and will in turn warm that portion of the outside air *d* which is in contact with the roof *ab*. This warmer air will go in the direction of *ba*, and pass out of the tent at its apex *a*. New air from the outside will, of course, take its place, entering in the direction of *df*, insuring a constant change of air. The patient's own expired air rising toward the roof of the tent adds to the circulating current of air, *dfgh*. The vaulted form of the tent facilitates the movement of the air currents and prevents the formation of air-pockets.

The frame of the tent is composed of two lateral pieces, which are attached to the inside portion of the window-frame by four wing screws. The upper transverse portion of the frame of the window-tent is made of telescoping galvanized iron bars, arranged so as to fit any window. The frame is placed in the frame of the window in such a manner as to permit the lowering of the window, which may be essential on unusually stormy days, and is always necessary for a little while in order that the room may become warm for the patient to dress, or to take his cold sponging, massage, etc. While in the tent the patient's body is kept thoroughly warm. In order to protect him from rain beating in his face, a little expansion awning can be fixed in the upper portion of the window. A roller-shade has been placed in the window itself. This shade, running from above downwards, can be lowered at the patient's convenience to protect him from the too strong light or the gaze of the neighbors while taking his medicine, etc. The little expansion awning, or peak, of the tent, is not always essential, particularly if the house has a sufficient projection over the window, or the patient's room is located under the eaves of the upper story.

The cot can be placed in the window to suit the patient's preference for sleeping on his right or left side, so that he has the air most of the time in his face. Another advantage of the window-tent is that it will not attract any attention from the outside. Being placed alongside the window, it will be convenient for a majority of the poor who have small rooms. If, however, the bed must be placed at a right angle to the window, the flap can be made in the middle of the tent.

A piece of transparent celluloid is placed in the middle portion of the tent to serve as an observation window for the nurse or members of the family to watch the patient if this is necessary. It also serves to make the patient feel less outdoors and more in contact with his family. He can, if he desires, see what is going on in the room.

If the window tent must be placed at a right angle to the window, the observation glass can be put in on the side. It goes without saying that, as a rule, patients should not smoke; when, in exceptional cases, this can be allowed, the danger of the celluloid window becoming ignited must be impressed upon them.

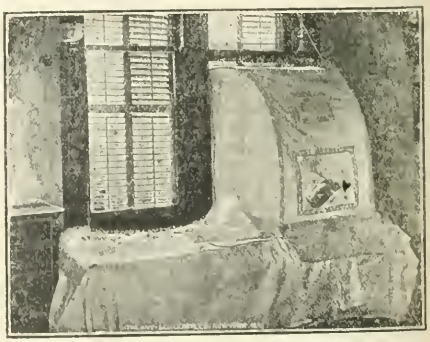

Fig. 15.—Window tent, with patient looking through celluloid window into the room.

and the greatest caution urged. I prefer the celluloid observation-glass to ordinary glass because it can easily assume the vaulted form of the rest of the tent, and thus even the slightest possibility of air-pocket formation, above referred to, is done away with. Placing hinges in the upper part of the frame makes it possible, with the aid of a pulley, to lift the

*When there is a recess, so that the bed placed parallel to the window cannot be moved close to the window sill, the tent has to be made correspondingly longer and the bottom flaps made long enough to reach under the mattress.

whole apparatus from the bed to any desired height. This will facilitate arranging the bed, sponging off the patient, or the application of a compress, massage, or any local remedy.

If it is necessary to raise the bed to the height of the window-sill, it can be done with little ex-

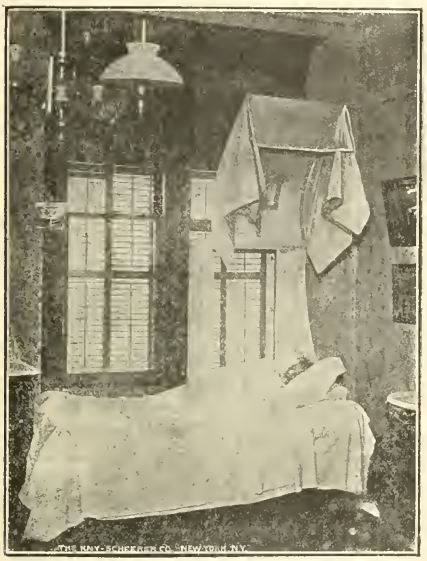

Fig. 16.—Window tent with main portion raised by pulley.

pense. If the bed is of iron, a few additional inches of iron piping can be attached to the legs by any plumber, or one handy with tools; raising a wooden bed can be accomplished with equal facility. If the window-tent is to serve the patient only during the night, the tent can be pulled up and the bed can be moved away from the window during the day and the window closed.

This window-tent will, of course, be of greatest service to the consumptive sufferer in winter. If he is feverish, or his stay in bed is advisable, he can spend his entire time in the window-tent. If the people are poor, and the room where the consumptive sufferer lies serves as living-room for the rest of the family, the fact that the well members need not shiver and yet the patient can take his open-air treatment, is of vital importance in many respects. While the room will not be quite as warm as if the window was entirely closed, it will be much warmer than if there was no tent in front of the open window.

Laying aside the economic advantages to a poor family when not being obliged to heat more than one room, the patient feels that he does not deprive his loved ones of comfort and warmth and that he is less a burden and hindrance to their happiness. The other members of the family, on the other hand, feel that they can give to the patient all the air he needs and that he himself need not suffer for their comfort.

In winter the patient's bed must be covered with a sufficient number of blankets to assure his absolute comfort and warmth throughout the night. Still, this covering should not be so heavy as to press down upon the body and make the patient feel uncomfortable and tire him. The light and tightly woven blanket is a better protection than the loosely woven one. To the poor, whose disposal of blankets is, alas! often very limited, it may be valuable advice to tell them to put several layers of newspapers between the coverings. *Outdoor Life*, of December, recommends to have a dozen layers of newspapers sewed between two layers of flannel. This will certainly make a cheap, light, and warm covering. In extremely cold weather the patient should, while sleeping outdoors, whether in a tent, shack, on the veranda, or in the window-tent, wear a sweater and protect his head and ears with a woolen cap, shawl, or woolen helmet, such as I reproduce here. (Fig. 19.)

Some patients will complain that the bright light awakens them too early in the morning, and that they have difficulty in going to sleep again. In such instances I counsel the patient to have some light-weight, but dark-colored material (such as black lisle-thread hose) to put over his eyes. This usually suffices to obviate the inconvenience caused by the bright light.

The pulmonary invalid should be provided with a bell to communicate with his nurse, relatives, or the friends who take care of him. He should, of course, have a small sputum-cup or pocket-flask handy to receive his expectoration. I prefer the flask for use in the window-tent, for it seems to me that any kind of cuspidor which had to stand on the window-sill would not be as safe, as there is always a danger of its falling. A urinal should also be at the bedside, so that the patient will not have to leave the bed in the night.

There is, lastly, one more advantage to be derived from the use of the window-tent that is not to be underestimated. Patients who can only be persuaded with difficulty to sleep with the window wide open will not hesitate when they have this tent as an inducement.

Besides the fact that the patient feels easier when he knows that the rest of his family are not in discomfort because he must be exposed to the cold, there

Fig. 17.—View of window tent with patient, taken from house opposite

is another advantage in this window-tent arrangement whereby the patient's physical and mental condition will be benefited. His prolonged rest-cure in bed will be more endurable when he is permitted to look out on the street and watch life there than when obliged to gaze at the four walls of his room

When arranging for the rest-cure on the reclining-chair during the day in this half-tent in the garden, on the veranda, in the sleeping-shack, on the roof, or on the balcony, one should always bear in mind that it is much more agreeable and conducive to the well-being of the patient when taking the cure, to

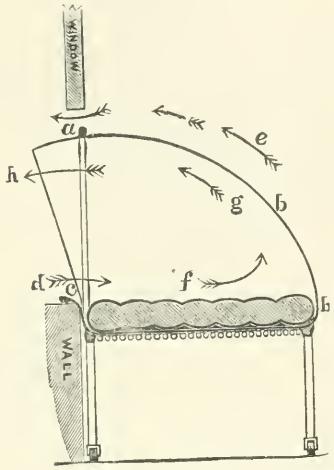


Fig. 18.—Diagram showing ventilation of window tent.

have a pleasant view to look upon. In building sanatoria, the greatest attention is paid to the proper selection of the place for rest-cure gallery or veranda. The more pleasing and entertaining the outlook from these places, the more certain is one to keep the patients quiet and restful.

The aërarium, an invention of Dr. T. M. Bull, of Nagatuck, Conn., is another device for the open-air treatment which is excellent where it can be applied. As the illustrations (Figs. 20, 21) show, the aërarium is an awning covering the whole outside of the

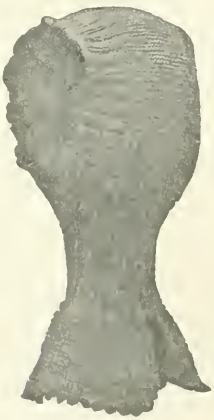

Fig. 19.—Woolen helmet.

window and constructed of wood and canvas, painted the same color as the house. The following is an exact description of Dr. Bull's aërarium as it appeared in *Outdoor Life* of October, 1904:

"The head of a cot-bed is run through the window so that the patient's head and shoulders are outside. From the lower edge of the lower sash (which is raised about 20 inches) is suspended a heavy cloth or curtain, which drops across the patient's body and effectually shuts off the room, and thus permits the room to be warm. In severe weather, the lower edge of the curtain may be drawn out to the sleeper's

Fig. 20.—Dr. Bull's aërarium, view of house, giving outside appearance.

neck, and his body will be practically indoors. In warm weather the curtain may be drawn to the feet and his body will be practically outdoors. Windows may be inserted in the canvas to prevent obstruction of light to the room.

"The sides are all closed. Air enters only through the floor in the slit between the bed and sides. (An extra floor with valve-flaps is provided in cases the rare back draught occurs). The air escapes only through the roof, a vertical current of air being thus

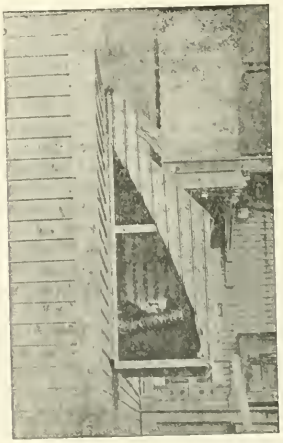

Fig. 21.—Dr. Bull's aërarium, awning cut away, showing inside arrangement.

assured. The top is composed of two superimposed roofs, the upper one foot higher and extending one-third as far as the lower. The sizes of the roof opening can be regulated."

To the best of my knowledge, Dr. Henry B. Dunham, of the Massachusetts State Sanatorium at Rut-

land, was the first to suggest making the patient sleep with his head outside the window.* Dr. Dunham's bed, projecting out of the window, in combination with the aërarium, may be feasible in a one- or two-story house in a village or small town. Those of us familiar with the conditions of the consumptive poor in a large city will, however, agree on the difficulty of making such a device practical and popular among this class of patients. In a New York tenement house, for example, a cot protruding through the window would attract unpleasant attention, and with the phthisiophobia that exists in many minds, the unfortunate sufferer might be obliged to seek other quarters. The cost of the aërarium will also bring it beyond the reach of the poor, and since the device is patented, it would be imprudent to endeavor to copy it with a view of producing a cheaper apparatus.

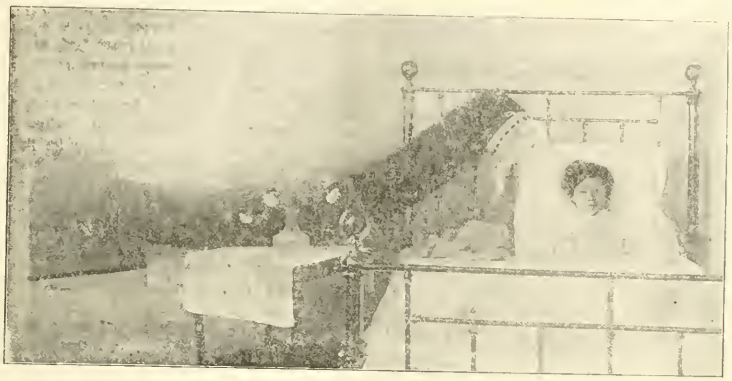

Fig. 22.—Dr. Kellogg's porte d'air.

Lastly, there is another device for bringing open air to the patient, which I saw for the first time at a recent visit to the Battle Creek Sanitarium. It is an invention of Dr. John H. Kellogg, the distinguished director of that institution, and is called "Porte d'Air," or "Air Carrier." The accompanying photographs (Figs. 22, 23) show that Dr. Kellogg's apparatus consists of a large flexible tube, through which the patient can receive fresh air from the window, whether sleeping or waking, resting or at work.

The porte d'air has four parts: *A*, the flexible tube, which is ten inches in diameter, is made of strong cloth (denim or rubber-cloth), supported by steel rings, about six inches apart; *B*, the window-piece, which is about a foot wide, and of length equal to the width of the sash. This may be adjusted to fit different sized windows. It is provided with an opening the size of the tube, which on the inside is surrounded by a metal collar, to which the cloth tube is attached, and on the outside is covered by a door hinged at the top and held open by a light spring. By means of a cord attached to this door, the amount of air entering the Porte d'Air may be instantly and perfectly controlled by the patient from any part of the room. *C*, the outlet or service end of the flexible tube, is furnished with a rigid metal collar, by which it may be supported at the head of the bed, or over a cot, a chair, or a desk. It may be placed in any part of the room, and in any desired relation to the window, as it may be turned around a corner, or twisted in any shape desired, by simply connecting the supporting rings, as shown in one of the accompanying cuts. To the terminal opening or service end is connected a cloth or mackintosh hood (*D*), for the purpose of directing the current of cold as may be desired. This may be used open or closed, or with one side raised, or in many cases it may be dispensed with.

Fig. 23—Porte d'air with hood over patient.

When the slight draught from the incoming cold air is objectionable, this may be obviated by removing the hood and covering the end of the tube with cloth. The air will find exit through the openings in

*American Medicine*, December 28, 1901.

the collar, and will be sufficiently diffused to prevent draught.

The service which such an apparatus renders is, to my mind, of especial advantage when there is a severe rain or snow storm, when windows cannot be opened and the window tent or aërium cannot be used. The air is brought from outdoors through the tube right over the patient's bed or his reclining chair. Dr. Kellogg suggests the use of his porte d'air in summer; I can understand how it may render valuable service then. He supplements it by a small electric fan, which is placed near an open window, and joined to the porte d'air by a funnel-shaped connection. This secures a constant current of air at any desired point. The air may be cooled while coming in by sprinkling the tube or by laying wet towels on it.

I now desire to make a few additional hygienic and medicinal suggestions concerning the treatment and care of the more advanced tuberculous cases which are applicable to all, rich and poor, sanatorium and private patients alike. I have nothing new to offer in the way of symptomatic medicinal treatment, still less in the line of specific treatment. I will speak of what may be done to render our patients comfortable, in addition to the hygiene and aërotherapy already referred to. Every room occupied by the pulmonary invalid should have a comfortable bed, a commode, and a comfortable reclining chair (Fig. 14), preferably one which will hold a mattress, and an easy chair with back arranged so as to facilitate deep breathing. (Fig. 24.) If the patient is obliged

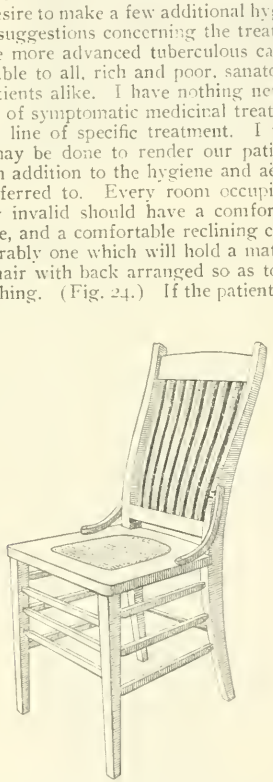

Fig. 24.—Comfortable chair with back arranged to facilitate deep breathing

to remain in bed all the time, or for a number of days in succession, it is best that he should have two beds —one for the day and one for the night. Of course these should be single beds, and with light metal frames. By thus changing beds, the patient will be much refreshed and bedsores will be largely prevented. A small down pillow, which may be placed under the small of the back, adds much to the patient's comfort. Patients have assured me that nothing rested them so much as this little support, which brings about a most grateful change of position. When tired of this position, the pillow can easily be removed.

In ordinary weather, the patient in bed should wear a muslin nightshirt; in colder weather he may wear linen mesh underwear underneath, and an additional outer garment, if necessary. I prefer the linen underwear because it produces a pleasant friction on the skin, and dries quickly when the patient has perspired. The patient should be exposed as much as possible to the rays of the sun, in bed or on the reclining-chair, but with the head always in the shade. Fever is, of course, a contraindication to solar therapy.

Judicious massage during the non-febrile state is a valuable remedy to counteract lack of appetite, lack of assimilation, and a progressive atrophy. The diet of the advanced tuberculous case should be appropriate to his condition. I do not believe in overfeeding the patient distressingly; it makes him uncomfortable and unhappy, and while he may thus add fat to his flabby muscles, the improvement in the pulmonary regions will never be concomitant. The patient should eat as much as he can without causing him distress. The food should consist of a mixed diet and be varied and appetizingly served. If there is a persistent anorexia and weakness, some tonic bitters, the arsenic and strychnine preparations, are often helpful.

The patient's digestive tract must be kept in good condition. Washing out the mouth with some aromatic and refreshing solution is particularly indicated for the consumptive, who often complains of a bad taste in the mouth. He should use a toothpick and toothbrush often. The latter should, however, have soft bristles or be made of rubber. A coarse toothbrush is apt to lacerate the delicate gums, and can do a great deal of mischief in the mouth of a consumptive where there are any number of pathogenic microorganisms. Another excellent way to clean the teeth without injuring the gums is to rub them with a bit of antiseptic cotton. With a little care this can be made very thorough and effective, and as a fresh piece can be used each time, it is preferable to a toothbrush, which cannot be easily sterilized.

The bowels should be kept open by an appropriate diet, and, except in diarrhea, plenty of good, pure water internally is always indicated. A diarrhea caused by injudicious overfeeding must be treated by cleansing of the internal canal, by fractional doses of calomel, and a subsequent absolute rest and light diet. When the diarrhea is due to tuberculous invasion of the intestinal tract, an anti-diarrheic diet, consisting of rice, hard-boiled eggs, chocolate, mucilaginous soups, etc., is strongly indicated. As additional measures, I recommend hot claret with cinnamon, tannin, bismuth, and opium. If night-sweats cannot be controlled by outdoor sleeping, sponging with aromatic vinegar and water at bedtime, and a light meal just before retiring, they may have to be combated by the addition of some atropin or agaricin. But before resorting to active medication in hyperhydrosis, I resort to two hydrotherapeutic means which have often rendered me most valuable service, and which, to my mind, should always be preferred to medicinal treatment. The first is the wet compress. Several thicknesses of rather coarse linen, folded in the form of a shawl, or, better yet, three different cloths,—one narrow one for each apex like a broad shoulder strap, and another wider one to wrap around the chest,—are soaked in water at a temperature of about 55° F., wrung out, and then closely applied over the apices and around the thorax. A thick flannel band, somewhat wider than the compress, is wrapped over this, and the whole is fastened in place, where it remains all night. The patient usually feels no discomfort, sleeps well, and sweats but slightly, if at all. In the morning the compress is removed, and the chest and shoulders are rubbed thoroughly dry. The second procedure is the sweat bath. It can safely be applied when the patient

is relatively strong, and experience has demonstrated to the attending physician that it does not exhaust the patient to any severe degree. It will then almost invariably not only combat hyperhydrosis, but will lower the patient's temperature and improve his general condition. Through the sweat-bath the excretory action of the skin is considerably increased, and a larger quantity of toxin is thus more rapidly eliminated. Frequency, time, and duration of the bath must, of course, be always carefully controlled. A portable sweat-bath apparatus, which can be placed in the bedroom of the patient, is the most convenient manner to apply this hydrotherapeutic measure. In a publication by Dr. De Lancey Rochester, of Buffalo, on the "Treatment of Pulmonay Tuberculosis," * I find that he, as well as my friend, Dr. Charles G. Stockton, of the same city, have employed this method for a number of years, and with satisfactory results. Against severe hemoptysis an icebag over the heart, a little ice internally, quiet, and morphine, and the ligation of the extremities are still our only resources.

Carefully graduated breathing exercises, directed by the physician, will help to overcome a dyspneic condition, facilitate hemoptysis, and indirectly facilitate expectoration. I have repeatedly published my exercises, and I do not think it necessary to again describe them here in detail.† I only wish to mention the necessary precaution, particularly when recommending them in the more advanced tuberculous patients. These exercises should never be taken when there is an active febrile process, never when the patient is tired, nor to the extent of getting tired; never after a hearty meal, never when uncomfortably or tightly dressed, never in an overheated room or dusty or otherwise vitiated atmosphere.

To control the cough we must use the well-known remedies, viz.: proper breathing, discipline, codeine, and heroin. Fever should, as far as practicable, be controlled by frequent partial sponging, and the heart-depressing coal-tar products should be utilized only as a last resort. The various other serious symptoms arising from the secretions of the tubercle bacilli and their associates in the mixed infection can often be successfully combated by rectal injections of a physiological saline solution for the purpose of absorption or by hypodermoclysis or antistreptococcic serum. Subnormal temperature is an indication for hot-water bags, hot lemonades, milk, weak teas, or hot mildly alcoholic drinks. Sleeplessness may usually be combated by gentle sponging with tepid water, a lukewarm bath before retiring, or the wet pack, but at times such substances as trional or even opiates may become indispensable. The wet pack will often suffice to combat pleuritic and intercostal pains, but in some cases morphine alone will help to ease the sufferings, and I believe that in the last stages of consumption, when all hope of improvement must be abandoned, we should not be too sparing in the administration of morphine to render the patient comfortable and let him suffer as little as possible.

The psychic treatment of the consumptive invalid in the latter stages of the disease is important. While many are sanguine, not a few are morose and need encouragement, and kind and hopeful words. Should we tell the absolutely hopeless bluntly that there is no hope for him? I do not believe that this is necessary as a rule. He can be told to arrange his affairs, and still we need not deprive him of all hope. Many of this kind of patients hardly ever realize their true condition, and would not believe us would we tell them the truth, for it is an undoubtable fact, borne out by the experience of many, that, owing perhaps to the extreme toxicity of the blood, there seems to be a sort of general anesthesia without involvement of the mental faculties.

As in the hygienic, dietetic, and medicinal treatment of the consumptive, the individual must be considered, and no routine treatment can ever be successful, so must every consumptive's mind be treated as a distinct entity. No two are alike. We can do a world of good to our consumptive fellowmen who are no longer in the earlier stages by prolonging their lives and making them comfortable and even happy and useful. History is full of instances where the most beautiful work has been accomplished by men in the declining stages of consumption. It lies thus with us, when in the presence of an advanced case of pulmonary tuberculosis, to do good, not only to the individual, his family, and his friends, but even to the world at large. But, as stated at the beginning of my paper, we must bring to this work a careful study, a keen intelligence, much patience, forbearance sometimes, and firmness at others, but always our whole heart.

16 West Ninety-fifth Street.

*Rochester, Dr. De Lancy; "The Treatment of Patients Suffering from Pulmonary Tuberculosis Who Cannot Go Away from Home." *Medical News*, February 5, 1899.

†Knopf, S. A.; "Pulmonary Tuberculosis; Its Modern Prophylaxis and the Treatment in Special Institutions and at home." P. Blakiston's Son & Co., Philadelphia. "Respiratory Exercises in the Prevention and Treatment of Pulmonary Diseases." Lecture delivered before the Senior and Pos Graduate Classes of Johns Hopkins University.

## PRIMARY CRYPTOGENIC PNEUMOCOCCUS CEREBROSPINAL MENINGITIS, WITH A REPORT OF THREE CASES.*

By R. C. CUPLER, Ph.G., M.D.
CHICAGO.

During March, 1902, I attended a most interesting case of pneumococcus meningitis. Six months later another, and during February, 1904, a third case.

Fränkel, in discussing the diplococcus intracellularis meningitidis says that in its morphological peculiarities it has much in common with the pneumococcus, so that the most refined methods of differentiation should always precede a positive diagnosis. Its resemblance to the gonococcus should also be kept in mind. McFarland points out that the primary form of meningitis seems to be caused by the intracellular diplococcus. Osler says the pneumococcus is the most common cause of sporadic meningitis. As early as 1887, Weichselbaum carefully described a diplococcus found in six cases of cerebrospinal meningitis. This microorganism is briefly described as a biscuit-shaped diplococcus, usually found in the protoplasm of the leucocyte. The organism stains with the aqueous solution of the anilin dyes, and not by Gram's method.

The diplococcus pneumoniæ is variable in morphology; when grown in bouillon it has a disposition to occur in pairs, and frequently in chains resembling the streptococcus. In the exudate of pneumonia it occurs in pairs, lanceolate in shape, the pointed ends being approximated, and usually surrounded by a distinct capsule. It stains with the ordinary anilin dyes and by Gram's method. Leube says that the nature of epidemic cerebrospinal meningitis has been determined by recent bacteriological investigations. We know that apart from the secondary forms of meningitis in septicopyemia, pneumonia, tuberculosis, and enteric fever, cerebrospinal meningitis may occur primarily, due to the action of various pathogenic microorganisms. Should the affection

*Read at a meeting of the Douglas Park branch of the Chicago Medical Society, September 11, 1905.

be due to pneumococci, or intracellular meningococci the affection shows a tendency to become epidemic. It is to be assumed that the invasion of the pathogenic microorganism in these cases occurs from the nose and surrounding cavities. In favor of this is the frequency of the localization of the pneumococcus in the middle ear, and the frequent occurrence of the diplococcus intracellularis in the nose and surrounding cavities.

The character of the meningitis may be serous, epidemic meningitis, tuberculous, suppurative, or metastatic, as during the course of septicopyemia, usually complicating puerperal fever, endocarditis, articular rheumatism, miliary abscesses of the lungs, septic nephritis, cutaneous suppurations, otitis, rhinitis, and certain infectious diseases.

The clinical differential diagnosis from delirium tremens, hysteria, enteric fever, septicopyemia and uremia—that form of uremia which may have the irregular stertorous respirations, delirium, convulsions, and coma—is, I think, first to be considered. The finding of albumin is of limited value, for it may be found in meningitis. The most important findings are casts, albuminuric retinitis, which is scarcely ever absent in chronic nephritis, and hypertrophy of the heart. In cases of acute uremia, in which retinitis is absent, the presence of blood and epithelial casts in the urine, and cutaneous edema aid in the diagnosis of nephritis. Meningitis may complicate nephritis. Cabot says meningitis is the only intracranial disease, except abscess and apoplexy, which shows leucocytosis, and this fact may be of great help in excluding other causes of coma.

Enteric fever (meningo-typhoid) resembles meningitis, for painful rigidity of the neck, insensibility, and convulsions may dominate in this form of typhoid. The blood findings show a slight relative increase in the lymphocytes, in contrast to the polynuclear leucocytosis of meningitis; absence of enlargement of the spleen, irregular course of the pyrexia, the retraction of the abdomen, intense headache, general cutaneous hyperesthesia, herpes, multiple joint affections, and constipation are in favor of cerebrospinal meningitis. These points are also conclusive in cases in which, inversely, after a longer duration of cerebrospinal meningitis, the affection assumes the typhoid state.

In delirium tremens, if the psychical symptoms are prominent, the diagnosis from meningitis is quite difficult. Epileptic convulsions occur in both affections, as also partial convulsions in the region of the facial nerve and in the extremities. The fever is uncertain, as it may be absent in meningitis on the one hand, which is the usual occurrence in delirium tremens, and, on the other hand, elevation of temperature to 104° and above may occur, especially in the fatal cases of delirium tremens. The differential diagnosis in such cases must be based primarily on the presence or absence of focal symptoms; their presence points decidedly to meningitis. The prominence of the clinical picture of rigidity of the neck of intense headache, and the ophthalmoscopical picture may guide the diagnosis toward meningitis.

Hysteria is much less frequently mistaken for meningitis. There may be rigidity of the neck, vomiting, convulsions, retinal hyperesthesia (the patients prefer a darkened room), sighing respirations, hyperesthesia of the skin, pain in the head, usually over the sagittal suture, pain in the back and joints, paralysis, monoplegic, hemiplegic, or paraplegic, or any form of organic paresis; spurious ankle, clonus, phantom tumor, clonic spasms, anesthesia, tremor, hysterical hemoptysis, tachycardia, bradycardia, hemorrhages of the skin, hyperpyrexia, apparently severe stupor. A close observation will show some special traits in the picture which may assist the diagnosis in the right direction. The effect upon the convulsions of pressure upon certain parts of the body, the stupor due to pronounced sensory irritation, the occasional cataleptic character of the spasmodic condition, the restriction of hyperesthesia to circumscribed areas of the skin are points in favor of hysteria, and could not be symptomatic of anatomical lesion of the brain. To complete the diagnosis, the blood findings in meningitis, the optic neuritis, paralysis of the facial nerve and of the muscles of the eye, and the results of lumbar puncture, will suffice.

Septicopyemia, with severe cerebral symptoms, does not represent a meningitis, but a septic intoxication of the entire nervous system. The clinical observation may be the same as in meningitis, coma, delirium, contractions of the arms and hands, opisthotonos, general hyperesthesia, herpes, inequality, and, later, contraction of the pupils, divergence of the bulbi, Kernig's sign, the Cheyne-Stokes phenomena and even rigidity of the neck. Ophthalmoscopical examination may show retinal hemorrhage; lumbar puncture may be negative, but, as it is so occasionally in meningitis, it is obvious that a diagnosis cannot always be made.

Meningitis represents itself as a diffused affection of the surface of the meninges. It manifests itself primarily in general symptoms. To these are added focal symptoms. Some of the prominent general symptoms are headache, caused by a compressive action upon the dura with its abundance of nerves, by the meningitic exudate itself or the inflammatory edema of the brain substance, and the accumulation of fluid in the ventricles; restlessness, caused primarily by the direct irritation of the cortex, or a manifestation of the severe pain. The pulse is usually retarded at first, due to the intracranial pressure, and possibly the later rapidity is due to paresis of the pneumogastric. Respiration loses its regular type early; it is sighing, accelerated, and later intermittent. Contracted pupils may be considered as a spastic myosis, due to the irritation of the cortical origin of the third nerve. Rigidity of the cervical muscles, trismus and grinding of the teeth, and hyperesthesia of the muscles and skin, are, I believe, dependent upon cerebral pressure. The retraction of the abdominal muscles may be due to a spasmodic contraction of the intestinal coils. The reflexes of the extremities are exaggerated at first; later they are absent, or partially so. Involuntary micturition and defecation may be present, albumin may appear in the urine, and sugar may be present. Focal symptoms that may be present are paralysis of any of the cerebral nerves, paralysis of the extremities, in whole or in part, some form of aphasia, and optic neuritis.

Case I.—Italian, age 26; came to this country ten years ago. The following history was obtained from his brother and constant companion: The patient is unmarried, never had otitis, rhinitis, or gonorrhea, no evidence of syphilis, no previous injury, diseases of childhood negative. I saw the patient twelve hours after the beginning of his headache. During this time he had taken a package of headache powders, with the druggist's assurance that it would cure his headache. I found the patient madly delirious, neck not rigid, pupils of unequal size, tongue furred, jaws quite rigid, chest well developed, findings negative, abdomen slightly contracted, hands constantly at his head, skin moist, no swollen glands, pulse 50, temperature 98.6°. Six hours later the con-

dition was slightly changed, the respirations showed an intermittent type of slow character, pulse 70, temperature 100°; the patient was groaning, his hands being constantly applied to his temples, and if removed they would, without hesitation, return at once to his head. The abdomen was retracted. Lumbar puncture was followed by cessation of the groaning and less insistence in keeping the hands to the head. The cerebrospinal fluid first exuded in spurts; 30 c.c. of seropurulent fluid were removed. Examination showed the presence of pneumococci; no other microorganism was found. Blood findings: Red cells, 4,000,000; white cells, 38,000; hemoglobin, 90 per cent. The urine did not show albumin or sugar. Coma developed and the patient died thirty-six hours after the beginning of the headache.

Case II.—Male, age 20; Italian, in this country one year. I saw the patient two hours after the beginning of his headache. He was restless, his manner of speaking was one of excitement and confusion, pupils contracted, cervical muscles not rigid, skin of the extremities hypersensitive, reflexes exaggerated, abdomen not flat, no history or evidence of otitis or accessory sinusitis, gonorrhea and syphilis denied. He received no recent injury; the throat, chest, abdomen, skin, and glandular findings were negative. He had never been sick, except with typhoid fever, five years ago. I immediately did a lumbar puncture and removed 30 c.c. of floculent fluid. Pneumococci were present. The puncture was followed by relief from headache and the nervous excitement. The patient was taken to Wesley Hospital. During his illness several lumbar punctures were made. Following each puncture after the first, the symptoms, which were rapidly increasing in severity, showed a temporary improvement. The cerebrospinal fluid, while at first only floculent, became more clouded. The fourth and last puncture showed only a slight turbidity, and few pneumococci. Blood examination on the third day: Red, 5,600,000; whites, 30,000; hemoglobin, 80 per cent. The patient left the hospital at the end of the fifth week apparently well.

Case III.—Male, 30 years old; fairly well developed; examination of the head, throat, neck, chest abdomen, extremities, skin, glands, and genitals gave negative results. A peridental abscess was incised externally ten years ago. Several years ago he had repeated tonsilitis, but the tonsils were removed and no attack has occurred since. He never had otitis or rhinitis. Temperature 98.6°, pulse 70. His only complaint was that of a severe throbbing headache, which came on suddenly three hours previously. I was summoned twelve hours later, the patient was raving with delirum, and presented a similar picture of an unconscious man groaning with hands to head. He was removed to Wesley Hospital. He there had retracted abdomen, not noticeably rigid cervical muscles, slight convulsions, vomiting, slow pulse, intermittent respiration, with a tendency toward paresis, involuntary urination and defecation, and contracted pupils, which before death became unequal. Coma supervened and death occurred forty-eight hours after the onset of the headache. Red cells, 6,000,000; whites, 56,000; hemoglobin, 70 per cent. Lumbar puncture showed a purulent fluid under high tension and the presence of pneumococci.

Autopsy.—The general surface of the body showed no signs of injury or foci of suppuration. Chest: lungs float in water, no signs of pneumonia, bronchial and mediastinal glands not enlarged, heart and pericardium negative, spleen slightly swollen, capsule not tense, gastrointestinal tract negative. Kidneys, liver, and pancreas apparently normal. Genitals normal. Brain and meninges showed no sign of localized abscess. There seemed to be a uniform distribution of purulent fluid in the ventricles, under the cerebellum, around the pons, anteriorly to the longitudinal sinus, and laterally into the Sylvian fissures. The hemispheres were flooded with this thick greenish pus, the bones of the skull were quite normal, no evidence of accessory sinus inflammation or disease of the auditory canal, orbit, or nose.

One cardinal point in treatment is drainage. The thicker the pus, usually the more serious the prognosis. Lysol injections have been reported with favor. Carl Franca was the first to report a series of cases. He removed 30 c.c. of cerebrospinal fluid and injected 9 to 12 c.c. of one per cent. lysol solution into the subarachnoid space. The temperature and rigors subsided at once, but sometimes rose again after from one to three days. The lysol solution may be repeated until the fluid is clear. During the Lisbon epidemic of cerebrospinal meningitis, repeated lysol injections were used. Of thirty-one cases, thirteen died, four only from the disease. C. E. Nammack reports twenty-seven cases of cerebrospinal meningitis treated at Roosevelt Hospital during the 1904 epidemic, with lysol injections, with a mortality of 90 per cent. The withdrawal of fluid should not be sufficient to cause symptoms of collapse and the injections should not be carried to a degree of over distention. Wolf used diphtheria antitoxin serum with apparently good results. Waitzfelder treated seventeen cases of epidemic cerebrospinal meningitis in this manner, five of the patients recovered completely, three died, and nine were still under observation at the time of the report. The procedure is based on the supposition that an antagonism exists between the diplococcus intracellularis and the Klebs-Loeffler baccillus. Paralysis of respiration requires careful attention; caffeine citrate served admirably in my cases; if stupor is great and cessation of breathing is imminent, lingual traction may be used. Morphine in large, frequently repeated doses, is used for restlessness, jactitation, and severe pains. Leeches to the neck and mastoid region may be used and cold may be applied to the head and spine.

Headache, with no other noticeable symptom, may be the beginning of meningitis. Quincke's lumbar puncture relieves the intracranial pressure, lessens the severity of symptoms, assists in diagnosis, and meets the requirements of a rational principle in treatment. Primary pneumococcus meningitis is not common, and recoveries from it are few.

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## A PENETRATING GUNSHOT WOUND OF THE ABDOMEN.

By J. H. IDEN, M.D.,

PAST ASSISTANT SURGEON U. S. NAVY.

Nobutara Miyamota, cabin cook, U. S. N., age twenty-eight years four months, a native of Japan, serving on board the U. S. S. *West Virginia*, was accidentally shot with a 32-caliber revolver at 7:45 P. M., July 31, 1905. The ship was at anchor off Newport, R. I., and after an examination, the surgeon of the ship deemed it advisable to transfer the patient to the U. S. Naval Hospital at Newport. First aid dressing was promptly applied on board ship.

At 10:25 P. M. the patient was admitted to the hospital. At the time of his admission I was not present, but the medical officer on duty informed me upon my arrival, about half an hour later, that the

patient's pulse was sixty-two and compressible upon admission.

Examination revealed a wound in the abdomen, slightly above McBurney's point. The abdomen was distended, and physical signs of fluid were present. Pallor was present, but not marked. When questioned, the patient stated that he had a little pain. The pulse was 110 and of fair quality. The patient was vomiting every few minutes. From the symptoms, there seemed to be no doubt but that the bullet had penetrated the abdominal cavity. There was little or no hemorrhage from the external wound. Strychnine sulphate, gr. 1-30, had been administered some time previous to the examination, and orders were given to prepare for operation in case it was deemed advisable.

The patient rapidly became worse; the pulse was small and feeble, the face pale, and the body bathed in cold perspiration; the pupils were dilated; the temperature was subnormal. Vomiting continued. The typical abdominal facies was present. Morphine sulphat, 1-4 gr., and strychnine sulphate, 1-30 gr., were given hypodermatically, and the patient was sent to operating room at 12:10 A. M. Ether was administered by Asst. Surgeon J. L. Belknap, U. S. N., assisted by Hosp. Steward C. P. Hines, U. S. N.

The abdomen was prepared with the usual antiseptic precautions. Assisted by Asst. Surgeon L. H. Wheeler, U. S. N., I made a long median incision. The abdomen was found to be full of blood, though hemorrhage had apparently ceased. The omentum was congested, and the bullet wound was plainly visible. Blood was removed from abdominal cavity with sterile gauze sponges. Beginning at the duodenum, the small intestines were rapidly examined, and nineteen perforations were found, besides a number of wounds of the mesentery. At one place there were five perforations in about four inches of the gut, necessitating resection. End-to-end anastomosis was done, using Cushing sutures. Other perforations were closed by purse-string sutures, first employed by Dawbarn of New York. The wound in the omentum was ligated with silk, and the injured part removed. The borders of the wound in the mesentery were inverted and closed with silk sutures. In the examination of the intestines it was impossible to avoid eventration, so they were covered with sterile gauze wet with hot salt solution. The intestines were only moderately full. The intestines and abdominal cavity were hastily wiped with sterile gauze, wet with hot saline solution, and the intestines were replaced and the abdominal wound closed with three rows of buried catgut sutures and a superficial row of silkworm gut.

From the location of the intestinal and mesenteric wounds, the bullet must have passed transversely through the abdomen, with an upward and backward direction, and buried itself in the deep muscles of the back on the opposite side. On account of the grave condition of the patient, no attempt was made to locate it.

Anesthesia was begun at 12:15 A. M. The patient took it well, and was fully under at 12:35 A. M. The pulse was then 118, of fair volume, and low tension; respiration, twenty-four per minute, and regular. During the operation the pulse increased steadily in rapidity, and became small and thready, finally irregular, and at last imperceptible in the radial, facial, and temporal arteries. The heart sounds at the end of the operation, which was of two and one-half hours' duration, counted from 170 to 180 per minute with the stethoscope. Respiration was shallow, somewhat irregular, and varying in rapidity. The extremities were cold, the forehead bathed with cold perspiration, and there was marked venous stasis of the hands and forearms. During the operation four doses of strychnine, gr. 1-30, and three of atropine, gr. 1-150, were given subcutaneously. Before the patient was removed from the operating table one quart of hot saline solution was given in the left median basilic vein, to which he reacted well, and at 6:00 A. M. the pulse was 128, and of good volume.

Nothing was given by the mouth for forty-eight hours, except a little cracked ice and brandy. Morphine sulphate, gr. 1-4, was given every four hours, and the patient was kept as quiet as possible. Strychnine sulphate was given as necessary. The patient rested well all day and night. The highest temperature, per rectum, was 101° F. Catheterized and 200 c.c urine drawn off.

The following day, August 2, his highest temperature was 100° F., and pulse 124; he vomited frequently, the vomitus having a distinctly fecal odor. Morphine sulphate was discontinued, and strychnine sulphate, gr. 1-30, given hypodermatically every four hours. The urine was voided twice. Peptonized milk was given, per rectum, every six hours, which was retained fairly well.

August 3, vomiting stopped; temperature, per rectum, 100° F.; pulse, 92, and strong. Had large soft stool and voided urine three times. Rested well all day, and stated that he felt well and had no pain. Milk and liquor calcis was given by mouth, and retained.

August 4, temperature and pulse normal. Bowels moved twice. From this on the patient improved rapidly; the wound practically healed by first intention, though there were one or two stitch abscesses. The superficial sutures were removed on the seventh day. The wound of entrance of the bullet healed very quickly.

On September 5, the patient had gained flesh and strength and was permitted to walk around, after an abdominal support had been applied. On September 20, fifty-one days after the operation, he was sent to duty perfectly well.

The imbedded bullet had not given him the slightest inconvenience.

This case is thought to be worthy of report on account of the unusual number of perforations of the small intestine, and the great rapidity with which the patient recovered from shock incident to loss of blood and prolonged manipulation of the intestines. I believe his quick recovery was due in a great measure to his sanguine disposition, for at no time did he seem to have the least doubt as to his ultimate recovery.

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## A CASE OF TYPHOID FEVER WITH TRIPLE INTUSSUSCEPTIONS.

By BERTRAM L. BRYANT, A.M., M.D.,
VISITING PHYSICIAN EASTERN MAINE GENERAL HOSPITAL; AND
JESSE S. BRAGG, A.B., M.D.,
BANGOR, MAINE.

John W., age 23, fireman, was admitted to the hospital September 2. For ten days he had been having the usual prodromal symptoms of typhoid fever. On admission the abdomen was found to be swollen and somewhat tender, tongue coated, temperature 101°, pulse 104; leucocytes 7,400, hemoglobin 90; Widal positive. Urine, sp. grav. 1,030, albumin a trace, few pus and red blood cells. Treatment: milk eight ounces every four hours and

all the water the patient could drink; daily cleansing bath, soapsuds enemata, and cold sponge bath when the temperature reached 102°.

The patient was somewhat restless and at times delirious, but otherwise the fever ran an uneventful course, and no additional treatment was given until September 27, when the pulse began to weaken and whiskey, one-half ounce, and strychnine, 1-30 grain, were added.

On September 30 at eight o'clock in the morning the pulse was 100, temperature 101.2, respirations 23; the patient was resting comfortably and took milk as usual. At 9.45 he was suddenly seized with pain in the right iliac region; he cried out and seemed in great distress; he perspired freely and had a small movement of the bowels. Temperature 102.3°, pulse 120 and very weak, respirations 24. Morphine, gr. ¼ hypodermically, and nitroglycerin, gr. 1-100, were given. At 10 o'clock the pain was less severe, temperature 102.8°, pulse 130; leucocyte count 7,300. The abdomen was extremely sensitive, the tenderness being most marked one inch above McBurney's point. At 10.30, the temperature was 103.8°, pulse 140. The patient was free from pain; leucocytes 7,800. At 11 A. M. the patient was quiet, pulse 145 and very weak, abdomen not distended. He was transferred to the surgical side for operation, the diagnosis being perforation of the bowel.

Operation was performed by Dr. W. C. Mason, visiting surgeon. The incision was made one inch to the right of the median line. The abdomen was found filled with clear serum. The small intestine near the cecum was deeply congested. On drawing out the small intestine a short distance from the ileocecal juncture an intussusception was found about eight inches long, invaginated both ways; this was easily reduced. A short distance further on a second was found about five inches in length, also invaginated both ways; and drawing out more gut there was a third intussusception about three inches long, invaginated from the right. Beyond this the gut appeared normal in color excepting the infiltrated patches and lymph nodes due to the typhoid infection. The incision was closed by through-and-through silk worm sutures. The pulse was then 150 and almost lost at the wrist. Hypodermoclysis of salt solution and stimulating enamata and other stimulants were given, but the patient did not rally from the shock and died five hours later.

We have been unable to find a published case of typhoid complicated by intussusception, and as this patient seemed to have been so plentifully supplied with intestinal knots, we considered the case worth reporting.

## ANTITOXIN OF UNUSUAL DOSAGE, IN A CASE OF SCARLET FEVER COMPLICATED BY DIPHTHERIA.

By ST. CLAIR STREETT, M.D.,
KANSAS CITY, MO.

The following case is of interest on account of the severity of the infection by the organisms of scarlet fever and diphtheria, and especially because of the success which followed the employment of heroic doses of antidiptheritic serum.

In the diagnosis and treatment of this case I had the advantage of the opinions of Dr. J. D. Griffith and Dr. J. Block as consultants. It is tempting, in cases of mixed scarlet fever and diphtheria infection, to employ not only the antidiphtheretic serum but antistreptococcic serum as well. In scarlet fever I have on numerous occasions made use of the latter remedy but never have been able to see any good result, which could reasonably be attributed to it. The exhibition of antistreptococcic serum itself of doubtful value, might conceivably have interfered with the action of the proved agent—antidiphtheritic serum, hence it was not used. In the case reported it is interesting to note that only after 67,000 units of antitoxin were administered did the patient show response to treatment. Of course when ordinary large doses were ineffective, suspicion was aroused as to the reliability of the antitoxin used. The fresh product of two well-known and reliable firms was used and gave like results.

The great lesson taught me by this case is the propriety and necessity of continuing the use of antitoxin even when the patient does not seem to respond to it, and the further necessity of increasing the dose administered until such time as results are obtained.

The grave sequelæ, otorrhoa, meningitis, adenitis, acute nephritis, and partial paralysis of the muscles of deglutition and of the larynx with complete recovery, raise some interesting questions. Of course the paralyses noted were due to the diphtheria, but the other inflammatory sequelæ might be due to either infection or to some secondary infection with ordinary pyogenic organisms. In fact this is more probable than that they were diphtheritic. If due to scarlet fever or to septic infection, did the specific antitoxin exert any influence on them? I cannot but believe it did.

Paton considers diphtherial antitoxin almost specific for septic conditions generally, but his conclusions are not generally accepted. Bosanquet suggests that the antitoxin may act in sepsis by the production of leucocytosis. There is no evidence to show that the sequelæ discussed here could be due to the exhibitions of the antitoxin. If the antitoxin had been impure, one would suppose that the various lymphnodes involved would have been those corresponding to the tissues into which the injections were made. This was not the case.

Another feature of importance is that although the corneæ as well as the conjunctivæ were covered with membrane and a most acrid discharge was given off, sufficiently acrid to cause widespread scalding and blistering of the skin, yet as soon as there was evidence of response to the antitoxin the structures underwent complete restoration. The same complete restoration of the kidneys and other organs involved holds true.

Twelfth and Wyandotte Streets.

## A CASE OF ANTHRAX—PROBABLY DUE TO INOCULATION—WITHOUT A VISIBLE INITIAL LESION.

By J. D. JONES M.D.,
UTICA, N. Y.

John T. W., a farmer in the town of Prospect, N. Y., forty years of age, of good family and personal history, entered the hospital at 10 o'clock in the evening of September 30. He gave the following history: He had lost several cows out of a certain swampy pasture on his farm in previous years. On September 21 one died after one day's illness. A veterinary surgeon said she had not died of anthrax, so he skinned the carcass. One week later, September 28, having remained perfectly well and continued at his work in the meantime, he noticed a little swelling without any pimple or redness of the skin on the palmar surface of the left forearm. Having lifted a hayrack the day before, he attributed the swelling to a strain. It was not painful, and he continued at his work that day and the following. On the morning of September 30, as the swelling in

the arm was increasing, on his way home from the milk factory he consulted Dr. Cline of Prospect. The doctor bandaged the arm. During the day the swelling increased rapidly, and blisters formed on the palmar aspect of the forearm. In the evening of the same day Drs. Cline and Sparks of Remsen saw him together, and, suspecting anthrax from the history, the latter brought the case to the hospital in this city.

On his arrival here the arm was greatly swollen and the forearm was covered with large dark, dark bullæ on the palmar surface just above the wrist. Between there and the elbow the skinw as dusky. From the elbow to the anterior axillary border there was a great edematous swelling, terminating abruptly at that point as if a constricting band had been applied there. In the vicinity of the elbow the arm felt hot, but down toward the hand it was cold to the touch. The axillary glands and spleen were not appreciably enlarged. The man did not seem to feel very ill. His temperature on admission was 101.2°; pulse 72, full and regular; respirations normal.

The patient was chloroformed and free linear incisions were made in the arm to relieve the tension. The swelling was so great that gangrene was feared. At this time Dr. W. S. Nelson, of this city, made some cultures from the serum of the bullæ, as well as from the blood. The arm was encased in a moist bichloride dressing and placed in an elevated position.

At 9:30 A. M. the following morning—October 1—his temperature was 102°, pulse 94, respiration 22. He complained of pain in the thumb and hand as if the bandage was too tight, and of difficulty in passing his water, which subsequently disappeared. During the forenoon of this day Dr. Nelson reported the cultures to be positive of anthrax. At 3 P. M., the same day, his temperature was 101.4°, pulse 98, but weaker than in the morning; respiration 20. The arm was redressed. It was found that in that part of the forearm where no incisions had been made the skin and fascia seemed to be constricting the underlying muscles, which fairly bulged out of the incisions already made. Two of these were joined, virtually laying the skin and fascia open from the elbow to the wrist, and the arm was wrapped in a moist bichloride dressing and elevated as before. At 6:30 P. M. his temperature was 100°, pulse 84, respiration 30, and he vomited for the first time since admission. During the evening he rejected all nourishment, perspired freely, and complained of feeling very weak. Salines with whiskey by the rectum were also expelled. At 10 P. M. the temperature was 100°, pulse 90, respiration 28. October 2, at 7 A. M. the temperature was 97.8°, pulse 96, and hardly to be felt at the wrist, respiration 28. He complained of pain in the abdomen and was restless. At 2 P. M. the same day his temperature was 97.8°, pulse 100, and very weak, respiration 24. Retained but very little nourishment by the stomach or bowel. His mind was quite clear and his spleen was not enlarged on percussion.

October 3, at 5 A. M., the temperature was 95.6°, pulse imperceptible at the wrist, and the patient was delirious and urinated involuntarily. He died at 8:15 A. M. the same morning.

I have deemed this case worthy of record, both on account of the scarcity of recorded cases in medical literature in this country, as well as on account of the unusual manner of invasion. There is no question in my mind that the inoculation took place in the left forearm, and yet the patient was very positive that there was no pimple, or vesicle, or redness of the skin to indicate the point of entrance of the virus. As the first swelling did not appear until over a week after the date of exposure, it does not seem probable that the bacilli could have entered his lymphatics or blood vessels at that time, but probably were on the skin and gained entrance to the circulation later, through scratching the arm possibly. The progress of the local and general infection was so rapid and virulent after the first appearance of the swelling in the forearm that it does not seem credible to me that the infection could have lain dormant for so long a time.

With regard to the treatment, anything like excision of the infected area was out of the question when the case came under our care, so nothing was attempted beyond relieving the severity of the local inflammation, rendering the discharges innocuous, and supporting the patient's rapidly ebbing strength. I hope the recital of this case will make others alive to the possibility of the presence of this dread infection even in the absence of the typical "malignant pustule."

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**Questions Relative to Rabies.**—Claudio Fermi has sought for an animal that is susceptible to hypodermic injections of fixed rabic virus, and found that the rat and the mouse answer to these requirements. He then used these animals for experiments to determine various actions of the virus. The virus produced a paralytic form of rabies in these animals, no furious cases being noted. He attempted to give these animals rabies by feeding them materials containing rabid matter, and believes that he demonstrated that they became rabid as a result. He tried to demonstrate whether the cerebrospinal fluid of rabid animals is virulent. Only two out of sixty-two animals died, with uncertain symptoms of rabies. As to whether the saliva is virulent, he was not able to demonstrate its virulence. As to the virulence of urine of rabies, he found of 170 animals treated by injection of urine none died of undoubted rabies. Many chemical agents destroy the activity of the virus. The action of cocaine and holocaine, used to relieve pain of injections, was found to have no effect in counteracting the virulence of rabic virus. The author also sought to obtain a vaccine that would immunize against rabies and take the place of Pasteur treatment with its inconveniences. His results were unsatisfactory. —*La Riforma Medica.*

**Disadvantages of the Dry-Gauze Dressing After the Operation for Septic Thrombosis of the Lateral Sinus.**—H. Gifford characterizes a dry-gauze dressing under the conditions named as a "bad use of a good thing." An operation for the lesion named generally leaves one or two openings discharging a fetid pus laden with virulent germs from the portions of the sinus not fully exposed; and as the inner wall of this tube is the only barrier between the germs and the intradural cavity, and as a large proportion of the deaths from the sinus thrombosis are the results of meningitis caused by the germs passing through this barrier, it would seem as if nothing could be more obvious than the necessity for giving the freest possible vent to the pus which continues, for a time, to be formed within the unexposed portions of the sinus. But instead of doing this, the great majority of operators seem to think that they are neglecting their duty unless they close these openings as thoroughly as possible with dry gauze, a material which, if the liquid in question were simply water, would certainly afford drainage by capillary attraction, but which, in the case of a thick albumin-laden liquid like pus, acts chiefly as a plug to keep it from escaping. The author prefers the free use of boric acid powder or the wet packing, his impression being that the former is preferable if the cavity can be cleaned more than once a day; but if the dressing is to be left for twenty-four hours, he prefers the wet (bichloride) gauze. He has treated five cases with the wet dressing, three of which recovered.—*Archives of Otology.*

MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, November 18, 1905.

## THE TREATMENT OF INACCESSIBLE BRAIN TUMORS.

THE surgery of the brain constitutes one of the most fascinating as well as one of the most difficult and dangerous branches of operative medicine. Tumors of this organ have received a great deal of study and attention, and although neurological methods have been sufficiently perfected to admit of a diagnosis, the recognition of the exact location of an intracranial growth is often a matter of conjecture. The cases which can be benefited by surgical interference are still greatly limited in number; of those in which the tumor is accessible, only a small proportion permit of such complete removal as to leave the patient free from paralyses and with unimpaired mental powers. In another class of cases the site of the neoplasm can be approximately determined, but it may be surgically inaccessible. There remain an unfortunately large number of patients, therefore, in whom radical procedures are impossible and where a mere relief from symptoms would prove a therapeutic desideratum of considerable moment. To meet the indications demanded by this group, it has been suggested that a portion of the enveloping bony cranium be removed in order to allow a part of the brain to protrude and thus provide a means of relief for the constantly increasing intracranial pressure. Few surgeons have given any attention to this subject and a great deal of misunderstanding exists with respect to the limitations of such a procedure.

The suggestion of alleviating, in this manner, the distressing symptoms which are associated with brain tumors, is based on the experience gained in cases where operative interference has brought about more or less relief, though the efforts to remove or even to locate the offending growth were ineffectual. One of the most recent contributions to this subject is an article by Harvey Cushing in *Surgery, Gynecology, and Obstetrics* for October, 1905. On whatever physiological grounds, he says, we may wish to account for the individual phenomena which attend these brain tumors, it is quite certain that they are due to the pressure effects from a slowly enlarging foreign body, and it should therefore be possible to relieve them by allowing the compressed brain to protrude through an opening made for the purpose in the skull. During infancy and early life, the purposes of a palliative operation would be fulfilled by the distention permitted by the partially membranous character of the cranial covering, and this has actually been observed. But when the elements of the vault have become fused, this is no longer possible except by some means such as that under discussion, unless an opening in the skull has resulted by a process of slow pressure absorption from the contact of a growing tumor with the bone immediately over the latter.

It would be a mechanically ideal treatment for inaccessible cases of brain tumor, if during adult life it were possible to bring about a dislocation of the cranial sutures, similar to that which has been observed to take place in small children. The attendant difficulties are obvious and under the circumstances we must content ourselves, for the present at least, with some such method as that here referred to, imperfect by reason of the fact that the "decompression" is very unevenly distributed. The dangers of such an operation are many, and instead of being palliative, it may only serve to aggravate the condition, a circumstance which has deterred many from undertaking it. But even in the comparatively small number of cases on record, an improvement in the results is evident between the earlier and later ones. Aside from the immediate mechanical disturbances due to a cerebral hernia, the almost inevitable result of the protrusion is an interruption in the functions of that portion of the cortex which is included in the bulging mass, and a preexisting paralysis may be greatly aggravated. In doing the operation it is therefore desirable to establish the hernia over some "silent" or unimportant part of the cortex and to avoid making it unnecessarily large. In two of the author's fifteen cases osteoplastic resections of the posterior aspects of the cranium were made, and although the results must be considered satisfactory as far as they went, the growth of the resulting hernia could not be suitably controlled. It was from a desire to obviate this formidable complication that Cushing determined to make the bone defect under the temporal muscle, which not only afforded a certain degree of protection, but exposed an area of the cortex which involved but few, and these not very important, motor centers. In six cases thus operated upon, the results are stated to have been very gratifying, without the undesirable sequelæ of the other method.

It seems quite reasonable to assume that in the case of subtentorial growths, it would be better to "decompress" through an opening in the suboccipital region. If the skull had already been opened in this portion with the expectation of finding there a removable tumor, this would remain the location of preference. Cushing doubts, however, whether the final result is any more effectual than would be the case were the defect placed elsewhere and the muscular incapacity which results may be very disturbing. Though limited in its application, the suggestion contained in Cushing's paper will generate a renewed interest in this branch of surgery. The tendency here as well as in other fields of surgical endeavor has unfortunately been towards the abandonment of the more conservative operative measures primarily intended for palliative effect only, for here the surgeon was not as likely to be rewarded and flattered with a brilliant success as regards a cure. At any rate an opportunity is here afforded for relieving distressing symptoms even when a cure is impossible, and it is to be hoped that others who may undertake to follow Cushing's suggestions will meet with equal success.

## PERFUME IN THERAPEUTICS.

It has long been known that certain odoriferous exhalations can exert a powerful influence on particularly susceptible individuals, even producing marked nervous disturbances. It has been shown that perfumes or odors produce nervous and respiratory reflexes, as well as urticaria and vertigo. These manifestations are rarely single, but combined or alternate. Odors will also produce a decided impression at times upon the digestive apparatus. Among the symptoms arising in the latter condition are nausea, vomiting, diarrhea, and excessive salivation. Nausea is more common, this symptom being excited by stenches, as well as odors from certain flowers or plants.

Odors, whether agreeable or disagreeable, are not causes of disease in the sense generally taken. They may disorder certain healthy functions by impairing nervous energy, by diminishing wholesome respiration, and thus creating a predisposition to attack by disease. And yet, strange as it may seem, scavengers, collectors of night soil or garbage, and laborers in slaughter houses or tanneries, do not seem to be particularly affected in consequence of inhaling the odors so prevalent in the vicinity of their labors. We are familiar with the assertion that emanations arising from manure act as a specific in rheumatism. Severe faintness is sometimes observed to overcome persons upon their entrance into a room in which tuberoses are kept. Headache is often produced by the odors emanating from the honeysuckle, lily, rose of Sharon, or carnation. The odor of betony, in flower, is said to have caused intoxication in those who gather it. The making of linseed decoctions, and the triturating of roses, pinks, walnuts, or colocynth, are often accompanied by attacks of syncope. Snakeroot, or black cohosh, has a faint, disagreeable odor, which sometimes causes headache and nausea. The odor from freshly ground coffee produces in some individuals a sickening sensation followed by nausea and in rare instances vomiting, but usually it is agreeable and appetizing. These few illustrations will suffice to show the marked influence that may sometimes be exerted over the nervous system by certain odors.

Attempts have been made to utilize odors in therapeutics. For instance, musk is said to exert a powerful impression on the sexual appetite. Persons given to lasciviousness are noted for their particular preference for this odor, and hence it has been suggested to employ this drug on these lines in the treatment of diminished sexual appetite. The odors of vanilla and heliotrope are credited with possessing a soothing influence over persons subjected to attacks of nervousness. The use of toilet water in the form of a spray will often restore those exhausted with the cares of business, social, or domestic duties. In the East the use of perfume is considered a purifier, though we look upon it merely as a luxury. It is asserted that those who are employed in laboratories where perfumes are made, or among growing flowers, are healthy to an extent exceeding those not so employed. As a result of further study and careful observation, it may be that we shall yet be able to utilize perfume in the treatment of certain complaints.

## Railway Sanitation.

At a recent meeting of the surgeons of the Erie Railroad, W. B. Landon, the chemist of this road, read a paper setting forth the methods of cleansing the cars, shops, etc., of that road, and suggesting ways and means for improving railroad sanitation which are well worth while considering. We may gain some idea of the extent of this problem when we note the fact that the Erie Railroad has a mileage of 2,314, with over 600 stations, through which passed in 1904, 20,395,440 passengers; the coaches in service numbered 750. These figures apply to but one system, but they give us some conception of the enormous number of persons traveling over the various railroads of this country. There are about twenty-eight varieties of pathogenic bacilli of wide distribution, and the chances are that many of these must lurk in the buildings and cars frequented by such a vast number of individuals. During and at the end of a run the condition of the cars as the result of expectoration, presence of food refuse, etc., offers an ideal culture bed for bacilli. The passenger cars in through service are thoroughly dusted, swept, and mopped, the side walls from ceiling to floor are washed with warm water and oil soap after every trip; cushions and carpets are cleansed by compressed air as their condition seems to require; toilet rooms are washed with warm water and soap and sprinkled with a disinfectant solution, and all porcelain work is cleaned with the same. In addition to this, each water-closet is provided with a disinfecting machine. In the case of transportation of persons known to have some contagious disease, the cars are taken off, kept out of service for one trip, and disinfected with formaldehyde gas. Cars used in local and commutation service, for some unknown reason, do not have the ceilings and walls washed so frequently as the coaches on through trains. It is quite evident that while these measures may secure that degree of cleanliness demanded by the traveling public, so far as outward appearances go, many dangerous microbes may easily escape destruction by such an inadequate process as that described. Cars should be sterilized with some suitable disinfectant at short stated intervals, and when the time comes that this is done, we may believe that the number of cases of the more common forms of contagious disease, such as grip, measles, diphtheria, etc., will be materially lessened. The reader of the paper referred to above, concludes that every railroad system of any size should have a sanitary force with a proper head and standard methods of caring for stations, cars, shops, etc. It is questionable whether entirely satisfactory results could be obtained by entrusting this matter to individual systems to carry out according to their own ideas. We should have some recognized standard as to what is effectual in disinfecting cars, stations, and public waiting places, and after having ascertained what is requisite to reduce the danger of contagious diseases to a minimum, an efficient corps of inspectors should be appointed to see that measures adopted are put into practice. This might perhaps be done by the health authorities of the cities in which terminals are located, the railroad recompensing the municipality for the service. When the necessity for more careful sanitation has been more thoroughly agitated, practical methods for carrying these measures into effect will no doubt suggest themselves. If more care is necessary on our great railway systems it is equally imperative on street cars, in our large cities, for there can be no question that these public conveyances serve as disseminators of disease.

### The Cuban Department of Health on Trial.

For the first time since the sanitary control of the city passed out of American hands, Havana is now seriously threatened with an epidemic of yellow fever. Cases have been imported from time to time, but there has been no spread of the disease, and no infection of mosquitos, the patients having been in every instance carefully and effectively screened. This time, however, the disease slipped in unannounced, and was not discovered until several persons had been attacked. Various theories regarding the importation have been current in Havana. One is that the fever was introduced by infected mosquitos imprisoned in a box of electrical apparatus brought from New Orleans; another, and most improbable, theory is that some infected mosquitos escaped from Las Animas Hospital, where yellow fever patients are cared for; a third is that the disease came from Mexico, as the first case was that of a passenger who had just arrived from that country. Since the first case was discovered several others have developed, one in the person of an American tourist, who had landed in Havana from New York five days before. This case is regarded as proof that there is now an infection of mosquitos, and we may, therefore, expect to hear of new cases from time to time until the infected stegomyias have been destroyed or have died a natural death from old age. Whether or not Havana is to suffer from an epidemic of yellow fever and a return to the ante-bellum condition of endemicity rests with the health authorities of the city. Doubts have been expressed, though without apparent justification, of the efficiency of the Cuban Department of Health, and the prediction has been ventured more than once that it would not stand the test of an actual invasion of yellow fever such as now threatens. We hope and fully believe that Dr. Finlay and the sanitary officials under his able direction will prove equal to the task, but, if they fail, the duty of this country is clear. We cannot allow Cuba to become again a menace to the health of our Gulf and South Atlantic ports, and, under the provisions of the Platt Amendment, American intervention will become imperative if the present little outbreak of yellow fever should unfortunately assume the proportions of an epidemic.

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### Home Treatment for Consumptives.

The fact that efficient work may be done in the home treatment of tuberculous patients in the tenement districts of large cities has been shown by the results recently made public by the Medical Department of Columbia University. The experiment of attempting vigorous home treatment of the consumptive poor was begun early in 1903, and the work has been carried on and gradually extended since that time. The chief feature of the plan, in addition to the keeping of careful records of each patient's progress on special charts, is the putting forth of every possible effort to educate the patient and his friends in regard to the prophylaxis of the disease and the measures necessary to be followed in order to lead a sanitary life and secure fresh air, rest, and good food. A feature to which special importance is attached is the fact that each patient is constantly under the supervision of a visiting nurse, and the needy are provided milk, eggs, clothing, etc., if required. There have usually been about one hundred cases under treatment at one time. In the year ending September 30, 408 cases were treated, and the nurse made 2,746 visits. The results are said to have been extremely favorable.

## News of the Week.

**For Federal Quarantine Control.**—At the Southern conference on Quarantine and Immigration held at Chattanooga, Tenn., on November 9 and 10, nearly 300 delegates, representing sixteen Southern States were present. After considerable opposition from Governor Vardaman of Mississippi, a resolution presented by Congressman John Sharp Williams as chairman of the Quarantine Committee was adopted with but one dissenting vote, that of Senator Mallory of Florida. This requests Congress to enact a law whereby coast, maritime, and National frontier quarantine shall be placed exclusively under the control and jurisdiction of the United States Government, and matters of interstate quarantine shall be placed under the jurisdiction of the United States Government, acting in cooperation with the several State Boards of Health. Congress is asked to make adequate appropriation to enable the sanitary workers to stamp out as nearly as practicable the yellow fever carrying mosquito in its habitat in the United States. It further urges upon the Legislatures of the several Southern States the enactment of quarantine regulations as nearly as possible in accordance with each other. Resolutions were also introduced which indorse and approve the recommendations of President Roosevelt for changes in the immigration laws with a view to making it more difficult for the pauper and criminal classes to enter the United States.

**Diphtheria in Chicago.**—Four hundred and thirty-eight cases of diphtheria and fifty deaths were reported during the month of October to the division of contagious diseases of the Chicago Department of Health. During October, 1904, 294 cases of diphtheria were reported to the department, with recorded deaths of 38 for the same period. For the week ended November 3, 1905, 120 cases of diphtheria were reported, and 16 deaths from the same disease. Last week 113 cases were reported, with 16 deaths. This is a slight increase in the number of cases reported, but no increase in deaths. The disease is pretty well distributed. There has been no relaxation on the part of the health department in regard to inspection, disinfection, and the free use of antitoxin, but it is believed that if antitoxin were as freely used in private practice as it is by the department of medical inspectors, the death-rate from diphtheria would be reduced at least one-half. This is the month of highest diphtheria mortality. The school spread of the disease always culminates in November; but the eight thousand children now in school in excess of last year do not account for the nearly one-third excess of diphtheria deaths. That is due, it is claimed, almost solely to the neglect to use antitoxin, and such neglect is surely inexcusable in view of the fact that the Department furnishes the remedy gratuitously. The Commissioner asserts, with all the emphasis at his command, that no child will die of diphtheria to whom 3,000 units of a pure, tested diphtheria antitoxin is administered in the early stage of the disease.

**National Association for the Study of Epilepsy.**—The fifth annual meeting of the National Association for the study of Epilepsy and the Care and Treatment of Epileptics is to be held in the main hall of the New York Academy of Medicine, on November 29, 1905. The first session will begin promptly at half after 2 o'clock in the afternoon; the second at 8 o'clock the same evening, and the Association extends to all persons interested in

philanthropic work a hearty invitation to attend these meetings. The objects of the association are: (1) To promote the general welfare of sufferers from epilepsy; (2) to stimulate the study of the causes and the methods of cure of this disease; (3) to advocate the care of epileptics in institutions where they may (a) receive a common school education; (b) acquire trades; (c) be treated by the best medical skill for their malady; (4) to assist the various States in America in making proper provisions for epileptics. Arrangements have been made for a program of much interest, and the president of the association, Dr. W. P. Spratling of Sonyea, N. Y., will, in conjunction with Dr. W. G. Chase of Boston, present a set of biographs of various types of epileptic seizures and other pathological conditions affecting movements. The secretary is Dr. Everett Flood of Palmer, Mass.

**Obtaining a License by Process of Law.**—A physician has filed a petition for mandamus against the board of medical supervisors of the District of Columbia. The allegation is that when he took the examination for license to practice before the board he was unfairly treated. The examination which he took, and others precedent and subsequent thereto, were conducted, the petitioner charges, without any regard whatever for the law which prescribes the manner of conducting them, and he declares that the oral examination as conducted was arbitrary, capricious, and void, and that he should be granted a license upon the written examination alone. He further alleges that the board of medical supervisors have admitted that it is impracticable to comply literally with the law in the oral examinations, and that, therefore, these oral tests should be eliminated altogether.

**St. Luke's Hospital of Utica, N. Y. Dedicated.**—Announcement of the early completion of this hospital was made in the MEDICAL RECORD of August 26, and on October 18, St. Luke's day, the building was dedicated by the Bishop of Central New York. The hospital, which has a capacity of seventy-five beds, was constructed by Mr. and Mrs. Frederick I. Proctor, and was turned over to the Board of Trustees of St. Luke's hospital, fully paid for and completely furnished and equipped, the gift representing an outlay of about one quarter of a million dollars.

**New York Orthopedic Dispensary and Hospital.**—The Trustees of the New York Orthopedic Dispensary and Hospital announce that the Surgeon-in-Chief, Dr. Russel A. Hibbs, will give a course of clinical lectures on Orthopedic Surgery at the Institution, on Tuesday and Thursday afternoons, at four o'clock, from November 14 to December 19 (both inclusive). The course will be free to the medical profession and students.

**Rhode Island State Tuberculosis Sanatorium Opened.**—On November 1, the State Sanatorium for Consumptives at Wollum Pond was turned over to the State of Rhode Island by the commission having in charge the erection of the buildings. Addresses were made by C. Alvin Potter, chairman of the building commission; by J. Fred Gibson, in behalf of the trustees, and by Governor Utter, Dr. V. B. Bowditch of Boston, and others.

**Information Wanted as to the Practical Lives of the Blind.**—Dr. George M. Gould, 1722 Walnut street, Philadelphia, would be grateful for any trustworthy information as to the methods which have been devised by the blind in overcoming their disability or in gaining a livelihood. Accounts of such lives, anecdotes, references to literature, etc., are also desired.

**New York and New England Association of Railway Surgeons.**—The Fifteenth Annual Meeting of this Association will be held at the New York Academy of Medicine on Friday and Saturday, November 17 and 18, 1905, under the presidency of Dr. G. P. Conn of Concord, N. H. The secretary is Dr. Geo. Chaffee, 338, Forty-seventh street, Brooklyn, N. Y.

**Cincinnati, Hamilton & Dayton Railway Surgeons' Association.**—The annual meeting of this association will be held at the Commercial Club, Dayton, Ohio, on November 14, 1905. The *President* is Dr. M. F. Hussey of Sidney, Ohio, and the *Secretary*, Dr. Mark Millikin of Hamilton, Ohio.

**Diphtheria Closes Schools.**—Four schools in the Borough of Queens were closed recently because of a diphtheria epidemic in Woodhaven and Union Course. The Assistant Sanitary Superintendent is quoted as saying that some of the local doctors have been very lax in their duties, and as a result hundreds of children attending these four schools have been exposed to the infection.

**The Plague in Brazil.**—It is reported that several cases of bubonic plague have occurred in Rio Janeiro, and the Board of Health has called a meeting to consider what measures are necessary to prevent an epidemic.

**Open-Air Treatment of Smallpox.**—The open-air treatment has recently been successfully applied to smallpox at Nottingham, England. All patients so treated in the sanatorium made a rapid recovery. The patients are nursed singly in bell tents, with open sides, *i. e.* practically in the open air.

**A Telephone Without a Mouthpiece.** — From Nottingham, England, comes the description of a telephone apparatus designed to obviate the possibility of disease transmission by the usual mouthpiece. The construction is such that the mouthpiece is omitted altogether, and the receiving and transmitting apparatus is combined in a small metal case, shaped like a watch. This is held continuously to the ear, both in speaking and in listening, the transmitting microphone being made so sensitive that it becomes unnecessary to concentrate the sound waves on it by the aid of any mouthpiece such as is ordinarily used.

**A Physician Punished for Falsifying a Death Certificate.**—For the first time in the history of the Department of Health a physician has been imprisoned for making a false report on a death certificate. On November 8, 1905, in the Court of Special Sessions, a physician was found guilty of making a false report as to the cause of death in the case of a young woman who died last July. Upon the certificate of death the cause of death was given as "Sloughing fibroid tumor and paralysis of the heart." An autopsy revealed the fact that a criminal operation had been performed, and the cause of death as stated by the coroner's physician was "Sepsis following uterine infection."

**For a Tuberculosis Hospital in Yonkers.**—At the meeting of the Practitioners' Club of Yonkers, held on November 15, the subject for discussion was Tuberculosis, Its Prevention and Cure. The object of the meeting was to create a public sentiment in favor of establishing a Dispensary and Hospital in Yonkers for the treatment of tuberculous patients. Papers were read by Dr. Herbert M. King of Liberty, Dr. S. E. Getty of Yonkers, Health Commissioner Darlington of New York, Dr. Alfred Meyer of the Montefiore Home at Bedford, and Drs. George F. Laidlaw and Barstow of New York.

**Consolidation of Journals.**—Announcement is made that, with the beginning of the new year, the *Medical News* will cease to exist, being incorporated with the *New York Medical Journal* and the *Philadelphia Medical Journal*. We are sorry to have to record this fact, for the *Medical News*, established over sixty years ago, has always held a high position among the medical journals of the country—never higher than under its present editorial management—and its demise is a distinct loss to medicine.

**In Aid of the Russian Sufferers.**—A sub-committee of the Medical and Allied Professions has been organized under the auspices of the National Committee for Relief of Sufferers by the Russian Massacres. The officers of the committee are Dr. A. E. Isaacs, chairman; J. Weinstein, pharmacist, and D. N. Booth, dentist, vice-chairmen; Dr. J. Barsky, treasurer, and M. Dlugasch, secretary, and included among its honorary members are Drs. I. Adler, M. Einhorn, W. Freudenthal, M. Manges, Alfred Meyer, Willy Meyer, and J. Rudisch. The committee issues an appeal to the members of the Medical, Pharmaceutical, and Dental Professions of Greater New York for subscriptions to the Relief Fund. Checks should be drawn to the order of Jacob H. Schiff, Treasurer, and forwarded to Dr. J. Barsky, 203 East Broadway.

**Dr. Senn Honored.**—A testimonial banquet was given to Dr. Nicholas Senn at the Auditorium Hotel, Chicago, last Saturday evening. There was an attendance of 686, comprising representatives from twenty States. Letters and messages of congratulations were read from several prominent physicians in different parts of the United States, who regretted their inability to attend. Dr. Wm. A. Evans acted as toastmaster. Dr. Joseph D. Bryant of New York presented a gold medallion to Dr. Senn, miniature replicas of which were distributed among those in attendance. On one side of the medallion was a likeness of Dr. Senn; on the other the inscription: "To Nicholas Senn, the Master Surgeon, from his Fellows, November 11, 1905." Dr. L. G. Nolte of Milwaukee presented Dr. Senn with a silver loving cup, which was given by his former private pupils. Addresses were made by Drs. Wm. F. Mayo, Lewis S. McMurtry, John A. Witherspoon, Charles Adams, Daniel R. Brower, Charles A. L. Reed, Wm. E. Quine, and Col. Harvey. The speeches were interspersed with music by a Swiss quartette and by the banqueters. Dr. Norval H. Pierce led the singing. The occasion was a memorable one and Dr. Senn received a great ovation.

**Leper Colony for Massachusetts.**—It is expected that the camp now in process of construction on Penikese Island, fourteen miles from New Bedford, will shortly be ready to receive Massachusetts' leper population of five patients Dr. Louis Edmonds of Harwich, who has had charge of the lepers at that place, will become superintendent of the colony.

**Hospital Bequests.**—By the will of Rebecca M. St. John the Associated Charities of Newburgh inherits $5,000 and the Northern Dispensary of New York $3,000.

**Cold Air Not Good for Monkeys.**—The keeper of the Lincoln Park Zoo, who had a theory that the open-air treatment might be successful in averting tuberculosis from monkeys, has had occasion to learn that in this respect at least the bond between man and his simian ancestor is a slight one. Just three monkeys remain of the colony of ten that three weeks ago began to take the fresh-air cure.

**Boston Tuberculosis Exhibition.**—An exhibition for the instruction of the people in regard to the nature and treatment of tuberculosis, and especially concerning prophylaxis will be opened in Faneuil Hall in Boston on December 28. It is expected that much of the material collected for the New York exhibition will be utilized.

**Fair for the Hospital for Crippled Children.**—At a "bazaar of all nations" held at the Waldorf Astoria Hotel on the afternoon and evening of November 9, for the benefit of the Hospital for Crippled Children, it was estimated that over $6,000 was realized between noon and eight o'clock.

**Obituary Notes.**—Dr. Geo. W. Hudspeth of Little Rock, Ark., died on October 29, in Memphis, at the age of fifty-four years. He was graduated from the Memphis Hospital Medical College in 1885. He practised dentistry for some time and then took up the study of medicine.

Dr. G. W. Kemp of Marseilles, O., died on October 24 at the age of eighty-three years. He was graduated from the Cleveland College of Physicians and Surgeons in 1870, and was one of the oldest practitioners in central Ohio.

Dr. Frederick Templeton Zabriskie of New York City died suddenly on November 5, at the age of thirty-four years. His death was due to heart failure, following pneumonia, from which he had been ill a week. Dr. Zabriskie was graduated from the College of Physicians and Surgeons, New York, in 1895. In recent years he devoted much of his time to work in Lenox and Pittsfield, and was on the staff of the House of Mercy of Pittsfield.

Dr. G. N. Munsell of Harwich, Mass., died on November 1, at the age of sixty-nine years. He was graduated from the Harvard University Medical School in 1860, and served as surgeon in the 35th Massachussetts Volunteers in the Civil War. He held many public offices, and in 1890 represented his district in the Massachusetts House of Representatives, being clerk of the committee on charitable institutions.

Dr. J. B. Bouchard of Montreal died on November 5, at the age of forty-nine years. He was graduated from the University of the Victoria College, Cobourg, Ont., in 1877, and was for over twenty-five years the police surgeon.

Dr. Joseph Watson of Detroit, Mich., died on November 2, of heart failure, at the age of eighty-one years. He was graduated from the Cleveland University of Medicine and Surgery in 1853. He practised in Ohio for almost fifty years, and then retired to Detroit.

Dr. A. M. Pierce of New Bedford, Mass., died on November 6, at the age of fifty-three years. He was graduated from the College of Physicians and Surgeons of New York in 1889, and had held every office in the South Bristol Medical Society.

Dr. Clarence B. McClure of Jeffersonville, Ind., died on October 29 at the age of fifty-one years. He was a son of Dr. David McClure, who was a pioneer physician of Clark County, and was graduated from the Kentucky School of Medicine, at Louisville, in 1871. Later he was made assistant physician at the Central Hospital for the Insane, at Indianapolis, and for a time lived at Shoals, Ind.

Dr. W. M. Woodworth of Grayling, Mich., died on November 2, at the age of seventy-six years. He was graduated from the Medical School of the University of Michigan, in 1853, was county physician for several years, and was coroner at the time of his death.

# Correspondence.

## OUR LONDON LETTER.

(From our Special Correspondent.)

MEDICAL OFFICERS OF HEALTH ON NOTIFICATION—PRIMARY TUBERCULOSIS OF THE FALLOPIAN TUBES — FOUR YEARS OF HOSPITAL ABDOMINAL SURGERY — SIR W. CHURCH ON SCHOOLS AND HEALTH—DR. THOMPSON ON MILK DEPOTS —NEW ELECTRIC THERAPEUTICS — FINGER-PRINTS — SIR H. CROOM—OBITUARY NOTES.

LONDON, October 27, 1905.

At the annual meeting of the Society of Medical Officers of Health Sir Shirley Murphy was inducted as president for the ensuing year, and after acknowledging the compliment observed that in a few months the society will be celebrating its jubilee. He hoped the purposes for which it was constituted fifty years ago would still be pursued—viz., mutual assistance and information, and the advancement of sanitary science. The past records, showed it enjoyed the confidence of the public, and the increasing work put on medical officers of health should be an additional incentive to rise to their responsibilities as useful servants of the public.

Dr. Charles Sanders then opened a discussion on the relation of the officers to practitioners in respect to the Notification Act. As one who devoted his whole time to the office and had no control over a hospital he referred to the cases sent to the hospitals of the Asylums' Board with erroneous diagnosis—about 10 per cent. last year. He considered the mistakes were mostly due to a desire to make a speedy diagnosis rather than wait for full evidence. The statutory duties devolving on the officer of health precluded his undertaking consultative work in infectious diseases, and the Local Government Board held that it would be contrary to public and professional interest to alter this relationship. He suggested that it was expedient for hospital authorities to arrange for isolation of infectious cases, but this suggestion met with hardly any support, and will certainly not commend itself to the ratepayers, who are already much dissatisfied with the extravagance of the Asylums' Board.

Dr. Howard Jones thought the administration was most efficient when the health officer personally knew all the practitioners. The larger the town the greater the official distance between them. Where isolation was not carried out doubtful cases would be sent to the hospital. He advocated the supply of antitoxins to the practitioners, as it brought them and the health officer together, and enabled the latter to urge the use of the antitoxin as a preventive in the case of contacts.

Dr. J. G. Glover, speaking from the practitioners' point of view, said error often arose from hurrying off the patient when he should be kept at home for the development of evidence. It would be desirable for removal within a certain time to be optional—not compulsory. It should also be optional to consult with the health officer, and with tact on both sides there would be no difficulty in reducing the number of errors of diagnosis. He strongly opposed the increase of hospitals with a view of admitting suspicious cases.

Dr. Goodall said most errors were connected with diphtheria. It was impossible in many cases to be sure about this without waiting too long, and he held that the practitioner was right to certify them; otherwise much mischief might result. The public press had reported that a patient certified for scarlet fever was taken into a ward where, if he had not got it, he would contract it. This was false, so far as the Asylums' Board was concerned, for they had plenty of accommodation for doubtful cases.

Several other members joined in the discussion and it seemed to be thought the officer of health might very well render assistance to any practitioner who desired his opinion.

At the opening meeting of the Gynecological Society Dr. Macnaughton-Jones read notes of a case of primary tuberculosis of the Fallopian tubes. At one operation the condition was found and the tubes resected. Sections were shown. There was no evidence of tubercle elsewhere and the patient was otherwise healthy. Recent statistics indicate that tubercle is more frequent in the female genitalia than usually believed, and of these parts the tubes seem the most liable to be attacked. Secondary cases are, of course, more frequent. In this case the ovaries were not infected.

Dr. Parsons referred to Behring's view, that miliary tubercle was the expression of immunization, and his proposed serum would produce this and immunize against the bacillus. In opening the abdomen, if one found tubercle of a miliary character the prognosis was good; the process of immunization was, in fact, going on, whereas the presence of caseating masses was of bad import. He instanced a case in point the patient having made a rapid recovery.

A member remarked that in most cases of tuberculous peritonitis ascites was present, but in this there was none. Another said ascites was not common when tuberculosis was limited to the uterus and adnexa, but was common in malignant disease. One had found tubercle more common in single women, but another in married.

Dr. Bedford Fenwick then read a paper, detailing four years of hospital abdominal surgery. He pointed out the different conditions of the patients in hospital and private cases, which gave the latter better chances, and his private cases had been even more successful than hospital ones. The records he now submitted were his operations in the Soho Square Hospital, from March, 1901, to February last, in which period he had performed 185 sections, with 6 deaths. The cases included 121 for removal of appendages, 55 of hysterectomy, others of ventral hernia, ectopic gestation, hysteropexy, and prolapsus. Of the operations for adnexal disease 3 cases died, the other 3 fatalities being cases of hysterectomy. Dr. Fenwick said he thought general physicians were not usually aware that after 50 years of age fibroid fixed in the pelvis, by losing the full blood supply they obtained during menstrual life almost invariably degenerated, and that if such patients were left to nature septic infection occurred sooner or later. He considered the following principles might be enunciated with all the authority of the society to the immense service of the profession:

1. A fibroid in a patient over 40, which fills the pelvis in the great majority of cases, exercises dangerous pressure on the rectum, bladder, or ureter, and should therefore be removed.

2. In such a case a fibroid which extends centrally half way to the umbilicus and is nodular on the surface and hard should be removed as soon as possible, or will degenerate and endanger life.

3. Where the patient suffers from frequent and prolonged losses, unchecked by rest or medicine, where the uterus is enlarged and nodular to the level of the pelvic brim, hysterectomy should be done as the safest and best course.

Further Dr. Fenwick held that tubal cases can be operated on with infinitely greater safety than is involved in the risk of less radical treatment. As to after treatment he made some practical statements that were generally approved by the audience. He has given up both washing out and drainage. He has watched others washing up pus and blood and thought they could not afterwards get rid of it, and he does not attempt to drain against gravitation. The moment the pulse begins to quicken after the second day he gives calomel and salts—if necessary an enema. If there is dullness of first sound at apex, stimulants and strychnia at once. If there has been much loss of blood or collapse he puts a pint or two of hot water into the peritoneal cavity before closing the wound. Not a mouthful of anything for twenty-four hours, and only tea, milk, and bread and butter until the bowels have acted. "The best way to dry the pelvis and peritoneum, and so secure rapid healing, is to make the vascular system and the patient deadly thirsty."

Dr. Lewis Jones, in the first Hunterian Society's lecture (T. F. J. Smith presiding), pointed out some new lines of work in electrotherapeutics. Having remarked on the advantage of public supplies of current, and the value of the surgical exploring lamp, he emphasized the value of Röntgen rays. As more serious diseases became referred to the medical electrician, there was less danger of the work falling into the hands of unqualified persons, especially as the methods become more exact. High frequency currents and light baths, Dr. Jones thinks, will lose the prominence lately given to them. Electrolysis has lately extended its applications. The writings of Leduc on the "Ions in Medicine" induced Dr. Jones to treat some cases of lupus and rodent ulcer by the electrolytic introduction of zinc ions, using a 1 per cent. solution of zinc chloride. Two cases of rodent ulcer were perfectly healed by a single application, continuing well to the present time, six and nine months respectively. The results in lupus were not so decisive, but they encouraged him to persevere. Electrolytic introduction differs from subcutaneous injection, as the latter conveys the drug into lymphatic spaces, but electrolysis forces the ions into intimate union with the protoplasm of the cells.

Sir Wm. Church has spoken out on the evils of infant schools in a way that disturbs the self-styled "educationists," whose obsession is assuming a threatening aspect for the community. The ex-president of the College of Physicians is as great an authority, in public estimation, on the health of children as the professional crammers of their young minds with useless facts. He says the infant class, as hitherto conducted, has a benumbing influence on the mental activity of the children, and those who have watched the listlessness of the lower forms in any of the schools

will heartily indorse the statement. He said, further, that free breakfasts are no remedy for the improvidence and ignorance that prevails; and even State employment will not raise the standard of the lowest classes or teach them the essentials of decent and healthy life. Thus Sir William evidently approves the rising revolt against driving babies to schoolrooms to be nursed by teachers. The changes forced on the domestic life of the people are decidedly prejudicial to health. Formerly mothers instructed their elder daughters on the care of the younger ones; now all are driven to schools, and even the elders suffer, as they marry in total ignorance of the management of a home, the care of food, and the responsibilities of a family.

Dr. W. J. Thompson devoted an address at the Jervis Street Hospital, Dublin, to the value of infant milk depots as established first in France, in 1890, and then in New York, in 1893. The plan was not taken up here until 1898, since which it has gradually spread, and a number of towns have institutions under municipal management, while private depots have been established in London and York Commenting on the good results on the Continent, in the United States, England, and Scotland, Dr. Thompson urged the establishment of depots in Dublin, where the infant mortality is enormous.

Dr. J. G. Garson lectured at the Medico-Legal Society on finger-prints, showing the various forms by lantern slides. The arch, the loop, and the whorl, as well as the composite, or mingling of the two latter, were shown and their relative frequency stated. Between the two hands of the same person there is some correlation, most marked on the middle fingers; the same pattern on all ten digits is rare. Dr. Garson emphasized the necessity of extreme exactitude and the great importance of discrepancies; if these are neglected erroneous conclusions may be drawn from resemblances. This is specially likely to occur in examining accidental prints. The Prison Service finger-print staff is carefully trained in taking, reading, and classifying prints. At present no two sets of prints of even a single digit have been found to be identical unless they were made by the same person, and the prints are not materially changed after years have elapsed.

Sir Halliday Croom succeeds Professor Simpson in the Chair of Midwifery at the University of Edinburgh. He was for several years assistant to Professor Simpson, but left that post for one in the extramural school. He is a past president of the Edinburgh College of Surgeons, and was many years physician to the R. Maternity Hospital. Three years ago he received the honor of knighthood.

Mr. Henry Morris, surgeon to the Middlesex Hospital, has presented £1,000 towards the endowment of the Medical School.

Dr. Robert Somerville, J.P., died on the 15th inst., aged 69. He was M.D., Edinburgh, 1859, L.R.C.S., Edinburgh, 1858. He had an extensive practice in Galashiels, where he resided many years. He was highly esteemed throughout the Border counties, and took an active interest in public matters. One of his sons was associated with him in practice.

Mr. Jones Morris died on the 15th inst., aged 57. He was M.R.C.S., England, 1870, and L.R.C.P., Edinburgh, 1872. He was one of the most active practitioners in North Wales, and took great interest in public affairs, and in the welfare of the profession. He was a governor of the University College of North Wales and an ardent worker in educational matters.

## SEVENTY-SEVENTH CONGRESS OF GERMAN NATURALISTS AND PHYSICIANS.

(From Our Special Correspondent.)

NEUROLOGICAL SUBJECTS — DEATH BY ELECTRICITY — PULMONARY TUBERCULOSIS—ARTERIOSCLEROSIS—SERUM TREATMENT OF SCARLATINA—DEFECTIVE CHILDREN—GYNECOLOGICAL SUBJECTS.

MERAN, October 30, 1905.

NUMEROUS interesting topics were discussed in the Section in Neurology of which Professor Heinrich Obersteiner of Vienna was president. Dr. Edinger of Frankfort spoke on the evolution of the cerebral cortex from the lower orders, and described a new method of subdividing the brain which is based in studies in comparative anatomy. By using this it is possible to devise a nomenclature applicable to all the vertebrates, from the lowest up to man. In the discussion that followed, Dr. Edinger's proposal was warmly seconded by Dr. Ziehen of Berlin. Dr. Egmont Müner of Prague discussed the question of autogenous regeneration of nerve fibers. His experiments in rabbits gave results that were somewhat at variance with those of Bethe. He excised large portions of the sciatic nerve, and in four instances obtained visible growth of the peripheral and central stumps through the scar. Three times the growth could be demonstrated only by means of the microscope, while the physiological test was negative. In four cases no union of the severed ends had taken place, and no trace of regeneration could be detected in the peripheral stump. Dr. Marburg of Vienna spoke of the so-called acute or subacute form of multiple sclerosis. This he said was characterized by a pronounced stage of several months which was followed by a rapid onset of grave symptoms. The causes of such affections were blood poisons, which were able to attack the nervous system only after the vessels had been injured through cold or trauma. Foci formed in which the nerve fibers degenerated without any functional lesion of the axis cylinders, after which multiple sclerosis followed. Dr. Hermann of Gratz presented the results of his own clinical and pathological observations relative to the origin of tumors of the base of the skull. The conclusion reached was that the fibromatosis and fibrasarcomatosis forms are to be regarded as neurofibromata of the basal nerves, and microphotographs were demonstrated to show this.

Dr. S. Jellinek of Vienna delivered an address on the subject of the nature of death by electricity. His studies, which had been uninterruptedly carried on for a period of six years, were founded on cases of accidental electrocution, animal experiments, and histological observations in the central and peripheral nervous systems. The manifestations presented by those dying as the result of electrical discharges were discussed from the standpoint of phenomena due to disturbances of consciousness, of the motor centers, of the respiratory apparatus, of the heart, and also regarding the time of death. Both clinical and experimental observations lead to the conclusion that there is no typical scheme of death by electricity. The technical character of the current on the one hand, and the individual circumstances on the other cause the picture to be a variable one and determine whether disturbances of consciousness, of respiration, or of the heart's action shall be most prominent. The mechanics of death by electricity depend on a double action, first, the physical component working as an overstimulation closely allied to shock, and second the purely electrical action of the current on the cells and cell groups of the various organs. Two experiments described by Dr. Jellinek illustrate these two phases. An anesthetized rabbit can stand without injury contact with a current that would otherwise be fatal, that is, the physical component is eliminated. The heart of a rabbit killed by electricity may be brought into action again after a half hour of arrest, by the application of the same current, that is, the dynamogenic action of the current produces inhibitions or disturbances of vital functions, which may, however, be susceptible of relief. For this reason it appears that death by electricity may for a time in many instances be only apparent.

In the Section on Internal Medicine, Dr. Maxim Wassermann spoke of his method of producing passive hyperemia of the lungs in pulmonary tuberculosis. In addition to his 32 old cases he had tried it on 28 new ones. In nearly all cases the procedure was easily applicable, and undesirable or weakening effects were not observed. It was especially noteworthy that in spite of the marked passive hyperemia hemorrhages were never caused. This, he said, was strong evidence against the existence of the congestive hemorrhage, which was denied by many authors. The therapeutic results were favorable in all stages of the disease, and the patients treated in this way progressed more favorably than the control cases. Only when there was marked involvement of the bronchi did the method fail to give good results. Dr. Auffrecht of Magdeburg spoke of the use of tuberculin in pyretic consumptives. He considered the tuberculin treatment suitable for cases in which the process might be supposed to be restricted to a more or less limited number of foci, in which the temperature was not too high and in which the pulse rate did not greatly exceed 100 per minute. Dr. Barth of Leipzig, said that he had found that in tuberculous guinea-pigs the hypersensitiveness to tuberculin went hand in hand with the severity of the lesions. This susceptibility was not altogether due to a general disturbance of the entire organism through the disease, but was in relationship with the local foci. In the discussion that followed several speakers argued against the tuberculin treatment.

Drs. E. Ponfick of Breslau and Friedrich Müller of Munich discussed nephritis. According to the former the subdivision of Bright's disease into parenchymatous and interstitial forms of nephritis is, in view of modern knowledge, neither necessary nor feasible. A rational classification, while founded on a histological basis, should also take into consideration both the variety of the clinical manifestations and the wide range of etiological factors. Müller said that as the term nephritis could be translated only as meaning inflammation of the kidney, it was applicable only to a restricted and poorly defined group of renal affections, and not to the mainly degenerative forms. The term morbus Brightii had lost its old significance as a disease characterized by albuminuria and edema, and had not received a new

one, so that he suggested the appellation "nephrosis" for the degenerative types. The closer classification of renal affections would preferably follow etiological principles.

Dr. Lustig's topic was arteriosclerosis and its treatment. He pointed out the great increase in the frequency of this disease, which, formerly associated almost exclusively with old age, had now become common in the years of most active life. Two chief factors required attention in order to make treatment effective; diet, and elimination of the causative factors. The dietary regulations had as their object the restriction of the albumin metabolism to its lowest terms, the avoidance of foods rich in lime such as milk, cheese, eggs, and certain vegetables, and prohibition of alcohol or much tobacco. General metabolism was to be encouraged by exercise and by mild drinking cures, which were of great importance, as they tended toward decalcification. The speaker at first employed distilled water for this purpose, but abandoned it, as it damaged the kidney. Since then he had recommended certain natural mineral waters, which were valuable on account of their freedom from lime salts.

In the Section on Pediatrics, Dr. Schick of Vienna again recommended the same treatment of scarlet fever with Moser's serum, in view of the favorable results obtained in the Vienna Pediatric Clinic. Fifty-seven cases were treated with the serum; of these 8 were of moderate severity, 39 had a doubtful prognosis, and in 10 cases the outlook was unfavorable. When the injection was given on the first or second day (18 cases) no deaths followed, and when on the third day (12 cases) one death was reported. Of 13 children that did not receive the serum till the fourth day 5 died, and the 3 cases taken still later all died. So it appeared that even up to the third day the serum might be expected to save life. Only the very grave and extremely grave cases of scarlatina formed the field for Moser's serum, but in these cases other modes of treatment offered little hope, so that there was nothing to lose and much to gain by making the injections.

Dr. Theodore Heller, Director of the Institution for Defective Children in Vienna, presented a paper on the effect of occupation therapy on abnormal children. Among other things he said that by a proper selection of bodily exercises it was possible to effect improvement and even cure in various phases of mental abnormality in children. In the case of slightly weak-minded children, who not infrequently showed great proficiency in their studies without being able to make practical use of them, the treatment was intended to train the powers of coordination and to assist the faculty of adaptability under practical conditions. Physical treatment was especially valuable for hysterical children, whose minds were often filled with morbid vagaries. Corporal exercise brought these children back to the domain of reality, and gradually caused their phantasies to disappear. In conclusion Heller spoke of the so-called psychosthenic children, who, while endowed with normal intellectual faculties, manifest defects of emotion and volition. He warned against confusing such a condition with insanity, and stated that it could often be entirely cured by a plan of treatment in which occupation therapy played a large part.

In the Section on Gynecology, Dr. Polano of Würzburg presented observations on the prophylaxis of streptococcus infections in the puerperium and after operations, by active immunization. Starting with the view that the virulence of the streptococci is largely due to the nature of the soil in which they grow, Polano sought to alter the nature of the organism serving as culture medium by injecting dead cultures of pathogenic streptococci. After experiments on himself, he injected such material into 60 obstetrical and gynecological patients as a prophylactic. No undesirable effects were produced, but the practical value of the procedure was still in doubt. In experiments on animals it was found possible in this way to prevent infection, and the speaker hoped that other clinicians would test the method.

Dr. Engel of Dresden said that the Freund-Virchow theory regarding milk formation had been abandoned, and that the fat of the milk was formed by the cells of the mammary glands either from the body fat or from that of the food. By determining the iodine number of the milk fat before and after increased amounts of food fat were given to nursing women he was able to show that the food fat took direct part in milk formation. If fatty food was withheld the milk fat approached the type of body fat. He concluded that the dietary of nursing women should be subjected to further study. Engel also discussed the variations in the functional efficiency of the mammary glands of different individuals. A study of the anatomical structure of well-developed puerperal breasts showed that two main types existed. In the one the parenchyma was in excess and the connective tissue scanty, while in the other the reverse was the case. The former variety was the more efficient, but it was impossible from surface conformation or by palpation to distinguish the two. In considering disorders of the breast the question of whether the disturbance was a functional or an organic one required investigation, for it could not be denied that psychical factors were of importance during lactation.

## OUR BERLIN LETTER.

(From Our Special Correspondent.)

### THE TUBERCLE BACILLI OF MAN AND THE LOWER ANIMALS.

BERLIN, October 26, 1905.

ALTHOUGH the medical societies of Berlin are not yet in active session, nevertheless the report of a most important piece of work is at hand. These investigations which have been made during the last three years by members of the Reichsgesundheitsamt have been concluded this summer. They relate to the tubercle bacilli of different origin and to the relations between tuberculosis of men and the lower animals. The work comprises two main divisions, the theoretical and the practical.

Tuberculosis of the warm-blooded animal is caused by two kinds of tubercle bacilli, the one kind found in chickens, the other in mammalia; the latter can be divided into two well characterized kinds of bacilli, viz., the bovine type and the human type. Although the bacilli of tuberculosis which infect chickens have been cultivated for a period of two years in guinea-pigs, mice, rabbits, and cattle, a transition into the bacilli common to the mammalia has never been observed. Furthermore, the tubercle bacilli common to man have never been observed to change into the bovine type, although the former were cultivated for a long time in rabbits, goats, and cattle. It must be noted, however, that the bacilli of the typus humanus have been found in two tuberculous parrots.

In the tuberculosis of cattle only the bacilli of the bovine type have been cultivated in eleven cases. The bacilli of the human type have never caused a progressive tuberculosis in cattle, although attempts at infection were made by the implantation of pure cultures, by the feeding of pure cultures and of materials from tuberculous catarrh, and by inhalation of pure cultures. In pigs there were found in seven cases of tuberculosis the bacilli of the bovine type, and little pigs could be infected without exception by being few with pure cultures of this type. By feeding pigs with an abundance of the pure cultures of the human type, a general tuberculosis of slow progress has been caused.

Sixty-seven different cases of tuberculosis in human beings were carefully examined. As a result of these investigations it is stated that infection of man with bacilli of the bovine type may occur. In fifty-six cases the human type was found, in nine the bovine type, and in two both types mixed. In the majority of cases the bacilli of the bovine type were found at the portal of entry or in the glands adjacent to the intestines and mesentery or in the glands of the neck. In twelve cases of tuberculosis in children under ten years of age the intestines were found to be the portal of entry. The bacilli of the bovine type cultivated from the human body could never be distinguished from the same bacilli cultivated from cattle, either by the morphology or by the methods of cultivation.

The practical results should be considered in two groups, those relating to domestic animals and those relating to the human being. The tuberculosis of cattle is caused by bacilli of the bovine type which have their source in other infected cattle suffering from tuberculosis of various parts of the body. But it is possible that cattle can become infected by the bacilli of the bovine type which have infected sheep, goats, pigs, and human beings. The prevention of the propagation of the tuberculosis of cattle may be accomplished by the destruction of the bacilli which infect these animals. It is possible that the bacilli common to all other domestic animals, to poultry, and to the human being, are capable of infecting the pig, but since we have noted that in these diseased animals the bovine type has been found nearly without exception, we can assume that the tuberculosis of pigs is due to the bacilli common to cattle. In the same way it may be assumed that the tuberculosis of other domestic animals is caused by the bacilli infecting tuberculous cattle. Thus it may be assumed that by diminishing the disease in cattle, tuberculosis of the other domestic animals will also be lessened. The tuberculosis of domestic poultry such as chickens, pigeons, and geese, is caused and propagated by the tubercle bacilli of chickens.

In tuberculous organs of human beings the bacilli of the human type have been found for the most part. Consequently human beings as a rule infect one another, and the fight against tuberculosis is this respect should be directed principally against the bacilli of infected human beings. However, researches have shown that human beings may also become infected by the bacillus of the bovine type by means of the milk and meat of tuberculous domestic mammalia. The bacilli of the bovine type as a rule, infect the orifices and the neighboring glands or the latter alone. But because these bacilli have in isolated cases infected the vital organs, it must be considered dangerous for human beings, especially in childhood, to take

as food any part from tuberculous animals which contains living bacilli of the bovine type. A conscientious oversight of all meat offers great protection against the dissemination of tubercle bacilli. Another means of protection is found in the proper preparation of such food. The possibility of transmitting tubercle bacilli to human beings by means of milk and milk products becomes greatly diminished by protective measures in relation to tuberculous cattle.

The importance of these researches, both on account of the long period devoted to the observations and on account of the men who have conducted them, is very great. Since Koch in the Congress of Tuberculosis at London, called attention to the great difference between bacilli of the human type and those of the bovine type it has not been definitely accepted in Germany that human beings could be infected by milk from tuberculous cows. Now, however, it is positive that the fight against tuberculous cattle must be continued. Behring's new vaccine was looked upon coldly in Germany because it was considered that this investigator should not have spoken of the possibility of the cure of tuberculosis in human beings before he could show practical results. However, these researches which have just been described at least prove as true Behring's statement which was published at Cassel in 1903, that the milk of tuberculous cattle is very dangerous for infants.

## Progress of Medical Science.

*Boston Medical and Surgical Journal, November 9, 1905.*

**Treatment of Chronic Prostatic Enlargement.**—J. P. Lewis offers the following conclusions: (1) The use of sounds is generally to be condemned. (2) The sphere of usefulness of the catheter is growing smaller and smaller, as the advantages of an early operation make themselves manifest. (3) The Bottini operation may be applicable in selected cases, but should seldom, if ever, be adopted. (4) Orchidectomy, vasectomy, ligation of the internal iliacs, injection of carbolic acid, application of electricity, and allied methods are to be condemned. (5) Prostatectomy is the procedure of choice, best performed when the symptoms first make themselves manifest and the patient's condition is presumably at its best. (6) The preferable route is through the perineum, the preferable method that of Young or one of its modifications, but much depends upon the skill of the operator as regards the method employed. (7) In patients with foul bladders and diseased kidneys who, we have reason to expect, would not stand an extensive operation, thorough drainage should be first instituted either by a suprapubic or perineal incision under local anesthesia, to be followed later by enucleation, if deemed advisable. (8) The use of local anesthesia, especially spinal cocainization, is of great value, and should be more extensively employed.

**Amblyopia from the Fumes of Wood Alcohol.**—A. T. Hawes reports the case, his patient being a painter fifty-three years of age, who was employed in the application of shellac and removing old paint from furniture. In these labors wood alcohol was freely used. While the man was not a total abstainer he fully understood the dangers of drinking wood alcohol, and his symptoms could not be referred to the ingestion of this agent. After one day's work in a closed room he had headache, nausea, faintness, and smarting of the eyes, but recovered on going out into the open air. After working the second day under the same conditions, he felt a blur coming on over the visual field. The next morning all his symptoms were more pronounced and the condition serious. He was semiconscious, but his speech was unintelligible. There was slight fever, and pulse was somewhat rapid. The blur continued, pupils were widely dilated and not responsive. The man was extremely restless, but in a few hours became conscious; the visual interference remained. Ophthalmic examination showed blurring of the disc in one eye and contraction of the arteries in the other. In a few days he was all right. Treatment was directed toward elimination by the kidneys and liver with strychnine in full dosage.

*New York Medical Journal, November 11, 1905.*

**Talma's Operation.**—G. C. Stemen reports one case with recovery. His patient was a man suffering from hepatic cirrhosis, and the usual methods of Talma were followed. The abdomen was opened between the umbilicus and the ensiform cartilage, evacuating the accumulated fluid. The liver was rubbed with a nail brush, until there was a slight hemorrhage; the diaphragm, or, rather, the peritoneum covering the diaphragm, was also treated in a like manner, and five sutures of forty-day catgut were used in stitching the abraded surface of the liver to the abraded surface of the diaphragm. Five or six loops of omentum were then made and stitched to the parietal peritoneum, and also included in the sutures, which closed the abdominal incision, thus gaining a broad surface for adhesions to establish a collateral circulation, which constitutes the only feature of the operation. The man made an uninterrupted recovery from the surgical interference, and left the hospital in a little over three weeks. Three subsequent tappings were necessary before the collateral circulation was sufficiently established to prevent the reaccumulation of fluid. Subsequent progress was uneventful, and the man has been able to resume his occupation as cook. He now enjoys perfect health. The author admits that while the cure cannot, as yet, be looked upon as permanent (ten months and a half), yet all the conditions at the present time warrant him in saying that recovery is complete. As only six patients, prior to the report of this one, have been cured by surgical interference, it makes a surgeon loath to report a recovery until at least one year has elapsed, but taking into consideration the patient's condition, now ten months and a half after operation, he feels warranted in claiming a recovery and would advocate the operation in all well-attested cases of cirrhosis presenting ascites, believing that under favorable conditions eighty per cent. of all patients thus operated upon will recover.

**Ocular Symptoms of Gout.**—A series of clinical cases is narrated by K. K. Wheelock. Case 1 presented a reddened eye, like "pink eye," the inflammation being confined to the globe and corneal margin. Atropine revealed the iris slightly adherent to the capsule of the lens. Sclerotomy was finally done. Two days later a typical gouty condition was present and the eye had become normal. Case 2 presented a diffuse redness of the globe. Joint symptoms appeared three days later. In Case 3 the patient had had several gouty attacks and developed pain and pulsation in the eyes. Iridectomy was done, and, under antigout remedies, recovery was uneventful. Later there were attacks of iridocyclitis, and finally glaucoma developed, with necrotic ulcer at center of cornea. Sclerotomy was done, followed by partial excision of the ciliary body. Case 4 presented glaucoma simplex. The author enumerates as forms of eye inflammation caused by the gouty diathesis, iritis (plastic and serous), cyclitis (plastic and serous), retro-bulbarneuritis, retinitis, scleritis, and episcleritis, cataract, hemorrhagic retinitis, and glaucoma. He also recognizes gout as the causative factor in several forms of keratitis.

**The Relation of Milk to Typhoid Fever in New York City.**—J. S. Billings describes the plans of the Health Department in investigating this question. The researches of the Department make it probable that the majority of cases of typhoid fever in New York City are due to infected water, and that milk plays relatively a very small part in the spread of the disease. This conclusion is borne out by the recent epidemic of typhoid fever in Brooklyn, which was very soon checked by the adoption on the part of the residents of that section, of the widespread advice of the department: boiling of water before using for drinking purposes. It is true that in one or two instances family and neighborhood epidemics due to cases of typhoid fever in the family of the milkman in the city have been recognized, and the contamination of the milk put a stop to. In one instance, a number of cases having occurred among the customers of a certain wholesale dairy, and an investigation showing a number of suspicious fever cases on the farms in New York State where the milk was obtained, the issuance of milk by the dairy was stopped. Further investigation showed that the cases of fever in the country were not typhoid, and more cases developed in the city in the same locality, although none of that particular milk was being used.

*Medical News, November 11, 1905.*

**Report of the Committee on the Influence of Climate in Pulmonary Tuberculosis.**—The committee consisting of Drs. Minor, Baldwin, Solly, McGahan, Sewell, and Bridges, note a certain tendency in the minds of the profession to doubt the value of climate in this malady. The causes of this tendency, they find, first, in the unskilful use in the past of climate as a therapeutic measure; secondly, in the formerly widely spread belief in a mysterious specific influence of climate which led to a superstitious faith in its unaided powers, and therefore to a neglect of those even more important matters, hygiene, diet, instruction, and detailed supervision; third, in the effect on the general profession of their recent and all too-limited experience with outdoor treatment at home, which has caused them to go from the extreme of an undue hopelessness in the past to that of an equally unwise hopefulness that any case can be cured in any atmosphere by sleeping out on a porch and eating heartily and freely. The climatic elements of

value are, in the Committee's opinion, to be classified in the following order of relative importance: (1) abundance and bacteriological and chemical purity of the air; (2) sunshine; (3) coolness, or, in a certain number of cases, warmth; (4) dryness, or in a few cases, a moderate degree of humidity; (5) altitude; (6) wind; (7) equability; (8) soil. In regard to the ultimate condition of patients discharged from sanatoria, the Committee declare that the patient should not be told that he is cured, but only that the progress of his disease is arrested, and that if, when he returns home, he can show for two years, by faithful living, a continuation of the condition obtaining on his discharge, then he may justifiably consider himself cured. A climatic resort should be regarded as a university, teaching discipline and instruction, which the patient can bring back home, and continue to apply to his own daily living.

**A Case of Spinal Apoplexy, with Findings.**—W. Browning and F. Tilney report the case of a man of sixty years with a sudden onset of impaired sensation and motion below a line midway between the pubes and umbilicus. A diagnosis of probable hemorrhagic process about the spinal meninges was made and a laminectomy was done the laminæ of the eighth and ninth dorsal vertebræ being removed. No hemorrhage was discovered, but on pressing aside the cord, bloody serum oozed up from below. The tenth and eleventh vertebræ were then denuded and their laminæ removed. More oozing occurred from in front of the cord. Total amount was estimated at two drams. The wound was closed. Patient died inside of twenty-four hours. Detailed autopsy findings are given, the following being the most important features: (1) The central hemorrhagic areas; (2) circumscribed and diffuse disintegration of the white substance characterized by much swollen axons with swollen sheaths, also by large lacunæ caused by the total disappearance of many axons with their sheaths; (3) Chromatolysis and degeneration of many cells; (4) injected and dilated condition of the blood vessels; (5) increase of neuroglia in size and number. The authors note that all of these changes, except the hemorrhagic areas, would appear in a true myelitis (exclusive of the very rare form, myelitis hemorrhagica acutessimus) but the presence of the central hemorrhage determined the diagnosis of hemorrhagic myelitis.

**Thrombosis of the Receptaculum Chyli and Chylous Ascites as a Complication of Cirrhosis of the Liver.**—H. J. Nichols reports this interesting case, which occurred in a man of seventy-five years, who presented the usual symptoms of hepatic cirrhosis and was tapped several times. Each time the fluid removed was milky-white, with a tinge of pink, which became more pronounced on each tapping. On standing, this pink color disappeared and a film appeared at the bottom of the vessel. The specific gravity varied from 1010 to 1013. The patient finally died without any positive diagnosis as to the cause of the chylous nature of the fluid having been ascertained. Abdominal cancer, tuberculosis, heart disease, and hepatic cirrhosis were considered as among the possibilities. Autopsy revealed among other lesions, not accounting for the chylous fluid, the receptaculum chyli formed by two large lymph vessels entering from below, one at each corner. Lying in the body they looked very much like veins, as they were thin and of a dark color. On opening they were found to be completely occluded by a firm fibrous clot which extended upward into the receptaculum and duct for about six inches, growing gradually smaller. The valves were easily demonstrated in the upper part of the duct, but no blood was found in this region.

*American Medicine, November 11, 1905.*

**Scopolamine-Morphine Anesthesia.**—Alfred C. Wood epitomizes his personal experience with scopolamine-morphine anesthesia and a brief study of the subject as follows: It is capable, in many cases, of producing a satisfactory surgical narcosis lasting several hours. When successful, the patient avoids the anxiety or even alarm often felt before taking ether, and the nausea, vomiting, and depression following its administration. If it should partly or wholly fail to anesthetize the patient, the surgeon may use ether or chloroform, with the assurance that the effect will be more prompt and satisfactory than when either is administered alone. When used in conjunction with ether or chloroform, it has been especially satisfactory. The time required to induce anesthesia was lessened, relaxation promoted, the secretion of mucus in the respiratory tract prevented, and the quantity of anesthetic required greatly reduced. To induce full anesthesia in the average healthy adult, 0.0006 gm. (1-100 gr.) scopolamine and 0.01 gm. (1-6 gr.) morphine should be given hypodermically two or two and one-half hours before operation, and a second similar dose an hour later. The doses should be considerably reduced in children, feeble patients, and the aged. Its use is contraindicated in acute affections of the pharynx and larynx; operations involving the mouth or air passages, edema of the lungs, and in cases in which capillary hemorrhage may be a troublesome factor. A few deaths have been ascribed to this anesthetic. Both scopolamine and morphine are powerful drugs, and prudence demands that they be used with caution. The safety and success of this method depend upon having pure and reliable drugs, accurate dosage, and perfectly fresh solutions.

**Distinctive Features of Animal and Vegetable Dietaries.**—Lafayette B. Mendel says the possibility of nourishing man on an exclusively vegetarian régime is admitted, and the relative physiological and chemical merits of the two types of dietaries are contrasted. As a rule, the proteids are utilized better from animal products than from ordinary vegetable foods. This is owing to the physical texture of the latter. The isolated vegetable proteids are readily digested and absorbed. The chemical composition of a food is no adequate index to its utilization in the alimentary tract—a fact illustrated by studies on the availability of different kinds of bread in nutrition. The chief characteristics of the modern ready-to-eat cereal preparations are discussed, as well as the newer vegetarian products, especially nuts, rich in proteids. The greatest danger of a rich meat diet lies in the tendency toward excessive eating and drinking. Proteids should be differentiated into various groups, *e. g.* nucleoproteids, simple proteids, etc., which have different fates in intermediary metabolism. No exclusive system deserves defence on scientific grounds. The great principle in regulating diet is to regard quantity rather than kind.

**Pathology and Etiology of Human Vaccina.**—W. T. Howard reports the results of his experiments. He concludes that in human vaccina, vesiculation is well-established by the end of the second day. The changes in the epidermis correspond closely to those of variola, but are more severe and rapidly destructive of epithelium. The changes in the corium are much more intense and persistent in vaccina than in variola. The primary cytoplasmic stage of cytoryctes variolæ occurs in human vaccina. This, and the intensity of lesion (owing probably to the greater number of organisms introduced in vaccination) mark the main differences between variola and vaccina. Granted that the groups of cytoplasmic and intranuclear bodies described by Councilman and his coworkers, by Calkins, and by Howard and Perkins in the skin lesions of variola and vaccina are parasites causing these diseases, it seems that certain lower animals have the poperty of inhibiting the development of the sexual cycle, but permit that of the asexual cycle, which is pathogenic for both man and these animals, and gives rise to an immunity in man which protects against both cycles.

*Journal of the American Medical Association, November 11, 1905.*

**Repair of the Perineum.**—G. B. Somers criticises some of the methods recommended for the repair of the perineum as failing to restore the function of the part, which depends on the action of its muscles rather than on its bulk or the strength of its fascia. Its function, he says, depends mainly on the action of the levator ani, and the importance of this fact, he thinks, has apparently had very little influence on the technic of perineorrhaphy. If the levator is uninjured a laceration of the superficial muscles hardly needs repair. It is the levator that is at fault when the perineum fails to do its duty, when there is rectocele or cystocele, and it is what we should seek to repair. The Reed method, he considers, is based on correct principles, and satisfactory when only a small amount of mucosa is to be removed. In most cases, however, it is desirable to remove more or less tissue on account of cicatrices, irregular sulci, etc., and he describes the following method which he calls the "fishing" operation as an easy method for exposing and uniting the levator fibers in such cases. In the first place, the edges of the levator are located by the finger in the vagina and exposed by a simple triangular denudation The muscle is then fished out on both sides with a vulsellum or tenaculum forceps and kept under observation and control. This, Somers believes, should be the basis of every perineal repair operation, at least when there is rectocele or cystocele. The main thing is to expose and directly to unite the severed parts. The use of interrupted sutures, he thinks, is the cause of much trouble in perineal operations, and he offers the following as avoiding the chief objections to the interrupted and the buried sutures, at the same time allowing for swelling. "Silkworm gut is used. Passing through the apex of the triangular denudation the suture is inserted with a mattress stitch, from side to side, in the deepest portion of the wound. In passing by the exposed levator ani fibers (still held by vulsella) it passes through the edges of each two or three times. It then continues in the

deep portion of the wound, taking up next the tissue over the denuded ends of the superficial perineal muscles. Finally, it emerges through the skin, on the perineal surface, just above the lower angle of the wound. It is then drawn taut, approximating the tissues. A second and third are passed in similar fashion, each taking in a portion of the levator ani, one above the other. As each suture is drawn taut, the tissues come together, bringing the denuded surfaces in contact. The fourth suture may be submucous or a whip stitch, and serves for final closure of the wound. The most important part of the suturing is the fastening of the ends; with all drawn taut, the vaginal ends are drawn into a single shot and clamped from half an inch to an inch from the surface. The perineal ends are similarly clamped at the same distance. This allows for swelling. In removing the sutures, usually on the tenth day, the shot in the vagina is seized and cut off close to the surface. The perineal ends are then grasped and the sutures pulled out. By this method of suturing, Somers, claims, the perineum is built up layer by layer and the surfaces approximately evenly, without tension and without constriction of the circulation. The parts are therefore in the best possible condition for repair."

**Bone Transplantation for the Relief of Saddle-Nose.**—C. F. Welty discusses the comparative merits of paraffin injections and plastic operations for the relief of nasal deformities, giving the history of a case in which he operated by transplanting a piece of bone from the crest of the tibia. Perfect bony union was not obtained, but the piece remains in place, and it is hoped permanently. He reviews the literature of paraffin prothesis and concludes that the risk of embolism is such that plastic surgery should be preferred when possible, and that, if paraffin is employed, it should not have a melting point below 115° F., and a screw piston syringe, allowing definite measurement of the amount injected, should be used. He is satisfied that only a small part of the accidents from paraffin have been reported. The production of new tissue by paraffin injections is, he says, almost ideal, but there is the uncertainty of possible loss of vision or life or of other complications, while with plastic surgery the surgeon works on better established principles.

**Intracranial Complications of Ear Disease.**—J. F. Barnhill discusses the conditions of sinus thrombosis and brain abscess complicating acute or chronic ear disease. In view of the fact that without treatment these conditions are almost invariably fatal, their early diagnosis is most important, and the history of earlier ear disease should be looked for. Sinus phlebitis or thrombosis may come from other causes, such as deep infections of the neck or infections of the nasal sinuses, etc., but it is most frequently the result of ear disease. In its latter stages, it is easily recognized by its attending general pyemic condition, but its early diagnosis may be difficult. When, however, with persistent ear discharge and simple mastoid inflammation, the patient's symptoms seem to be more serious than the local conditions alone would warrant, Barnhill thinks that exploration of the mastoid is entirely justified, and that even if it fails to reveal sinus disease, it is still a prophylactic measure of the greatest importance. Without the drainage thus afforded, the possibility of sinus involvement is vastly increased. Outside the skull the occurence of edema behind the mastoid swelling along the course of the internal jugular and edema of the eyelid have valuable diagnostic bearings, but the most characteristic symptoms are the high temperature with remissions and septic chills. Any of these symptoms occurring with persistent ear discharge, or with a violently acute otitis, should suggest the possibility of sinus involvement. Brain abscess may follow long-continued chronic ear disease or an acute attack. Vomiting is a prominent symptom, occurring in nearly all cases, and the eye fundus may give important evidence as changes are noticed in about one-half of the cases. A brain abscess, however, may be latent as to symptoms and exist for a long time unsuspected. Barnhill believes that with more careful ear examinations and observation of general symptoms this would not often be the case, and the needed surgery could be done in time.

**Peculiar Symptoms Following a Mastoid Operation.**—George F. Cott reports a case of long standing in which after a mastoid operation the patient complained of almost constant pain, and the temperature varied from 104° to about 99° F. for two weeks. The patient had a regurgitant murmur and there was at times pain in the region of the heart. As the patient was markedly neurotic, the sinus was not explored, though sinus phlebitis was suspected. The patient was able to leave the hospital on the thirty-fourth day after operation. During the following year there was frequently pain in the ear, but not so severe as to require opiates. The temperature has never been quite normal, though the patient has improved in general health, and the ear is practically well.

*The Lancet, November* 4, 1905.

**Third Eyelid in a Human Subject.**—W. Robertson found in an adult male of India a supernumerary eyelid which was situated under the right upper eyelid and protruded when the eye was in natural function two millimeters beyond the margin of the natural lid. This exposed part which led to the discovery was darker than the rest of the structure, the latter approximating to the color of the conjunctiva. It was normally sensitive and cartilaginous to the touch. Of the thickness of a sixpence, it evenly and completely followed the contour and movement of the upper lid, lying closely over the globe without fold or corrugation on either surface and with a clean-cut margin at its periphery. The author notes that the condition was an example of the plica semilunaris or membrana nictitans of birds and reptiles. It will be remembered that the conjunctiva is developed from the surface epiblast and that the membrana nictitans divides the conjunctival sac into two portions in birds and reptiles.

**Impaction of a Gallstone in the Large Intestine.**—The patient of F. V. Milward was a woman of sixty-seven years with intestinal obstruction calling for surgical intervention; operation and subsequent recovery. The stone was 1⅝ x 1½ inches, with a circumference of 3¼ inches, with a weight of 465 grains, was ovoid shape without facets, and located in the segmoid flexure. It possessed the usual chemical composition of gallstones except that the percentage of magnesium carbonate was abnormally large, and this fact pointed, in the author's estimation, to the possibility of the calculus having been supplemented in the bowels by the addition of this particular salt which had been taken freely as a medicine. There was no history of previous gallstone trouble, but the author did not doubt that the calculus originated in the gall bladder and reached the bowel by direct ulceration into the large intestine. Had it passed in the first place into the small intestine, it seems improbable that it should stick in the segmoid flexure after having traversed the ileocecal valve.

**Malignant (?) Tumor of the Hypochondrium; Lumbar Incision, Followed by Laparotomy; Recovery with Cure.**—F. W. Forbes-Ross reports the case of a woman, aged thirty-five years, with an irregularly ovoid, hard, movable mass in the right hypochondrium, as large as a small cocoanut It did not seem to be connected with either bowel or gall-bladder. A provisional diagnosis was made of a tumor of the right adrenal Incision showed the mass to be a diseased outgrowth from the lines occupying the normal position of the right kidney, which lay on the pelvic brim. The anterior surface of the right hepatic lobe and a portion of the left were adherent to the abdominal wall. The hepatic flexure of the colon was long, sigmoid, and adherent to the edge and anterior surface of the right lobe of the liver and to the anterior abdominal wall, thus interposing its resonance between the tumor and the liver proper and apparently determining its non-connection with the liver. The adhesions were carefully separated, and the tumor being reached, it was found to be an adventitious outgrowth of the posterior border and under surface of the right lobe of the liver, attached thereto by a broad, soft, pliable stalk of hepatic tissue. The whole liver was soft and jelly-like, and gave the sensation of handling omentum. The right lobe and tumor were gently dragged out of the abdomen as far as possible, with a view to remove the tumor by the galvano-cautery, but as the disease involved the whole of the posterior border of the liver and its connection with the vena cava it was deemed inadvisable to interfere with it further. Careful examination of the condition, and the absence of any signs of a primary malignant growth anywhere else in the abdomen after careful search, it was decided that appearances tended to support a specific causation, mainly affecting the movable part of the right lobe of the liver. Rectal injections of the iodide in saline solutions were given and one of the organic iron preparations. Under this treatment the mass began to disappear rapidly, and on her discharge from the hospital was palpable only as a growth the size of a hen's egg.

*British Medical Journal, November* 4, 1905.

**Treatment of Uterine Hemorrhage.**—H. L. Donovan was recently called to a case of severe hemorrhage after complete abortion in a multipara who always lost large quantities of blood after her labors. The writer plugged the vagina and gave ergot, but bleeding recurred about seven hours after the removal of the plug. The patient was then placed on her back with the pelvis raised on two pillows. The bed was firm and flat The hem-

orrhage ceased immediately. The patient suffered no discomfort from this position and was kept in it for twenty-four hours.

**A Plea for Evacuation of the Uterus in Unrelieved Cases of Puerperal Eclampsia.**—Ernest Brice speaks of six cases of his own in each of which relief followed the birth of the child. The convulsions were always relieved after the evacuation of the uterus. The writer gives the following suggestions for these cases: An attempt should first be made to control the convulsions by the administration of morphine or chloroform. If the convulsions do not pass off and labor does not soon begin, then delivery should be induced. The writer advocates the use of the finger for this process, as he considers it the safest and most effectual form of dilator. If it is impossible to begin the dilation with the finger, the sound may be used to start the process.

**Treatment of Puerperal Eclampsia.**—Arthur C. J. Wilson has been very successful in treating these cases by the immediate administration of chloroform, which he gives slowly till the patient is fully under its influence. He states from his own experience that when chloroform was given fully, in cases of eclampsia occurring in pregnancy, soon after the first convulsion, and when its effect was kept up some time after the termination of labor, no more convulsions occurred. Termination of labor by dilatation of the os can, as a rule, be easily carried out, provided the patient is kept fully under chloroform, and seems to have no effect in causing a return of the convulsions. In nearly all cases in which some time had elapsed before the administration of chloroform, convulsions recurred after labor, and the patient did not make so good a recovery. The danger to the child is increased by delay. Forced delivery is quite a different thing when a patient is fully under chloroform from what it is when there is not complete muscular relaxation. The writer presents notes of a number of cases which he has treated by this method

**Notes of an Epidemic of Influenza.**—J. P. Sturrock reports this outbreak, which occurred in an asylum. The disease spread from ward to ward in series in spite of the fact that all of the patients were coming into daily contact, and that on the female side patients from different wards slept side by side in the same dormitory. Although the bacillus was undoubtedly carried from ward to ward, it appeared to attack those who were working outside the wards or were in "open-door" wards, and who could go out and in to cold corridors as they pleased. The temperature in the wards is often far too high on account of the system of heating by hot-water pipes. This probably made the patients who go about from ward to ward in working costume more susceptible to cold. The disease first affected the staff, and a day later the patients. The disease did not seem to spread from a patient once put to bed. The spread of the infection on the female side seemed to indicate that it was carried along in the currents of air caused by the overheated wards and colder corridors, and that the patients became infected only when it reached their ward. Women were affected in a large proportion, and the strong and working patients were attacked almost exclusively. In marked contrast to the cases not so treated, in those to whom carbolic acid was given, the sudden fall of temperature in twenty-four hours was striking. Comparative comfort was soon enjoyed by patients receiving this treatment. The method of administration consisted of 1-minim doses of liquid carbolic acid, in not less than two ounces of water, given at once on the onset of the symptoms, and repeated every two hours till the temperature fell to normal. There were no bad effects from the use of the carbolic, which was in no case given longer than for twenty-four hours A purge was given afterwards. It is highly probable that the infectivity of the cases was lessened by this treatment. The nature of most of the complications was septic. The deaths amounted to less than four per cent. of the total number of cases. The average age of those affected was well over fifty years, so that this mortality rate is markedly small.

*Munchener medizinishe Wochenschrift, October* 17, 1905.

**The Prevention of Laryngeal Stenosis after Intubation and Secondary Tracheotomy.**—V. Ranke recommends secondary tracheotomy in cases of diphtheria, in which the previous introduction of laryngeal tubes has resulted in decubitus. The resulting stenosis that sometimes occurs, he believes to be due not to cicatrization of the ulcer, but to the exclusion from the larynx of the inspired air that normally acts as a dilator. To avoid this complication v. Ranke allows the tracheal cannula to remain *in situ* two to three days only, after which he again resorts to intubation if dyspnea recurs. Gradual dilatation of a laryngeal stenosis with curved sounds he believes to be utterly inadequate, this condition being relieved by the permanent wearing of a tracheotomy tube alone.

**A Case of Sepsis Due to Staphylococcus Citreus.**—Jacobowitz records a case of sepsis ending fatally in which the portal of entry for the organism was an abrasion of the skin of the chin. Clinically the infection was characterized by a universal erythema with vesicle formation, irregular temperatures, the formation of abscesses on the right foot, and necrosis at the site of the abrasion, gradually extending to both cheeks. From the cutaneous vesicles the ulcers of the chin, the abscesses of the foot, and from the sputum cultures of staphylococcus citreus were isolated. No blood culture could be made, but in confirmation of the writer's belief that this organism was the cause of the sepsis it was found that a potent staphylococcus serum agglutinated the cultures of staphylococcus citreus in a dilution of 1-3000. Weak alkaline bouillon cultures of the organism as well as their filtrates, exerted a hemolytic action upon the erythrocytes of rabbits. No agglutination was obtained with cultures of staphylococcus aureus that were also isolated from the cutaneous vesicles, nor did these cultures exert a hemolytic action upon red blood cells.

*Deutsche medizinische Wochenschrift, October* 19, 1905.

**The Pseudoinfluenza Bacillus.**—Korentschewsky records a case of a bullet wound of the neck resulting in empyema of the pleural cavity. From the sanguineopurulent exudate a Gram-negative organism, growing, only in the presence of blood in minute transparent colonies, was isolated. Transplantations to ordinary media were unsuccessful unless blood were added, when growth was luxuriant both on solid and fluid media. Morphologically the bacilli varied considerably in size, but even after many generations the organism was found growing in chains. This feature serves to distinguish the true from the false influenza bacillus. In the patient's sputum true influenza bacilli were demonstrated. The writer believes that the pleura was secondarily infected from the lung, and that the bacillus isolated from the former and corresponding in all details with Pfeiffer's pseudoinfluenza bacillus was in reality a true influenza bacillus that had grown for some time under changed conditions. A mixed infection cannot, however, be excluded.

**Intention Tremors in Children.**—Urbach calls attention to the existence of intention tremors in children as the sole manifestation of chronic lead poisoning, reporting a case in a child five years of age, in whose urine lead was chemically determined. The writer inclines to the belief that even in the absence of lead from the urine this etiological factor in cases of mild ataxia and tremor may not be disregarded if all other pathological conditions of the nervous system can be excluded.

*French and Italian Journals.*

**Severe Chronic Radiodermatitis Cured by the Galvanocautery.**—A patient of Springer had suffered for three years with badly ulcerated fingers—the index and the middle finger—caused by frequent and long exposures of the right hand to the *x*-ray. The fingers were cracked and bloody, the phalanges thickened and stiff, and the nails atrophied and striated. On the large joint of the middle finger was a fungous growth. The injured members were extremely sensitive to contact. Various methods of treatment had failed to ameliorate the condition. Springer, before having recourse to amputation, for which the patient begged, attempted to destroy the mushroom-like growth and its base by means of the galvanocautery. Cauterization was practised and was carried deep. A deep eschar, dry and hard, formed and fell off on the sixth day, when the dry dressing was removed leaving bare a healthy wound, covered with small red granulations. The raw spots were bathed with a solution of permanganate of potash, followed by the application of hydrogen peroxide. Simple dry dressings with salol were employed. At the end of three weeks the operative wound was entirely covered with healthy skin, which was supple, and solid, and which remained so. The tissues of the middle finger at the same time became normal and regained their normal functions.—*Revue Française de Médecine et de Chirurgie* October 16, 1905.

**A Case of Exophthalmic Goiter.**—E. Doumer and D. Maes report the case of a man fifty-one years old who was conscious of only one uncomfortable symptom — very painful and frequent cramps, which affected particularly the calves of his legs, though sometimes he had them in his arms. At night they came on in paroxysms, and repeated themselves four or five times almost always attacking the lower extremities. In the daytime the crises were a little less frequent and generally affected

the upper extremities. The length of these attacks was variable, but averaged from five to eight minutes. This symptom had troubled the patient several years when he came to the writers for treatment. On examination a distinct tachycardia was noted. A slight trembling was also noticed, although it had escaped the attention of the patient himself. Moisture of the hands was another sign to which he had attached no importance. The patient was irritable and suffered at times from insomnia and inaptitude for work. He was given systematic treatment by faradization according to the classic method of Vigouroux. The cramps disappeared with great rapidity, the skin became normal, and the other symptoms disappeared or became attenuated. The patient considered himself cured at the end of three treatments, and ceased to apply for them.—*Le Nord Médical*, September 1, 1905.

**Training in Relation to Alimentation.**—Maurice Champeaux declares that it is a fact well established by physiology that the amount of food ingested outght to be in relation to the work done by the body. When the work increases, food ought to increase in proportion. Training brings about an overworked condition, and the organism becomes a prey to intoxication. Discord then exists between the necessities and conditions of life. On the other hand the term adaptation represents the physiological state exactly opposed to that of training. The bodily functions are at a maximum. There is an absolute accord between the necessities and conditions of life. In the army the aim should be toward adaptation and not toward training. It is necessary to work with moderation and with reason. An overworked condition should be avoided, and each organism should be adapted to the exigencies of its particular physiological condition.—*La Presse Médicole*, Sept. 20, 1905.

**Discontinued Anesthesia in Gastric and Intestinal Surgery.**—C. Arnaud states that it is not without danger to keep a patient already enfeebled by disease under the influence of prolonged anesthesia while a resection of the stomach or intestine is being accomplished. The writer suggests the suspension of anesthesia during visceral intervention, since the stomach and intestine are not at all or at least only slightly sensitive to operative measures, whether it be contact, section, or suturing. The parietal peritoneum alone is sensitive to pain during a surgical operation. The writer advises discontinued anesthesia, by which he means suspension of anesthesia during the section and suturing of the viscera, while it is to be resumed during the peritoneal toilet as well as at the time of incision and suturing of the abdominal wall. This method, so the writer believes, would diminish the dangers of anesthesia in the case of a feeble patient. —*La Presse Médicale*, September 20, 1905.

**Musical Heart Murmurs.**—Michele Landelfi has observed one case of musical heart murmur which came to autopsy, and has listened to five others that have not yet come to autopsy. He analyzes these murmurs as to site, time of heart cycle, etc. They are usually heard over the valvular areas, are prolonged and musical, like small ronchi that are heard in the small bronchioles of the lungs. Capozzi observed them in five cases, two of mitral insufficiency, and three of aortic insufficiency, and at the autopsy found constantly perforations of the valves, small and oval, with thickened margins. He believes that the perforation is in etiological relation to the character of the murmur. In the author's case there was tuberculosis of the lungs, anemia, and galop-rhythm of the heart, with a musical murmur localized at the apex and not radiating. The murmur was not constant. The patient died with uremic symptoms. The autopsy revealed no perforation of the valves, but a concentric hypertrophy of the left ventricle and chronic pericarditis. The left auriculoventricular orifice was normal, and the whole valvular mechanism was sufficient. The author believes that there was, nevertheless, relative insufficiency, and that this was of prognostic value, indicating that the heart was unable to carry on its work any longer. He concludes that these murmurs are generally due to valvular insufficiency, but are not usually of diagnostic value.—*La Reforma Medica*, September 30, 1905.

**Hematological Researches in Pleurisy.**—Ettore Tedeschi has made examinations to ascertain the changes in the red and white corpuscles in number and quality, in different forms of pleurisy, in order to find out the hematological formula of the different forms of the disease. Also the agglutinating power of the blood serum in tuberculosis, and in other forms of pleurisy. He has examined twenty cases of different types of pleurisy. He concludes that sero-fibrinous tubercular pleurisy differs from sero-fibrinous pleurisy from other causes, in that it is accompanied by a moderate hyperleucocytosis; there is also a lymphocytosis, relative or absolute, and frequently an increase of the large mononuclear leucocytes. These conditions vary with the severity and course of the tuberculosis. These alterations are of diagnostic and prognostic value. The sero-reaction is more evident in the exudate than in the blood serum, especially at the beginning of the process, and this should be used, instead of the blood, for an aid in diagnosis.—*Il Policlinico* October, 1905.

**Ammonuria in the Puerperal State.**—A. Mariani has examined the urinary conditions in normal women during pregnancy and the puerperium as to the elimination of ammonia and the relation to the hepatic functions. Normally, in the unimpregnated condition, there are only traces of ammonia eliminated as salts. It is increased by a meat diet and decreased by a vegetable diet, by the febrile state, and by severe poisoning by phosphorus and other inorganic poisons. The author concludes that during the last months of pregnancy a larger amount of ammoniacal salts are eliminated than normal. It is increased during labor, and continues large through the first week of the puerperal state. This increase of ammonia in the urine may be attributed to a slight acidosis of the organism, as well as to an insufficiency of the liver to produce urea.—*Archivio di Ostetricia e Ginecologia*, September, 1905.

**The Vibratory Winking of the Eyelids and Renal Affections.**—M. G. Ullmann believes that vibratory winking constitutes a true pathognomonic symptom of renal affections. This sign shows itself especially when the affection is in its infancy. On this account this observation is of great importance, since at this stage the affection amounts to only a simple irritation and has not yet become serious. Vibratory winking is most often seen in the upper eyelids, generally in only one. The duration of this movement varies from a few minutes to half an hour or more. The writer thinks that this phenomenon is due to an autointoxication, the consequences of which manifest themselves in the visual apparatus and particularly in the nervous filaments coming from the fifth nerve and from the facial. In support of this hypothesis, vibratory winking is most often accompanied by myosis. —*La Presse Médicale*, September 23, 1905.

**Albuminuria in Tuberculosis of Infants.**—Rodolfo Benati says that albumin in infantile tuberculosis may be slight and transitory, or serious and permanent. The first is the result of acute or subacute disease; the second of the chronic form. The renal lesions may pass from congestion to glomerulo-nephritis, large white and amyloid kidneys. According to some authors it is infrequent, to others it occurs in eighty per cent. of cases. The etiology is various. In some cases it arises from a mixed infection with other bacteria; in others it is toxic, arising from the gastrointestinal tract; again it is due to mechanical factors, disturbances of circulation, or it may be due to the tubercular cachexia. The author collected all the cases seen at the Hospital for Children in Florence, from 1892 to 1898 in which the diagnosis was confirmed by bacteriological examination, three in number. These statistics show that tuberculosis is rare in the early years, and becomes most frequent from the age of five to seven years. Renal disease occurs most frequently in combination with tubercular meningitis, next in pulmonary tuberculosis, then in tubercular peritonitis. He concludes that albuminuria is more frequent than has been supposed; that it is most frequent from five to seven years old. When tuberculosis is generalized albuminuria is most frequent; it occurs in sixty per cent. of cases of tubercular meningitis; it comes on when the tubercular symptoms become severe; it is more frequent when the tuberculosis has attacked several organs; it occurs especially near the fatal issue of the disease.—*Rivista di Clinica Pediatrica*, September, 1905.

**Anatomopathological Researches in Experimental Poisoning with Formalin.**—Corrado Tommasi-Crudeli has made a series of experiments as to the anatomical and pathological effects of small doses of formaldehyde long continued, such as would be taken in the use of the substance to preserve foods and milk, and of large doses. The formaldehyde was used both by way of the stomach and of the respiratory tract, in dogs and other animals. The author's conclusions are as follows: 1. In actue poisoning by the stomach the anatomical alterations are limited to the stomach and consist of necrosis and desquamation of the epithelial lining, intense hyperemia, and hemorrhagic infiltration of the mucosa. 2. In acute poisoning by inhalation the larynx trachea, and large bronchi presented diffuse necrosis, with exudative inflammation, forming a diphtheroid membrane, and with rich small-celled infiltration of the surrounding tissues. The small bronchioles showed purulent inflammation, with acute emphysema of the pulmonary tissue, and hemorrhagic and purulent bronchopulmonitis. 3. In chronic poisoning by the stomach the alterations were confined to the organs of digestion. The stomach showed gastritis, simple, catarrhal or hemorrhagic, and ulcerative. There was the same condition in the intestines. In the other organs there was diffuse hypermia, with hemorrhages and slight parenchymatous alterations.—*Il Policlinico*, September, 1905.

# Book Reviews.

A Manual of Diseases of the Nose and Throat. By Cornelius Godfrey Coakley, M.D. Professor of Laryngology in University and Bellevue Hospital Medical College, New York City, etc. Third Edition revised and enlarged. Illustrated with 118 engravings and five colored plates. New York and Philadelphia: Lea Brothers & Co., 1905.

This manual has already received favorable mention in these columns. The present edition contains 28 more pages than its predecessor. Each article has been brought up to date, while the chapter on diseases of the nasal accessory sinuses has been entirely rewritten. The manual is a good one for both student and practitioner. Under the heading of treatment in each section the author elaborates those medical and surgical measures which have given, in his experience, the most satisfactory results. We renew emphatically our former endorsement of Dr. Coakley's work.

Sewerage and Sewage Purification. By M. N. Baker, Ph.B., C.E. Associate Editor, "Engineering News;" Joint author, "Sewage Disposal in the United States;" Author, "Sewage Purification in America;" "British Sewage Works." Second Edition, revised and enlarged. New York: D. Van Nostrand Company, 1905.

The matter of sewerage and sewage disposal is one that the practitioner, especially in smaller places, is often called upon to discuss, and it may at times be his duty to speak with authority regarding it. It is incumbent upon all medical men to have at least some idea of what at present are considered the fundamental principles of sewerage and drainage systems, and of the methods by means of which sewage may safely be disposed of. The present volume is written in simple fashion for the instruction of the non-engineer and contains the essentials of modern practice in concise form. The author regards the subject thoroughly from the standpoint of the sanitarian, and the little book may confidently be commended to all who are interested in the subject.

The Microtomists' Vade-Mecum. A Handbook of the Methods of Microscopic Anatomy. By Arthur Bolles Lee. Sixth Edition. Philadelphia: P. Blakiston's Son & Co., 1905.

The laboratory worker has long regarded this book as an indispensable adjunct to his desk outfit, and it is therefore agreeable to find that it has been subjected to another revision. The volume has not been increased in size, though the author tells us that the index contains some 300 new entries, the added space having been gained by condensation and rearrangement of the old text so as to avoid repetitions. In spite of the mass of new methods by which laboratory technique has been enriched of late years, the only notable omission that strikes the reader is the absence of any mention of Wright's useful stain for blood films. The five chapters dealing with the nervous system are an especially notable feature of the book and contain much that is new regarding the recent methods for neuroglia and the chromophilic bodies.

A Manual of the Practice of Medicine. By A. A. Stevens, A.M., M.D., Professor of Pathology in the Woman's Medical College of Pennsylvania, and Lecturer on Physical Diagnosis at the University of Pennsylvania. Seventh edition, revised. Philadelphia and London: W. B. Saunders & Company, 1905.

Stevens' Manual of Practice is by this time too well known to require either description or commendation. The seventh edition differs but little, if at all, from its predecessor; indeed, the only alteration we have discovered is the increase in price. For student or practitioner this is one of the best compends on Practice in the market.

A Manual of Clinical Chemistry, Microscopy and Bacteriology. By Dr. M. Klopstock and Dr. A. Kowarsky, of Berlin. Translated by Thew Wright, M.D., London: Rebman Limited; New York: Rebman Company, 1905.

In response to the stimulus which the methods of laboratory diagnosis have received in the last few years it is only natural that a large number of books on the subject should be produced. It is equally natural that there should be a great disparity between these, and accordingly we have them good, bad, and indifferent, large and small, elementary and advanced. The present volume is short but distinctly of the latter class for, as the authors state in their preface, it is assumed that the reader has had an elementary chemical and bacteriological education. This is certainly no disadvantage, for it renders it possible to compress descriptions of the ordinary diagnostic laboratory aids into a volume that is not too bulky to have at hand about the working table. The book is rendered still more attractive from a mechanical standpoint by unusually good paper and clear type. In regard to matter but little can be said in criticism, though there are some decidedly weak points, such as the absence of an index, which is a serious defect in a book of this sort, and particularly the plates of blood spreads whose only virtue is that there are so few of them. The section on the examination of the blood is probably the least satisfactory in the book. For example, Hammerschlag's method of obtaining the specific gravity of the blood is given, but not the table by which one is enabled to estimate the hemoglobin from the specific gravity, the only purpose for which this method is ordinarily used in clinical work. The characteristics of the blood picture in the various anemias are not discussed at all. Iodophilia is not mentioned and the technique described for performing the Widal reaction is not at all modern. The Jenner stain is given, but as usual in continental publications is credited to Way and Grünwald. Defects are also to be noted in other parts of the book such for example as the omission of all reference to the Sahli test meal in the section on gastric analysis. The book contains much that is of value, however, and should prove a useful adjunct to other works on the subject.

Lectures on the Principles of Surgery. By Chas. B. Nancrede, A.M., M.D., LL.D., Professor of Surgery in the University of Michigan; Professor of Surgery in Dartmouth Medical College, etc. Second Edition, Thoroughly Revised. Philadelphia and London: W. B. Saunders & Co., 1905.

In the book at hand, now in its second edition, the author has attempted to overcome the objections usually associated with works of this kind, namely, that they are too comprehensive or that undue prominence is given to special methods of applying surgical principles to practice. He also wisely omits extended references to bacteriological and pathological details, for these subjects are now fully taught as special branches in our medical schools. The book is in the form of lectures addressed to undergraduates, and includes the usual array of "principles" and their application to therapeutics. The author takes a decided stand on the subject of inflammation, claiming that it is never anything but an ineffective process. He does not recognize any aseptic variety the only true inflammatory processes being those in which the microorganisms, their products, or both are concerned. The other aspects of the question are discussed, however, in a supplementary chapter by Dr. W. A. Spitzley, in which the history of the subject and the other theories are taken up. This appendix, moreover, is in pleasing contrast as regards its style and diction to what goes before. The construction of the sentences in the body of the work is involved, irregular, and unsatisfactory, so that considerable mental effort with consequent loss of time and interest, is required to digest the meaning of most of them. A decided improvement would have resulted from a less frequent use of the dash and an increased employment of the period. Books addressed to medical students, such as this purports to be, should certainly be written in good, easily read English.

A Practical Treatise on Sexual Disorders of the Male and Female. By Robert W. Taylor, A.M., M.D., Formerly Clinical Professor of Genitourinary Diseases at the College of Physicians and Surgeons (Columbia University), New York; Consulting Genitourinary Surgeon to Bellevue and to the City (Charity) Hospitals, New York. Third Edition thoroughly revised, with 130 illustrations and 16 plates in colors and monochrome. New York and Philadelphia: Lea Brothers & Co., 1905.

The subject of sexual disorders is not so well represented in American medical literature as in that of Europe, perhaps because such affections are less frequently seen in this country. Dr. Taylor's book has come to be recognized as a standard American work on this branch of genitourinary practice, and though it is not so important in many ways as his larger treatise on venereal diseases, it forms a fitting supplement to that volume. The present third edition has been considerably amplified, the principal additions being concerned with sexual disorders in the female and comprising four entire chapters. One of the most important of these is that devoted to the neglected subject of injuries to the female genitals in coitus, which is founded on Neugebauer's exhaustive study of the subject. Other new material concerns the anatomy and physiology of the genital organs, deformities of the genitals, the *x*-rays in relation to the cure of tuberculous or malignant disease of the genitals, and as a cause of sterility, etc. The book is thoroughly practical and helpful in its suggestions as to treatment, and though it lacks the thoroughness of the German works, particularly as regards the nervous and mental conditions underlying sexual abnormalities and perversions, it is well designed to assist the practitioner in dealing with the cases that may come under his observation.

# Society Reports.

## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Stated Meeting, Held October 23, 1905.*

THE PRESIDENT, DR. HENRY S. STEARNS, IN THE CHAIR.

THE one hundredth anniversary meeting of the society was opened by the president, with the announcement that polls were opened for balloting and would remain open for one hour.

**Annual Reports.**—The treasurer announced that there remained on hand on October 23 a balance of $373.37. The Comitia Minora reported the addition of 106 new members during the past year, and an average attendance at meetings of 203. The list of deaths occurring during the past year was the largest in the history of the society, numbering 55. At this time there were 2,200 active members. It was a matter for congratulation upon this one-hundredth anniversary that they were soon to witness the amalgamation of the medical men in the State of New York in one great body. The Milk Commission reported satisfactory larger than in previous years. They sought as counsel of the society made his annual report, and said that the amount of fines imposed and convictions obtained had been larger than in previous years. They sought as counsels for the society, not only to punish, but to have a deterrent effect upon possible offenders. He narrated a number of cases in which action had been brought against men who professed to cure drug habits, cancer, etc., and then spoke of the continued criminal alliance that existed between quacks and charlatans, and the newspapers, and he spoke in laudatory terms of the work that was being done by the *Ladies' Home Journal* and *Collier's Weekly* in exposing certain frauds, and in their efforts to make the newspapers realize the crime in opening up their columns to these quacks for advertising purposes. He hoped that eventually there would result a Public Health Society. Such a movement would be the beginning of the end of this criminal alliance.

**Resolution Against the Criminal Alliance Between Quacks and Newspapers.**—Dr. WENDELL C. PHILLIPS offered the following, which was unanimously carried:

*Whereas*, The Medical Society, for over one hundred years, with the sanction of the State of New York, has been engaged in an effort to "regulate the practice of physic and surgery," and

*Whereas*, The Legislature of said State has expressly authorized the enforcement by this and other county medical societies in the State of the public health law regulating said practice, and

*Whereas*, Hundreds of prosecutions and convictions have resulted as a direct outcome of the work of this society in enforcing the law, and

*Whereas*, A large percentage of the quacks and charlatans convicted as a result of the work of this society have been already admitted to the advertising columns of various papers in the city and county of New York, and the protection of the public health been made much more difficult as a result of said advertisements.

*Now, therefore, be it Resolved*, That the Medical Society of the County of New York, at its hundredth annual meeting, emphatically protests against the criminal alliance between quacks and certain newspapers in the city of New York and elsewhere; that in the courts of honor and conscience and morals, if not in the courts of law, the newspapers that profit by the publication of the alluringly false advertisements of notorious quacks and charlatans are in no wise less guilty than these charlatans themselves.

*Be it further Resolved*, That the thanks of this society are due to the *Ladies Home Journal* and *Collier's Weekly* for their telling exposures of the criminal alliance existing not only between quacks and some newspapers, but between the latter and powerful companies controlling well-known patent medicines long since proven to be dangerous to the health and comfort of the people.

**Origin and Early History of the Medical Society of the County of New York.**—Dr. JOHN VAN DOREN YOUNG read this paper, which was of a historical nature, dealing in particular with important events and actions during the past one hundred years, since the foundation of the society.

**Some of Our Predecessors.**—Dr. A. JACOBI read this paper. He said that the combination of men and of circumstances made history, and this was what made the writing of history so difficult and the esteem in which recital of human endeavor was held so precious. He said he intended giving the sketches of a few men only whose names might have been, but never should be, forgotten in the profession they had adorned and benefited. He held in his hand the sketches of many men, and some he only mentioned. Austin Flint he had already extolled shortly after his death; A. L. Loomis had too great a personality to be extinguished from the memory of his generation; Cornelius Agnew, public spirited, unselfish, warm-hearted, and generous; Alonzo Clark, most elegant, best informed, eloquent, who awoke a sensation of melancholy whenever the thoughts were turned to a consideration of human inconsistency—and gratitude. After having been the most admired and sought-for consultant he fell sick and was out of sight for a few years, when the grave was ready for him. The number of medical men attending his funeral was exactly 29. He then read the names of a large number of the absent, the dead, reviving the memory of but a few of them.

John Putnam Batchelder, 1784-1868; he took his degree at Harvard, in 1815. The last twenty-five years of his life he practised in New York, where he was the president of the Academy of Medicine in 1858. In 1817 he took the Chair of Anatomy in Carleton, Vt., and afterwards that of Surgical Anatomy, in Pittsfield, Mass. He became widely known as an operator on tumors, on stone in the bladder in 1818, ligature of the corotid in 1825, for sarcoma of the maxilla, in 1832 removal of the upper jaw. He was one of the first, if not the first, to remove the head of the femur. He contributed to medical literature and never ceased to work and keep his eyes open.

Horace Green, 1802-1867; he taught medicine in Carleton, Vt., several years, and was one of the founders of the New York Medical College in East Thirteenth street. There he taught until 1860; a reorganization took place and he remained in the faculty as emeritus. He settled in New York in 1835, and as early as 1846 began medical writing, the first being a treatise on diseases of the air passages; in 1849 he published his "Pathology and Treatment of Croup," in 1852 "The Surgical Treatment of Polypi of the Larynx," and these books were soon followed by many others, and articles in journals. His skill was such in laryngeal work that he could make laryngeal and sublaryngeal applications with silver nitrate and other substances for croup and tuberculosis of the lungs. He was bitterly attacked in the New York Academy of Medicine; the greatest men of those times proved, to their full satisfaction, that the thing could not be done. He exhibited his instruments and did it. But the overwhelming vote was that it could not be done

Mortimer G. Porter, 1826-1863, aided Dr. Jacobi in establishing a section for the diseases of children in the New York Academy of Medicine, although it was twenty-five years before that end was attained.

James Stewart, 1799-1864, who was very much interested in sick children and who translated and published much about them. In his obituary he was called "retiring and thoughtful, yet humorous."

James Livingston Brown, born in 1831, was an example of a typical American career, cut short by death. He attended public school, was a pupil in a private school in Canal street, and paid for his tuition by serving as a janitor. He began early to teach Latin, Greek, and the rudiments of music. He had a scholarship in Columbia College, received his A.B. in 1852 and A.M. in 1868. During vacations he

peddled thermometers, etc. Add to this his indefatigability and ambition, amiable manners and great personal modesty, together with his idealistic tendency not only to become prominent, but also useful, and one had a picture of what made a great doctor and a good citizen. It was not his love for music alone that made him keep his place as organist in St. Luke's Church fully seventeen years. He was long connected with Demilt Dispensary, with the Health Department as Sanitary Inspector, and with Prof. G. T. Thomas as his chief of clinic. His contributions to literature were largely on gynecological work. Few may know that the case of diabetes in a baby of less than two years described in the first volume of the *Journal of Obstetrics and Diseases of Women and Children*, 1868, occurred in his own child.

Charles Hersthel, 1809-1873, whose broad general education, knowledge of German, French, and Spanish, his amiability and helpfulness made him popular in all classes of the community. He was interested in the foundation of the German Dispensary, which began its work in 1857, and for many years he was a trustee of the College of Physicians and Surgeons. He was the only one of the influential German doctors in town who did not tell the timid and disheartened young emigrant that there was no room for him in New York city.

William Detmold, 1808-1895, came from Germany, where he had been a pupil of Stromeyer. He introduced subcutaneous tenotomy in America, and established the first orthopedic service in connection with the general surgical clinic at the College of Physicians and Surgeons; he also had the conrage, or good luck, to open a brain abscess in 1850. That was why he was pronounced a swindler in Germany. He also suggested that certain muscles might be directed by areas in the brain, years before this was proven. His surgical talent and his long association with the College of Physicians and Surgeons made him a conspicuous figure.

Richard J. O'Sullivan, 1833-1896, read a paper on School Hygiene in 1873 before the New York Academy of Medicine. He was Sanitary Superintendent of the Board of Health, and for many years Sanitary School Inspector, until the office was abolished. One of the results accomplished by him was this: that of 40,000 children vaccinated by him not one was taken with smallpox during the epidemic. In appreciation of his merits the Board of Education rewarded him by abolishing the office of Sanitary School Inspector. In his paper, which was discussed by C. R. Agnew, A. Jacobi, and John C. Peters, he claimed equal rights for physical and mental culture, censured the iniquitous habit of sending children to school prematurely, claiming that "seven years is an early enough age for a child to be sent to school." He insisted upon a proper division of time in schools, short lessons, etc. Within a few weeks it was proposed to insist upon an uninterrupted instruction of the unfortunate young victims of three full hours in succession. Dr. Jacobi said that if there was a more direct method of raising a nation of invalids and idiots he was not acquainted with it. O'Sullivan rejected the drill, etc., and demanded spontaneous sports and amusements, recommended measures for the protection of the eyes, and for ventilation and against the dissemination of contagious diseases. What happened? Dr. Ellsworth Eliot, president of the County Society, Dr. Austin Flint, president of the New York Academy of Medicine, Dr. John C. Peters, and many others interceded with the Board of Education in behalf of the reappointment of Dr. O'Sullivan as Sanitary School Inspector on April 12, 1873. The Medical Record of September 15, 1873, and the *Evening Post* took an able part in the discussion, but to no purpose. Thus the office created on January 1, 1871, was on April 30, 1873, abolished by the Board of Education. It was to be remembered that Dr. O'Sullivan worked and wrote for medical school inspection more than a third of a century ago, as a member both of the Academy of Medicine and of the Medical Society of the County of New York.

John C. Peters, 1819-1893, studied medicine in Berlin, Vienna, and Leipsic. In the minutes of the stated meeting of November 14, 1842, his name appeared for the first time in connection with the Medical Society of the County of New York. He was president of this society in 1866 and 1867. The example of a relative, who was an influential homeopathic physician in the city of New York, prevailed upon the young and inexperienced doctor to join the homeopathic school. He soon acquired an extensive and lucrative practice. During this period of his life he began his literary career. Between 1853 and 1856 he published books and pamphlets on apoplexy, headaches, diseases of the eye, etc. For years he was chief editor of the *North American Journal of Homeopathy*, the author of several works on homeopathic practice, and one of the leaders of that school. On August 17, 1861, he surprised friend and foe by publishing in the *American Medical Times* his renunciation of homeopathy. Many hands were raised against him, many armed with clubs. He, however, survived jealousy and injury, and enjoyed to the last the profound respect of the profession. He was one of the founders and an earnest worker in the New York Pathological Society, and for years editor of its proceedings. He was one of the founders and presidents of the Medical Library and Journal Association, which contributed much to the greatness of the library of the New York Academy of Medicine. He was interested in infectious diseases, especially Asiatic cholora, on which he began to write in 1866. Almost every year he added to the literature up to 1873, and again in 1885. He was a firm believer in the filth origin of infectious fevers.

**Objects to Be Attained by Our Society in the Twentieth Century.**—Dr. Edward D. Fisher read this paper, and stated that America had always been the land for organization of societies, political and scientific, and that it was characteristic of us to have and need bodies to take charge of our affairs. The County Medical Society was a large body, comparable to the House of Representatives at Washington, or the House of Commons in England. We were directly interested in the morals and sanitation of the public. We had for our special care the public weal, in so far as the health of the community was concerned. We were directly interested in the morals and sanitation of the public. Medical subjects of not too special or technical character were in place here. The surgeon, the physician, the specialist had an opportunity to present the end results of his experience. The value of the society to its members was that it kept them in touch with all the advances of medical science the world over. All had not the time to keep abreast with medical science by reading, and he believed that facts were more fairly represented by personal teaching than in any other way. The society, being a large one, was also one in which differences of opinion must arise, leading often to heated disputes; but man was not perfect. This very opposition had led to increased medical scientific activity among them; their best days had often been the stormiest. He would not voluntarily throw the apple of discord among them, still he would rather see the water ruffled than have them too smooth and have the members settle down into placid inactivity. They should be able to differ without causing personal differences. The society, if united, could impress itself on the community. No profession came in such close contact with the public as the medical. The doctor was a friend, as well as physician, of his clients. He was brought more intimately with the inner life and affairs of his patients than even the lawyer. Our personal touch often took us out of the more functional affairs of life. They often could not think of us as taking part in political life, and that was one reason why our influence in public life was not as great as it might be. Often it was said that doctors were in no way calculated for business. There was some truth in this. We were like the man at the microscope, with his eye constantly engaged; he saw all the details, but failed to observe the larger field. We should, therefore, endeavor to make ourselves men of the world, as well as medical men.

This had been done in other countries, as England and Germany. This was one of the lessons of the twentieth century, and we would by this be better advisers, greater benefactors to our community. The twentieth century had changed many things in our methods of living; everything was less personal and individual. The members had increased so rapidly that conditions were different than formerly. New York to-day was what London, Paris, Berlin, and St. Petersburg were then, and even more, for we had passed that stage. New York had become an authority unto itself. This condition would be more accentuated as time went on, our restless activity pushing on in a scientific way previously unknown. The future influence of the Society, united now with the Association after an artificial division of its forces, would be greater than ever, and the Empire State would take its place of permanent influence in the national body. The one hundredth anniversary of the Society showed that to-day it was as vigorous and aggressive as ever.

**Officers Elected.**—*President,* Dr. Henry S. Stearns; *First Vice-President,* Dr. Walter Lester Carr; *Second Vice-President,* Dr. William H. Park; *Secretary,* Dr. John Van Doren Young; *Assistant Secretary,* Dr. J. Milton Mabbott; *Treasurer,* Dr. Charles H. Richardson; *Censors,* Drs. Henry S. Stearns, C. G. Coakley, James E. Newcomb, H. Seymour Houghton, and Egbert Le Fevre.

## AMERICAN ROENTGEN-RAY SOCIETY.

*Sixth Annual Meeting, Held in Baltimore, Md., September 28-30, 1905.*

DR. CHARLES LESTER LEONARD OF PHILADELPHIA PRESIDENT.

**Study of Stomach and Intestines.**—Dr. HENRY HULST of Grand Rapids, Mich., spoke of the value of the Roentgen-ray in the diagnosis of diseases of the stomach and intestines, especially in dilatation and dislocation of the stomach. These organs might be inflated, but inflation was often painful, dangerous, and inadequate. The best method was to give one ounce of bismuth in a pint of milk, or bread and milk, or potato soup. Then two exposures were made, one in the erect and one in the recumbent posture. If the first radiograph was made at noon, a second was made at six, nothing having been taken into the stomach in the meantime. Thus it was possible to ascertain the size, position, and functional capacity of the stomach. If a good picture of the colon was not obtained in this way, three ounces of bismuth might be injected per rectum. It was essential to have the patient at rest. If the subject was very fat, it might be necessary to intensify the screen. This was not particularly objectionable with a sixteen inch coil, a Wehnelt interrupter, and a strong tube placed twenty inches from the skin surface. A plate could easily be made under these circumstances in a medium sized subject in one second; without the intensifying screen, in three seconds. Ordinarily he had found it better to make the exposure at twenty inches in ten seconds without intensifying screens. Good apparatus and a fair degree of skill were sufficient to secure fairly satisfactory results. The diaphragm was indispensable.

**Skeletal Development.**—Dr. P. M. HICKEY of Detroit, Mich., showed slides demonstrating the bony development of the elbow joint, and emphasized the importance of comparing the injured with the uninjured joint before attempting to make a diagnosis of fracture, because the crevices in a developing joint might easily be mistaken for fracture when it really did not exist.

DR. GORDON C. BURDICK of Chicago was able to demonstrate absence of fracture in fifteen cases where it was supposed to exist.

Dr. J. RUDIS-JICINSKY of Cedar Rapids, Ia., said that the anatomy of joints as given in textbooks should be revised to agree with the Roentgen-ray findings as demonstrated by Dr. Hickey.

Mr. M. I. WILBERT of Philadelphia emphasized the necessity of radiographing an injured joint laterally and anteroposteriorly in order to get an exact picture of the joint, and of comparing the injured with the uninjured joint.

Dr. HENRY PANCOAST of Philadelphia said that fractures of the head of the radius were far more common than was usually supposed, although only a few cases were recorded in the literature. He had had twenty cases.

Dr. K. DUNHAM of Cincinnati had found it very advantageous to take stereopticon skiagraphs of injured joints as well as the ordinary skiagraph.

Dr. GEO. H. STOVER of Denver, Colo., always made an anterior and posterior exposure of the joint and a stereoscopic picture because it gave a better idea of the relative anatomy of the joint than could be obtained in any other way.

Dr. M. K. KASSABIAN of Philadelphia made use of a small devise, an acute-angle splint, which was placed on the inside of the joint, the tube being on the olecranon side.

**Interpretation of Lung Negatives.**—Dr. GEO. E. PFAHLER of Philadelphia said that in order to study the lungs satisfactorily the negative must be made while these organs were at rest. A careful physical examination should precede the Roentgen examination to enable the radiographer to make a correct interpretation of shadows. The greatest field of usefulness of the Roentgen-ray in lung diseases was in the study of tuberculosis. Besides assisting in diagnosis, it was a most valuable and correct method of recording the lesion at the various stages of the disease. The plate was placed behind, and a second plate in front of the patient so as to give proper value to lesions lying near the surface and to recognize any thickening of the pleura. The patient was placed in the recumbent posture, except when a pleural effusion was suspected, when the patient was placed in a sitting posture. The tube was placed at a distance of 18 to 20 inches from the plate. The time of exposure would vary with the time that the patient could hold his breath. This time should be determined by testing the patient several times before attempting to make an exposure.

Dr. HENRY HULST of Grand Rapids, Mich., had found that macroscopic lesions of the lungs showed very well, also old lesions, but not recent lesions. He never exposed a chest for more than one second in order to get the detail of soft tissues. When lesions were present that the Roentgen-ray could record, the diagnosis was positive. A negative diagnosis was of only relative value. It did not exclude the existence of tuberculosis.

Dr. M. K. KASSABIAN of Philadelphia said that by means of stereoscopic pictures it was possible to distinguish consolidation from pleural thickening and from cavitation. It was better to take the picture with the patient lying on the side and not on the back.

**Diagnosis of Aneurysms.**—Dr. FREDERICK H. BAETJER of Baltimore gave the points in diagnosis between aneurysm and dilatation of the aorta. A pulsating shadow which did not disappear between pulsations was always suspicious. By means of the Roentgen-ray a diagnosis of aneurysm could be made earlier than by any other method, and the treatment could be begun earlier and could be planned more intelligently; hence the results were better. Before proceeding with the Roentgen-ray examination, the patient should be examined carefully to exclude physical deformities of the chest and spine. The patient was then placed with his back to the tube, the tube being placed at the level of the third rib, and from 20 to 24 inches from the skin surface. A second picture was made from in front. By means of transverse or slightly transverse illumination it was often possible to tell whether the object seen had its attachment in front or behind. This was especially important in determining whether the aneurysm sprang from the ascending or descending portion of the aorta. By making the examination at two different levels, a correct composite picture was obtained.

Dr. P. M. HICKEY of Detroit had found that the most disastrous results followed the disregard of the Roentgen-

ray diagnosis of aneurysm. When mistaken for tumor, an operation always proved fatal.

Dr. W. S. Newcomet of Philadelphia advocated fluoroscopy in the diagnosis of aneurysm. By means of the fluoroscope it was possible to see things that the skiagraph would not show. The main thing was to have a fluoroscope large enough to show the entire chest.

Dr. Geo. E. Pfahler of Philadelphia cautioned against exposing the body of both patient and operator needlessly to the Roentgen-rays when making use of the fluoroscope.

Dr. Henry Hulst of Grand Rapids, Mich., never made an examination of the chest without the use of the fluoroscope, although it did not agree with Dr. Newcomet. He considered the plate more accurate than the eye. It showed better detail and minute changes that were not visible to the eye, nevertheless in an examination of the lungs the fluoroscope was indispensable.

Dr. J. Rudis-Jicinsky of Cedar Rapids, used both the plate and the fluoroscope in every case.

**President's Address.**—Dr. Charles Lester Leonard of Philadelphia reviewed what had been accomplished with the Roentgen-ray since its discovery ten years ago, discussed its application in medicine, and indulged in a speculative discussion of the identity of the ray, its chemistry and physiological action. He said that improvement in technique and better knowledge of the action of the ray and its application would advance its usefulness.

**Regulation and Measurement of Therapeutic Dosage of Roentgen-ray.**—Dr. E. G. Williams of Richmond, Va., said that the more superficial the effect desired the closer the tube should be placed to the skin surface. He had found that about ninety minutes were required to produce an erythema on the surface, with a tube distance of ten inches, spark gap four inches equivalent to the resistance in the secondary circuit, and the milliamperemeter showing three-fourths of a milliampere. The safety limits were about 30 per cent. less than the number of minutes required to produce a decided erythema. The law of inverse squares helped in regulating the length of exposure and the distance of the tube from the surface. The closer the part was to the tube, the greater was the difference in the effect on the skin and the parts beneath, and inversely, the farther the part was from the part, the less was the difference between the effect on the skin and the part beneath. His rule was not to expose in ten days more than the number of minutes required to produce a dermatitis. He usually gave treatments in series of four to six exposures each, in which the sum total number of minutes equaled the number of minutes required to produce the desired effect. The tissue was also affected in proportion to the relative number of cells it contained. To measure and record a dose of the Roentgen-ray there should be noted the duration of the exposure, the distance of the surface from the platinum disk, the quivalent spark gap, and the reading of the milliamperemeter.

Dr. M. K. Kassabian of Philadelphia described the means adopted by French and German roentgenologists for determining the dosage of the Roentgen-ray, such as the use of fluorescent paper and capsules containing a fluorescent substance. His means of measuring was to keep a certain tube for certain kinds of work, and to make an exposure of a certain duration, always noting carefully the action of the ray on the skin.

Dr. G. P. Girwood of Montreal used varying thicknesses of lead foil to estimate the dosage of the ray.

Dr. Chas. Lester Leonard of Philadelphia advised studying the equation of the tube used as well as the personal equation of both patient and operator in order to avoid untoward effects.

**Technique of Roentgen Treatment of Keloids.**—Dr. O. Shepard Barnum of Los Angeles, Cal., advised using a great abundance of rays from a tube of rather high resistance, and excited by a large coil. That meant good penetration and differentiation. The tube should be at least six inches in diameter, and it must have good penetration and be not lacking in definition. He used a ray which would show the bones in the hand at twelve feet distance. He said that it was better to have the tube too high than too low. The tube distance should be from fifteen to twenty inches, with an exposure of fifteen to twenty-five minutes on alternate days for eight to ten treatments. After a rest of ten days or until one was convinced that there was no dermatitis, the process was repeated until the tumor had disappeared entirely. The treatment should be pushed for three to six months, and then tapered off until every vestige of the tumor had disappeared.

Dr. Henry Pancoast of Philadelphia advised first excising the tumor with the knife, whenever possible, and then treating with the Roentgen-ray.

Dr. Boggs and Dr. Williams agreed in this.

**Present Status of Radiotherapy.**—Dr. Gordon G. Burdick of Chicago said that there was no longer any question as to the specific field of the Roentgen-ray in all forms of acne, lupus, eczema, psoriasis, pruritus, tinea, sycosis, mycosis fungoides, senile keratosis, venereal condylomata, and hyperidrosis. Among the skin diseases that might be classed as erratic were lupus erythematosis, pigmented vascular nevi, hypertrichosis, and acne rosacea. Of the first mentioned about 18 per cent. were cured and about 30 per cent. improved. He had treated 80 cases of epithelioma involving the skin only, with no recurrence. When the tumor was situated at a mucocutaneous junction it was well to have the glands removed after a period of quiescence had been brought about by the *x*-ray. He followed this method in twenty-three cases with no recurrence after two years. He considered the Roentgen-ray sufficient treatment in the great majority of cases. The knife should be used only in such cases where the tumor was situated favorably for radical removal. In cases having the characteristic odor, he invariably anesthetized the surface and by means of the galvanic cautery drove into the tissue for a prolonged period of time zinc and mercury ions, following with the Roentgen-ray after the separation of the slough. Eighteen cases of carcinoma, treated vigorously with the Roentgen-ray, were cured; in fourteen the tumors and enlarged glands disappeared completely; in four they ceased growing. All primary cases should be rayed, excluding the knife. He did not believe in the existence of a case of sarcoma that could not be markedly benefited by a prolonged, mild radiation from an old hard tube, well coated with aluminum, the thickness depending on the individual circumstances existing in the individual case.

**Treatment of Carcinoma.**—Dr. Geo. C. Johnston of Pittsburg said that in carcinoma of the breast the application of a ray of sufficient intensity for a sufficient length of time was capable of causing a disappearance of the tumor and carcinomatous cell nests and their replacement by connective tissue, a proliferative, obliterative endarteritis, and a sclerosis of the lymph vessels and glands leading from the affected part. A course of radiation not to exceed ten treatments of twenty minutes each at a tube distance of eighteen inches was sufficient in the majority of cases to accomplish the desired result. A tube of fairly low vacuum should be employed, carrying a current not to exceed two and one-half milliamperes. On about the fifteenth day after operation postoperative treatment should be begun. Cases of extensive carcinoma might be rayed, operated upon, rayed again and freed from the disease, providing the surgeon and the roentgenologist cooperated thoroughly. Postoperative radiation was made directly over the wound through the dressings, the length of each exposure being ten minutes and treatment being given every other day for as long a time as may be necessary.

Dr. Henry Pancoast did not believe that very many cases of carcinoma of the breast recovered if there were metastases in the mediastinum.

Dr. Geo. E. Pfahler agreed with him.

**Late Results in the Treatment of Sarcoma.**—Dr. Wm. B. Coley of New York said that facts up to the present

time failed to show that the Roentgen-ray was curative of malignant growths, except those that were located superficially. No patient had yet remained free from a local or general recurrence for three years. The value of postoperative treatment was undetermined. The treatment of sarcoma by the Roentgen-ray had shown, in a small proportion of cases, that the tumor decreased in size and even disappeared in a few instances. In the small percentage of cases in which the tumor had disappeared, the universal tendency to recurrence and the danger of dissemination of the growth were sufficient reason for not advocating the method, expect in inoperable or recurrent cases.

Dr. J. Rudis-Jicinsky of Cedar Rapids, Ia., believed that the use of Coley's antitoxin precipitated the occurrence of metastases.

Drs. Bowen, Stevens, Burdick, and others reported favorable results in the treatment of sarcoma with the Roentgen-ray.

Dr. Vernon J. Willey of Ann Arbor, Mich., treated his patients for two to four weeks prior to operation, using a hard, low tube incased in a Friedlander shield, with good result. One patient treated entirely with the ray recovered after forty-two treatments with no recurrence a year later.

**Roentgen-ray in Carcinoma.**—Dr. Geo. H. Stover of Denver used a ray of good mellow quality that would penetrate the tissue. The ray might be allowed to affect the surrounding tissue to a reasonable distance, but should not be placed too near the skin because of the pressure of rays close to the woll of the tube that were of high destructiveness. All healthy parts should be protected. He rayed three times a week for ten minutes each time, the tube distance being eight to ten inches. He used shields on all treatment tubes. He advised Roentgen-ray treatment of primary non-operative and recurrent non-operative carcinomas. Where there was an equal chance between Roentgen and surgical measures, he advised operation first and the use of the ray afterward.

**The Roentgen-ray in Military Surgery.**—Dr. C. F. Stokes, U. S. N., described the equipment employed in naval hospitals and on board ship, and cited a number of cases in which the Roentgen-ray was used to good advantage.

**Treatment of Leukemia.**—Dr. J. F. Smith of Chicago added two cases to ten previously reported, and reviewed the results obtained in the entire series. The action of the Roentgen-ray seemed to be of two kinds, (1) the local influence on the spleen and glands characterized by inflammatory reaction, if treatment was pushed vigorously, and (2) the breaking down and disintegration of gland tissue and the formation of leucotoxin which either had an inhibitory action on the manufacture of leucocytes by the bone marrow or destroyed the leucocytes already formed. In no case did the splenic tumor disappear entirely. With a discontinuance of the Roentgen-ray, the disease returned after a variable interval. Acute cases were not benefited at all by the treatment; chronic cases responded more rapidly than subacute cases. The probability was that the ray held the disease in abeyance, but did not cure the patient.

**Roentgen Treatment of Hodgkin's Disease, Leukemia, and Polycythemia.**—Dr. Henry Pancoast of Philadelphia emphasizes the necessity of careful study of the effects of Roentgen-ray exposures on metabolism, particularly in connection with the treatment of the diseases under discussion. He had found that the effect of the Roentgen-ray on leukemic tissue was not the same as that on the skin in an *x*-ray burn or an epithelioma breaking down under treatment.

**Technique of Calculus Diagnosis.**—Dr. Russell H. Boggs of Pittsburg emphasized the necessity of being familiar with the densities that might appear on the plate and of being able to interpret them correctly. In over 200 cases examined there were only two unsatisfactory results. The diagnosis from the plate should never be attempted until the plate was perfectly dry. He said that it was not difficult to made a radiograph that would show the calcium oxalate and phosphatic calculi, but if the patient was large it required a great deal of accuracy to show the necessary detail and make a correct diagnosis. The Roentgen-ray was the most efficient means for diagnosing kidney stones, but experience in the use of the method was necessary to make it valuable. Two radiographs should be taken, and the shorter the exposure the better, because there was then no motion of the parts. When the rays were intense enough to make a picture in less than thirty or forty seconds, and the tube used was so much lower in vacuum, it would give greater detail and differentiation. The radiograph should be made while the patient held his breath, using a large amount of current with all the inverse discharge cut out. By using a rheostat in series with the primary of the induction coil, the milliamperage could be kept at a certain point. The bowels were emptied thoroughly first and no food or fluid was allowed for some time before the examination. The tube was placed about two inches from the plate.

Dr. Henry Pancoast of Philadelphia called attention to two sources of error in diagnosing kidney or ureteral calculi: (1) A deposit of salol in the bowel, and (2) the presence of phleboliths in the pelvic veins, both of which gave shadows resembling those thrown by calculi.

Dr. J. F. Smith of Chicago said that calcareous lymph glands and calcareous deposits in the pelvic ligaments had also been known to complicate the diagnosis of calculi.

Dr. Henry Hulst of Grand Rapids, Mich., mentioned a case in which a fracture of the transverse process of one of the lumbar vertebræ gave a shadow that was at first mistaken for a calculus until a full history of the injury that caused the fracture was obtained.

Dr. M. K. Kassabian of Philadelphia cautioned against mistaking calcified lymph glands around the lower portion of the ureter for calculi. He advised inflating the urinary bladder slowly as an aid to diagnosticating stones in the lower ureter.

Dr. Charles Lester Leonard of Philadelphia said that when there was a stone in the ureter there was always a passive enlargement of the kidney. That fact was an aid in making a diagnosis of stone in the ureter.

Dr. Sinclair Tousey of New York cited a case to illustrate that sometimes the stone was on the side opposite to the one indicated by the clinical symptoms. In such cases the Roentgen-ray was of great value in locating the stone. Radiographs for stone should include both kidneys and ureters in order to make such mistakes impossible.

**Treatment of Lupus and Rodent Ulcers.**—Dr. G. P. Girdwood of Montreal cited cases of tuberculous lupus in various stages and of varying duration, one case having existed for thirty-two years. All had been treated surgically and by applications but without avail. All had been cured by the Roentgen-ray or relieved to such an extent that a cure was almost certain in a comparatively short time. Where dermatitis was produced, healing went on more rapidly than in cases not burned, and it continued to go on without any further treatment. All his cases were treated at a distance of ten inches and for ten minutes at a time. The number of interruptions to the current was about three thousand per minute. The coils used were of the 18 and 30 inch variety; 110 to 220 V.; 2 to 6 A.; mechanical electrolytic break; no condenser, in most of the cases; 440 to 660 Watts.

**Treatment of Non-Malignant and Non-Tuberculous Skin Lesions.**—Dr. W. S. Newcomet of Philadelphia cited cases to show that in most cases of these kinds the Roentgen-ray was beneficial.

**Pathological and Physiological Effects of Roentgen-Rays.**—Dr. J. Rudis-Jicinsky of Cedar Rapids exposed guinea pigs and rabbits to intense radiation daily, first for ten seconds, and later for ten minutes, with a tube distance of six inches or less. After twenty exposures the guinea pigs partly lost their hair, and after thirty-four exposures there were two cases of bad necrobiosis, the condition being

aggravated when a very low tube was used backed by a spark gap of four inches and a very strong current. The longer this procedure was carried out, the lower became the resistance of the animals. Two of the animals were examined post mortem, and the findings were described at length. There were degeneration in the posterior horns and tracts of the spinal cord gray matter, hemorrhages in the cord and fibrous hyperplasia in the skin and the walls of the blood-vessels. Usually after a few exposures, even when the skin was intact, there was found a more or less profuse exudate of a clear, lemon-yellow fluid of a specific gravity of about 1.060, distinctly alkaline in reaction, which crystallized readily on exposure to the air, and when injected subcutaneously into mice, this fluid invariably produced death within forty-eight hours. It irritated healthy skin, acting as a coustic. The healing process began with the diminution of this fluid.

Dr. Geo. E. Pfahler of Philadelphia exhibited an *x*-ray filter consisting of a disk of sole leather about six inches in diameter and four times the thickness of the skin. A piece of pure silver might also be used. This disk was placed directly over the opening in the diaphragm. It effectually prevented tanning or burning of the skin. The leather disk was soaked in water before being used so as to resemble skin as closely as possible.

Dr. Henry Hulst used tin foil, aluminum, or some other substance for a filter, selecting the substance to be used with reference to the effect he desired to obtain.

Dr. Geo. H. Stover of Denver used aluminum foil.

Dr. F. F. Strong of Boston neutralized the superficial effect of the Roentgen-ray by exciting the Crooke's tube by means of Tesla's high frequency currents, ionizing the area in the vicinity to be treated. Since he had been using this method he had been able to treat deep seated tumors effectively without producing a burn. He also demonstrated a unipolar Roentgen-ray tube to be used for treating lesions situated on the walls of cavities and for treating the center of tumors.

Dr. G. C. Johnston of Pittsburg exhibited a new mercury interrupter.

Dr. Burdick showed a developing machine run by water power.

**Officers.**—The following officers were elected for the ensuing year: *President,* Henry Hulst, Grand Rapids, Mich.; *Vice-Presidents,* Russell H. Boggs, Pittsburg, C. E. Skinner, New Haven, Conn., E. G. Williams, Richmond, Va., and E. W. Caldwell New York; *Secretary,* Geo. C. Johnston, Pittsburg; *Treasurer,* L. E. Custer, Dayton, O.; *Executive Committee,* K. Dunham, Cincinnati, P. M. Hickey, Detroit, and J. F. Smith, Chicago.

Chicago was selected as the next place of meeting in 1906.

## NEW YORK ACADEMY OF MEDICINE.

### Section on Medicine.

*Stated Meeting, May* 16, 1905.

Dr. Charles H. Lewis, Chairman.

**Caput Medusæ.**—Dr. Lewis presented this case for Dr. Morris Manges. The patient was a man about forty years old, with cirrhosis of the liver and ascites, for the relief of which he had been tapped once. There was marked enlargement of the superficial veins of the abdomen—the so-called caput Medusæ. A loud venous hum was heard over the abdomen.

**A Case of Retrohepatic Abscess.**—Dr. David Bovaird reported this case. The patient was a man, 18 years old, who was formerly a plumber's assistant, but for the past two years had worked as an engine oiler. He had always lived in New York. His family history was negative. The patient was not addicted to the use of alcohol or tobacco, and denied venereal infection. He remembered no acute disease, but for several years he had suffered from palpitation of the heart and dyspnea on exertion. Three months ago he was compelled to give up his work because of general abdominal pains, most marked in the umbilical region. Sometimes they shifted to the right side if he slept on that side. Occasionally, they came on after eating, and were associated with bloating. His bowels were usually constipated. His appetite remained good, but he had lost 20 pounds in three months. For the past three weeks he had wakened almost every night feeling chilly, and wet with a cold sweat, followed by fever. During the first week of his illness he had vomited frequently after meals; the vomiting was apparently not related to the pains, and was not attended by nausea. When the patient was admitted to the Presbyterian Hospital, on November 23, 1904, he appeared to be fairly well nourished. There was no anemia. Heart and lungs normal. The area of liver dullness was enlarged, and there was marked rigidity and pain in the epigastrium, especially on the right side. The right kidney was palpable. On December 5 an area of liver flatness was made out beginning at the sixth intercostal space, and extending to the level of the umbilicus. There was tenderness over this area, and also over a corresponding area on the left side. There was also marked tenderness posteriorly, just to the right of the spinal column. The urine was normal. On December 22 the patient was transferred to the surgical division, and was operated on by Dr. A. J. McCosh. The abdomen was opened anteriorly, where nothing abnormal was found after careful exploration. Finally, however, he detected a mass behind the liver, which proved to be an abscess. This was evacuated and drained, and for a day or two the patient progressed favorably; then he had a profuse hemorrhage, evidently from the liver, and subsequently died from exhaustion. At the autopsy it was found that the abscess cavity lay distinctly behind the liver, and had burrowed into the posterior surface of that organ to the extent of almost two inches. The primary focus of the infection could not be found. Cultures made from the pus showed staphylococcus pyogenes aureus. The case was interesting, Dr. Bovaird said, on account of the protracted history of the case (about four months); the relative absence of any focal symptoms at the time of admission; the rather characteristic temperature chart of septic infection; the relative low leucocyte count, which only once reached 18,000 and usually ranged between 9,000 and 11,000; the location of the abscess, being behind the liver, and, finally, the absence of any primary focus or explanation of the abscess in that location.

Dr. Theodore C. Janeway thought that a low leucocyte count in liver abscess was not as uncommon as in other suppurative processes. He could recall such cases, and quite a number were on record.

Dr. E. Libman said that he too had seen a low leucocyte count in liver abscess, particularly in the amebic cases, where the process was really one of necrosis. In other types of cases, the leucocyte count depended on the stage of the disease, and was probably high in the beginning. The location of the abscess in the case reported by Dr. Bovaird was rather unusual, but rather down, behind the kidney, they were not so infrequent.

**A Case of Infective Cholangitis.**—Dr. Walter A. Basteo reported this case for Dr. H. S. Patterson.

**Epidemic Cerebrospinal Meningitis.**—Dr. John S. Billings, Jr., said that during the past forty years there had been four epidemics of cerebrospinal meningitis in this city. The first, and up to the present one the most severe, was that of 1872, when there were 782 deaths, a death rate of 8.70. In 1881 and 1893 the epidemics were not so severe, the number of deaths being, respectively, 461 and 469, and the death rates 3.70 and 2.67. The present epidemic, the severest one in the history of the city, began in the early months of 1904, and had continued into the present year. During 1904 there were 1,083 deaths, a death rate of 4.85. The winters of 1872, 1881, 1893, and 1904 were what were known as "hard winters," being cold, with considerable

snow. Each epidemic had lasted two years, and the present epidemic, contrary to the previous ones, had increased in severity during the second year. The disease had occurred among the poorer, but not the poorest classes. Dr. Billings then detailed the work of the Department of Health in connection with the present epidemic of cerebrospinal meningitis, and stated that on April 19th of the present year, it was first declared a contagious disease, with enforcement of quarantine, isolation of the patient, exclusion of other children from school, and disinfection of the premises and bedding on the termination of the disease. Previous to that date it had been classed as a communicable disease, but no attempt had been made to enforce the reporting of cases. A special history blank was also arranged, on which all the most important facts in connection with each case were recorded, and thus far 424 such completed histories had been turned in. The total mortality rate thus far this year had been 68 per cent. In the 424 cases tabulated, 59 proved not to be cerebrospinal meningitis, and by eliminating those, the mortality was 91 per cent. The majority of the cases occurred in males (56 per cent.). Sixty cases occurred under the age of one year, one case being reported at the age of five days. Five cases occurred in persons over fifty years, the eldest being 68 years. The greatest number occurred between the ages of one and five years (124). Of the 365 true cases, 299 lived in tenements. In a large number of cases there was a history of dirty halls, yards, and streets. In only 27 instances were parasites (bedbugs, pediculi, fleas, etc.) found, and in 40 instances there were animal pets on the premises (dogs, cats, parrots, etc.). In only 48 cases was there a history of other cases of the disease in the house or immediate neighborhood. In only 24 instances was there a history of direct exposure to the disease In 40 cases there was a history of inflammatory or catarrhal changes in the throat, nose, or mouth preceding the onset of the disease; 346 out of the 365 were said to have been in good health on the onset of the disease. The most constant symptom was the stiffness of the neck, occurring in 349 cases; next, severe headache (328); vomiting (326); convulsions (245). The adult cases usually failed to show convulsions. Petechial eruptions were present in 98 cases, and herpes, usually labial, in 41 cases. A nasal discharge was said to have been present in only 52 cases. Kernig's sign was noted in 217 instances, and was probably overlooked or not sought for in almost all the remainder; in only seven cases was it stated to have been absent. Leucocytosis was always present in the 42 cases in which the blood was examined; it varied from 15,000 to 35,000. The most frequent complication was that of the eyes. Lumbar puncture was performed in 113 cases, and examination of the spinal fluid showed the presence of the meningococcus in 78 instances. The treatment was usually symptomatic. The majority of deaths (47) took place on the second day, the cause of death usually given being coma and exhaustion. There were 31 complete recoveries; 19 cases recovered during the first three weeks. Diphtheria antitoxin was given in 62 cases; of these, 50 died (89 per cent.); 6 recovered, and in 6 the outcome was still uncertain.

Dr. Charles Bolduan discussed the modes of infection. He stated that so far as the bacteriology of the disease was concerned, the best statistics showed that about 75 per cent. of the epidemic cases were associated with the meningococcus, 15 per cent. with the pneumococcus, and the remaining 10 per cent. with various other organisms. Various parasites had been suggested in connection with the transmission of the disease. So far as mosquitos and flies were concerned, it would suffice to say that the disease occurred in this section during a season when these insects were practically absent. Against fleas and bedbugs it might be said that, although the disease was far more prevalent among poor and dirty people, it often occurred in homes in which vermin was practically unknown. Another and more weighty argument against this mode of transmission was the fact that the meningococcus was not regularly found in the blood of patients at all times. There was at present no evidence to support the assumption that the disease was transmitted by dogs, cats, or other household pets. It also seemed improbable that the disease was transmitted by dust, etc., as the meningococcus was very easily killed by drying and exposure to sunlight. Dr. Bolduan said he had failed to find any record of "house infections," meaning by that instances in which a case of cerebrospinal meningitis occurred in one family, that family then moving out, and the disease breaking out in another family moving into the same quarters. In the cases reported in the literature to show communicability of the disease, one usually found quite an intimate contact between the primary and secondary case, or cases. In the present epidemic in New York, there were forty-eight instances in which two or more cases occurred in one house. These had all been carefully investigated, and in thirty of the forty-eight places visited the interval between the cases, together with the surrounding circumstances, were such as to indicate strongly that the later case, or cases, had been infected by the earlier. Attention had been called to the occurrence of cerebrospinal meningitis in horses and cattle, but competent observers had stated that the disease in horses and cattle was entirely distinct from that in man. For the present, it might be said that only one mode of transmission had any real evidence in its favor, namely, through the nasal secretion of patients and of persons in direct contact with them. This did not mean that other modes of infection did not obtain.

Dr. Mary E. Goodwin gave the result of some laboratory investigations in connection with cerebrospinal meningitis. In forty-three cases of the disease in which the nasal secretion was examined, they found what they considered to be the meningococcus. In two of the forty-three they also found a micrococcus which differed somewhat in its growth from the meningococcus. In the nasal secretion of fifty-one persons who had been in contact with cases of cerebrospinal meningitis, the probable meningococcus was found in five. In twenty-three normal persons examined, an organism that seemed like the meningococcus was only found in a single instance. Twenty cultures were made from the spinal fluid of cerebrospinal meningitis cases, and there was no distinct difference between these and the nasal cultures, although the cord cultures varied among themselves even more than did the nasal cultures. Some grew more readily than others, or seemed to be more viable, or took a deeper stain. In order to test the virulence of these cultures, the best results were obtained with young puppies and white mice; in these animals the injections gave quite a good picture of cerebrospinal meningitis, with rigid neck, numerous convulsions, and death within twenty-four or forty-eight hours. These symptoms and results could be obtained by using either the nasal or cord cultures.

Dr. Charles E. Nammack said it would be very hard to convince him of the communicability of cerebrospinal meningitis by personal contact. He had seen patient after patient brought into the wards at Bellevue Hospital and placed in beds adjoining others with croup, pneumonia, and other diseases, and he did not recall a single case of hospital infection. In times of epidemic, the speaker thought there was very little danger of having the disease overlooked. On the contrary, physicians were too apt to classify other diseases, particularly the cerebral type of pneumonia in children, under that head. The same error might readily be made with cerebral typhoid, although that disease was not prevalent this time of the year. There were also other types of meningitis to be distinguished from the epidemic cerebrospinal type. As regarded the mortality, it apparently varied widely in different hospitals. In Bellevue Hospital, from the 1st of January, 1905, to the 10th of May, 1905, seventy-eight cases were received. Thirty-three of these were still in the hospital, and the final outcome in them was uncertain. Of the forty-five, forty had died and five had left the hospital cured, a mortality of 89 per cent. These cases included both children and adults. The first eighteen were treated by the expectant method, and all had died but

one. After that, Dr. Nammack said, the physicians were requested to give the diphtheria antitoxin treatment a fair trial, and he considered it one of the most cruel delusions that had been foisted upon the medical profession since the early days of tuberculin. It was not only expensive, but absolutely useless. The speaker said the one measure that seemed to give the patient the most comfort and best relieved the objective symptoms was the hot baths in the early stage of the disease.

Dr. Lewis A. Conner said that during the past ten years over two hundred cases of epidemic cerebrospinal meningitis had been treated at the New York and Hudson Street Hospitals, and during that period there had never been a single instance of hospital transmission. As regarded the diagnosis of the disease, the most difficult cases to recognize were the fulminant cases, the patients being in a condition of deep coma or wild, maniacal excitement. In the latter cases, the symptoms resembled uremic manifestations. As regarded the treatment of the disease, daily lumbar puncture had given him the most satisfactory results.

Dr. William H. Park said that, so far as he knew, there was no bacteriological or other reason for the use of diphtheria antitoxin in the treatment of cerebrospinal meningitis; the New York Health Board had never encouraged its use, but had been forced to give it a trial by the pressure of physicians. In times of epidemic, the disease was chiefly due to the meningococcus, while a certain number of the cases were the result of pneumococcus or other infection. As to the importance of the micrococcus catarrhalis in that connection, Dr. Park said that this organism had given rise to a great deal of discussion among pathologists, and its exact status was still unsettled. There were a number of organisms which resembled the meningococcus rather closely, and which might readily be mistaken for it, and authorities differed regarding the true identity of some of these micrococci. As to the communicability of epidemic cerebrospinal meningitis, Dr. Park said he did not think any one believed the disease was contagious in the sense of the exanthemata; it had simply been put under the head of contagious diseases by the Health Board so that the cases would be reported. As to the mode of infection, it was necessary for the meningococcus to find some way of entrance, and careful investigation had shown that in fully one-half, and probably two-thirds, of the cases the organism was present in great numbers in the nasal secretion during the early stage of the disease. After the fourteenth day it became comparatively rare. It was also occasionally found in the nasal secretion of those who came in contact with the patients, and in a few instances it was found in those who had not been in direct contact with the sick. The nasal secretion was the only known way in which the organism was apparently disseminated, and in those who developed the disease the germ must have found some way of passing from the nostril to the meninges. There was every reason to believe that it was wise to look after the nasal secretions of these patients during the first two weeks of the disease, and this also applied to those who were directly in contact with the sick.

Dr. F. S. Fielder, with the aid of a skeleton spine, demonstrated the method of lumbar puncture. He stated that in cases where repeated punctures were contemplated, it was advisable to make the primary puncture low down, so that "dry taps" could be avoided by going higher up, if necessary, in case adhesions formed.

Dr. O. M. Leiser said that while the disease could not be regarded as contagious in the sense of the acute exanthemata, he saw no harm in fumigation as a precautionary measure. In doubtful cases, especially in the fulminant type occurring in tenement houses, he would advise lumbar puncture to establish the diagnosis, if necessary, after death.

Dr. Edmund Le Roy Dow said the treatment by means of hot baths, to which Dr. Nammack had referred, could not well be applied to children, as they did not like them, and struggled so that the baths did them more harm than good. At Bellevue Hospital they had recently obtained beneficial results by placing the patient in a semi-upright position, thus reducing the intracranial pressure. The benefit obtained from spinal tapping had been more marked in the advanced than in the recent cases.

Dr. Thomas Darlington said the communicability of epidemic cerebrospinal meningitis had not been definitely settled, although he did not think there was any question that it was communicable from the nasal discharges and possibly in other ways, and that there was sufficient evidence to treat it as a communicable disease. He asked the cooperation of the profession in promptly reporting cases, as an aid in the collection of scientific data on the subject. A Commission had been appointed by the Health Department to investigate the disease, and their report would shortly appear in the medical press.

Dr. Charles H. Lewis spoke in favor of the hot bath in the treatment of disease, particularly in adults. It had the effect of quieting the symptoms, so that the patients were anxious to have it given. Children were not so anxious for it.

## Philadelphia County Medical Society.

At a stated meeting held September 13 Dr. Maurice Ostheimer read a paper entitled "A Note Upon Anorexia in Infants in Hot Weather." In the course of several summers he had observed about a dozen children, always under two years of age, seemingly in good condition, who suddenly or gradually began to lose appetite, without even slight symptoms of gastrointestinal derangement. When the condition persisted, the infants naturally lost weight. In the absence of an obvious cause, the disorder must be considered a functional derangement of the digestive tract. The symptoms subsided with the passing of the heated term. In some of the cases all food was withheld for a time, and barley water was given, followed by whey, with a gradual increase in the strength of the milk mixture. In others the strength of the food was more rapidly increased until the baby received a decidedly stronger mixture than it had been taking. Neither plan, however, seemed to be of much avail until the advent of cooler weather. Dr. William B. Stanton read a paper entitled "Rest and Exercise in Tuberculosis." He held that the modern treatment of tuberculosis might be considered under three headings: (1) Abundant and nutritious food; (2) a maximum amount of fresh air; (3) careful regulation of exercise. He pointed out further that while the value of exercise in properly selected cases was great, the harm done by injudicious exercise in acute cases was infinitely greater. The problem in each case was how best to obtain a state of normal or even supernormal nutrition. The amount of exercise to be permitted a tuberculous patient depended upon the temperature, the pulse rate, the respiratory rate, the degree of emaciation, the existence of complications on the part of the heart, kidneys, intestines, pleura, bladder, etc. A constant temperature above 100° was indicative of an acute and progressive process, and demanded absolute rest in bed. Ordinary remittent temperature, normal or subnormal in the morning and elevated in the afternoon, required rest in bed if the afternoon elevation was above 101 degrees. If the afternoon rise was only to about 100 degrees the patient might be permitted to be out of bed the greater part of the time, but not to take any formal exercise. When the evening temperature was under 100° exercise might be begun, if other conditions were favorable, and be gradually increased. When the pulse-rate was 120 or more in the morning the patient should be kept at absolute rest in bed; if 110 or less, he might be permitted to be up a part of the day, if other conditions were satisfactory; when the pulse was less than 100, exercise might be begun and be gradually increased. As a rule, when the respirations were more than 30 a minute with the patient at rest, exercise should not be permitted. When the patient was greatly wasted, even though the temperature and other phenomena were satisfactory, exercise should not be permitted. The

patient might be out of bed for the greater part of the time, but he should sit or recline out of doors until the weight showed a sufficient increase. At least two hours daily should be spent lying down. All tuberculous patients should have nine hours' sleep. Depressing complications required increased rest. The most common form of exercise, walking, was one of the best for tuberculous patients, and it was one of the easiest to regulate. Beginning with ten or twenty minutes daily, the exercise might be increased five minutes daily until the patient was walking for hours at a time. At first the walk should be on level ground, and be taken slowly. Intercurrent elevation of temperature or acceleration of pulse indicated a diminution or an omission of the exercise. After the patient could take a full two hours' walk on the level without disturbance of pulse or temperature, gentle elevations might be attempted. In institutions certain duties could be assigned to each patient, the length of time employed and the arduousness of the work being proportioned to the individual ability.

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Medical Society of City Hospital Alumni of St. Louis. At the stated meeting held September 7, Dr. John Green, Jr., read a paper entitled "Glaucoma Simplex in a Young Woman Associated with Myasthenia Intestinalis." He reviewed a case of glaucoma simplex in a young woman who, at the same time, was severely constipated as the result of myasthenia intestinalis. Miotics failing to check the progress of the ocular disease, treatment directed to the constipation was instituted. Concomitant with the improvement in the general condition was observed an improvement in central vision, a widening of the visual field, and the disappearance of asthenopic symptoms. In the absence of hereditary tendency to glaucoma the assumption of the existence of an immediate etiological relationship between the general disorder and the ocular disease seemed justifiable.

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## New Instruments.

### NEW HIGH POTENTIAL HIGH FREQUENCY "CATAPHORIC" ELECTRODE OR PHORIC MEDICAMENTAL ELECTRODE.

By WILLIAM J. MORTON, M.D.,
NEW YORK.

The cut illustrates a new High Potential High Frequency Electrode designed to secure the introduction into the living tissues of any medicament by means of the electric pressure and directional flow of high potential currents. The term "cataphoric" by usage holds its own, but results may also be due to anaphoric action. The term "phoric medicamental electrode" would probably be preferable.

The same electrode may also be utilized as a fluorescent electrode as described later on.

The cut illustrates an ordinary model of Geissler tube now commonly used for the administration of the so-called high frequency currents, more properly described in most instances as a high potential current. The innovation upon this familiar form of the electrode consists in surrounding its edge, by the glass blowers' process, with an elevated circular and inverted lip about 1-16 to ⅛ of an inch high. Together with the flat floor of the bulb the lip forms a shallow cup into which may be set at will disks of asbestos, pasteboard, or other porous material. The porous material is now saturated with the medicine desired to be introduced through the patient's skin or mucous membranes, and the electrode is applied to the part of the body desired.

Medicaments thus used may be detected quickly in the patient's saliva, blood, and urine. I subjoin one recipe which I have found extremely useful in the treatment of tuberculous glands and local and general tuberculosis, goiter, etc., by this method:

| | | |
|---|---|---|
| ℞ | Spt. Terebinthæ | ʒii |
| | Tinct. Iodinæ | ʒi |
| | Creosote | ʒss |

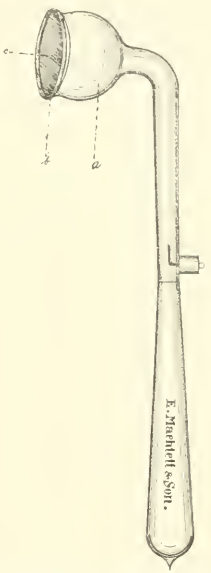
S. External use.

This mixture makes a colorless solution. If it causes too much irritation of the skin it may be diluted with castor oil, olive oil, or liquid albolene.

Another recipe I have found useful is

℞ Spts. Terebinthinæ ʒii
Thymol to make saturated solution.

The same principle of the close application of porous material to the electrode can of course be applied to any shape and form of vacuum electrode and many modifications applicable to different localities to be treated have been used by the writer, particularly a tubular electrode about which the porous material is wrapped. Throat, vaginal, and rectal electrodes are easily constructed. I have used such electrodes for producing local anesthesia, employing guaiacol one drachm, cocaine muriate five grains. (This solution




High Potential High Frequency Phoric Medicamental Electrode: *a*, Vacuum bulb Geissler type; *b*, raised and inverted lip of glass forming a shallow cup holding a disk of asbestos or other porous material; *c*, asbestos or other porous material saturated with medicament desired to be introduced by phoric action or serving as a fluorescent disk.

I had previously used for producing electrococaine, local anesthesia by the aid of the galvanic current.) Also to introduce mercurial salts, iodide of potassium, antiseptics, such as salicylates, and thymol in affected joints, and to introduce medicaments for the treatment of lupus, local tuberculosis, and cancer. I also use this electrode to excite fluorescence of fluorescing substances absorbed by the porous material. The ultra-violet rays of the electric discharge act as the exciting agency to the fluorescing solutions. Furthermore, I employ fluorescing solids in a finely pulverized or crystalline form, as may be the case, prepared on disk-shaped screens which fit the vacuum tube electrode.

The method of phoric introduction of medicines promises to have a very considerable vogue and produce important results in electrotherapeutics, and it is believed that the practical electrode above described will greatly aid practitioners. The electrode is made by Machtett & Son, 143 East Twenty-third street.

19 East Twenty-eight Street.

## Books Received.

*While the* Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

A Text-Book of Anatomy. By Dr. Cunningham. Second Edition. 4to, 1,312 pages, illustrated, muslin. William Wood & Company, New York. Cloth, $6; leather, $7. half morocco, $8.

The Inn of Rest. By Charles Wells Moulton. Volume Seven of the Doctor's Recreation Series. 4to, 267 pages, illustrated, muslin. The Saalfield Publishing Co.

Transactions of the Medical Society of the State of New York. Published by the Society for the year 1905. 8vo, 361 pages, muslin.

A Text-Book of Hygiene and Public Health. By Drs. Whitelegge and Newman. New Edition. 16mo, 620 pages, illustrated, muslin. W. T. Keener & Co., Chicago, Ill. Price $1.75 net.

A Text-Book of Clinical Methods. By Drs. Hutchison and Rainy. Ninth edition. 16mo, 621 pages, illustrated, muslin. W. T. Keener & Co., Chicago, Ill. Price $2.50 net.

A Manual of Chemistry. By Drs. Luff and Page. Third Edition. 16mo, 538 pages, illustrated, muslin. W. T. Keener & Co., Chicago, Ill. Price $1.75 net.

Biographic Clinics. By Dr. George M. Gould. Volume 3. 12mo, 500 pages, illustrated, muslin. P. Blakiston's Son & Co., Philadelphia, Pa. Price $1.00.

A Text-Book on Indigestion. By Dr. George Herschell. Third Edition. 8vo, 282 pages, muslin. W. T. Keener & Co., Chicago, Ill. Price $1.50 net.

A Text-Book of Practical Therapeutics. By Dr. R. A. Hare. Eleventh Edition. 8vo, 820 pages, illustrated, muslin. Lea Brothers & Company, Philadelphia and New York.

A Treatise on Diagnostic Methods of Examination. By Prof. Dr. Hermann Sahli. Edited with additions by Francis P. Kinnicutt, M.D., and Nat'l Bowditch Potter, M.D. Authorized Translation from the Fourth German Edition. 8vo, 1,008 pages, illustrated, muslin. W. B. Saunders & Co. Philadelphia. Price, $6.50 net.

Dissecting Manual Based on Cunningham's Anatomy. By W. H. Rockwell, Jr., M.D. 8vo, 306 pages, flexible muslin. Wm. Wood & Co., New York. Price, $2.00 net.

Laboratory Manual of Physiology. By Frederick C. Busch, B.S., M.D. 8vo, 206 pages, illustrated, flexible muslin. Wm. Wood & Co. New York. Price, $1.25 net.

Fifty and One Tales of Modern Fairyland. By F. Strange Knolle, M.D. 8vo, 270 pages, illustrated, muslin. The Grafton Press, New York. Price $1.50.

Beiträge zur Klinik der Tuberkulose. Herausgegeben von Dr. Rudolph Brauer. Band. iv. Heft 2. 8vo, pp. 113-226, paper. A Stuber, Wurzburg, Germany.

Transactions of the Twenty-seventh Annual Meeting of the American Laryngological Association. Held at Atlantic City, N. J., June 1, 2, and 3, 1905. 8vo, 360 pages illustrated, muslin.

International Clinics. By various authors. Vol. III. Fifteenth Series 1905. 8vo, 302 pages, illustrated, muslin. J. B. Lippincott Company, Philadelphia.

The Medical Diseases of Egypt. By F. M. Sandwith, M.D., F.R.C.P. Part I. 8vo, 316 pages, illustrated, muslin. Henry Kimpton, London. Price, 7/6.

Le Poignet et les Accidents du Travail. Par le Docteur Destot. 12mo. 136 pages, illustrated, paper. Vigot Frères, Paris.

L'Acide Formique et la Force Musculaire. Par le Docteur Clément. 8vo, 139 pages, illustrated, paper. Vigot Frères, Paris.

Gray's Anatomy, Descriptive and Surgical. New American Edition. By John Chalmers DaCosta, M.D. 4to, 1,546 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia.

Technique du Traitement de la Luxation Congenitale de la Hanche. Par Dr. F. Calot. 8vo, 283 pages, illustrated, paper. Masson et Cie., Paris.

Manual of Pathology. By W. M. Late Coplin. Fourth Edition. 8vo, 946 pages, illustrated, muslin. Price, $4.00, net. P. Blakiston's Son & Co., Philadelphia.

Year Book of the Medical Society of Greater New York. P. Brynberg Porter, Editor. 12mo, 197 pages, muslin.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 11, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 155 | 8 |
| Diphtheria and Croup | 275 | 22 |
| Scarlet Fever | 96 | 5 |
| Smallpox | .... | ..... |
| Chickenpox | 62 | ..... |
| Tuberculosis | 335 | 160 |
| Typhoid Fever | 105 | 12 |
| Cerebrospinal Meningitis | 13 | 7 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | .. ... |
| Totals | 1,041 | 214 |

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, Public Health and Marine Hospital Service, during the period from November 4 to November 11,

SMALLPOX—UNITED STATES.

| | | Cases. | Deaths. |
|---|---|---|---|
| California, San Francisco | Oct. 21–28 | 5 | .. |
| Louisiana, New Orleans | Oct. 21–28 | 5 | .. |
| Michigan, Kalamazoo | Oct. 27–Nov. 4 | 2 | .. |
| Ohio, Springfield | Oct. 26–Nov. 3 | 1 | . |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Africa, Cape Town | Sept. 16–23 | 1 | .. |
| Brazil, Para | To Oct. 14 | 50 | 14 |
| Rio de Janeiro | Sept. 17–Oct. 8 | 36 | 9 |
| Canada, Toronto | Oct. 28–Nov. 4 | 1 | .. |
| Chile, Antofagasta | Oct. 14 | 65 | 18 |
| Coquimbo | Oct. 14 | 15 | 5 |
| Iquique | Sept. 30–Oct. 7 | 23 | 5 |
| Cuba, La Salud | Oct. 28 | .. | 1 |
| | | Case imported from Canary Islands. | |
| Ecuador, Guayaquil | Oct. 3–17 | .. | 12 |
| Great Britain, Liverpool | Oct. 14–21 | 7 | .. |
| India, Madras | Sept. 30–Oct. 6 | . | 3 |
| Italy, General | Oct. 12–19 | .. | 16 |
| Catania | Oct. 5–12 | .. | 2 |
| Mexico, City of Mexico | Aug. 26–Oct. 21 | 26 | 12 |
| Russia, Odessa | Oct. 7–14 | 8 | 1 |
| Spain, Barcelona | Oct. 10–20 | .. | 4 |
| Turkey, Constantinople | Oct. 1–15 | .. | 6 |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Florida, Pensacola | Aug. 29–Nov. 3 | 555 | 78 |
| Louisiana, Assumption Parish | To Oct. 21 | 48 | 2 |
| East Carroll Parish | To Oct. 26 | 341 | 41 |
| Iberia Parish | To Oct. 21 | 14 | 1 |
| Jefferson Parish | To Nov. 3 | 507 | 55 |
| Lafourche Parish | To Nov. 3 | 447 | 60 |
| New Orleans Parish | July 21–Nov. 8 | 3389 | 459 |
| Mississippi, Vicksburg and vicinity | Aug. 30–Nov. 4 | 180 | 27 |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | Sept. 17–Oct. 8 | 9 | 3 |
| Ecuador, Guayaquil | Oct. 10–17 | . | 1 |
| Honduras, Choloma | Oct. 17–24 | 3 | 1 |
| San Pedro | Oct. 17–24 | 2 | .. |
| Mexico, Coatzacoalcos | Oct. 22–28 | 1 | .. |
| Omealca | Oct. 22–28 | 4 | 4 |
| Tezonapa | Oct. 22–28 | 1 | 1 |
| Tierra Blanca | Oct. 22–28 | 1 | 1 |
| Tuxtepec | Oct. 22–28 | 7 | 6 |
| Vera Cruz | Oct. 22–28 | 2 | .. |
| Panama, Bocas del Toro | Oct. 14–21 | 2 | .. |
| Venezuela, Maracaibo | Aug. 20–27 | 1 | 1 |

CHOLERA.

| | | | |
|---|---|---|---|
| Germany, General | To Oct. 21 | 280 | 90 |
| India, Madras | Sept. 29–Oct. 6 | .. | 119 |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Hawaii, Honolulu | Oct. 30 | .. | 2 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | Sept. 17–Oct. 8 | 37 | 17 |
| India, General | Sept. 16–23 | 4095 | 3192 |
| Bombay | Oct. 3–10 | .. | 26 |
| Karachi | Oct. 1–8 | 19 | 18 |
| Peru, Lima | Sept. 21–30 | 4 | 2 |
| Mausche | Sept. 21–30 | 3 | 2 |
| Paita | Sept. 21–30 | 3 | .. |
| Zanzibar, Zanzibar | Oct. 28 | Present. | |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 22.
Whole No. 1829.

NEW YORK, NOVEMBER 25, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### DIFFERENTIAL DIAGNOSIS OF ECTOPIC GESTATION.*

BY

BROOKS H. WELLS, M.D.,

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BEFORE the appearance in 1876 of Parry's classical monograph on extrauterine pregnancy little was definitely known and little attention was paid to the condition. From time to time reports appeared of lithopedion, of extruded fetal bones, of full-term fetuses found in the cavity of the abdomen at autopsy, but the far more numerous cases where death resulted from an early rupture of an ectopic fetal sac were mostly recorded as deaths from accidental rupture of a blood vessel in the pelvic cavity or from hematocele. Dr. Parry, I believe, had been coroner's physician in Philadelphia, and so had his attention forcibly drawn to the number of deaths which his autopsy-knife showed to be due to hemorrhage from ruptured gravid tubes. He collected from various sources 500 cases of extrauterine pregnancy and showed that in this series over 50 per cent. of the deaths had occurred as the result of hemorrhage from the early rupture of the tube. At this time abdominal section had been suggested for early rupture with hemorrhage, but no person had yet performed the operation, partly because of the fear of opening the peritoneal cavity, and partly because of the great uncertainty of the diagnosis.

Parry's paper drew the attention of the whole medical world to the importance of the condition, and reports of cases began to appear more frequently in the literature of the day. Diagnosis was hesitant and uncertain unless the pregnancy was far advanced, and even as late as 1889 so great an authority as Lawson Tait said, "No authentic description exists of an unruptured tube pregnancy." In the next year Baldy read a paper before the American Gynecological Society, in which he showed the possibility of a diagnosis before rupture.

The early treatment was as uncertain as the diagnosis. Injections of poisonous drugs in the fetal sac, and especially the killing of the fetus by electricity, were urged. By 1885 a number of abdominal sections had been done. In 1887 Janvrin, of New York, at a meeting of the American Gynecological Society, where nearly all the speakers were in favor of electricity, strongly advised abdominal section as the only and proper treatment. Three years later this method of dealing with the condition was practically universally recognized. From that time to the present the number of reported cases has become enormous, and what was thought to be excessively rare has, because of more certain recognition, become common. The supposed difficulties in diagnosis and operation have been in most part swept away by the flood of accumulated experiences.

*Part of a discussion on Ectopic Pregnancy before the Obstetric Section, New York Academy of Medicine, October 26, 1905.

In discussing the question of the recognition and differential diagnosis of ectopic pregnancy, it will be convenient to consider it under a number of heads, as follows: (1) Early, unruptured. (2) Early, with rupture and free hemorrhage. (3) Early, with rupture and extraperitoneal bleeding and hematocele. (4) Advanced with living child. (5) Near or after term, child dead.

**1. Early Unruptured.**—The ovum may become implanted in any part of the tube from the fimbriated end to the mucosa of the uterus. In general the danger increases with the nearness to the uterus, being least at the outer end, greater at the isthmus, and greatest when interstitial. There are no pathognomonic symptoms, and the condition is easily overlooked, unless we learn to suspect and watch for it. Some cases will give no indications which attract the attention of patient or physician until the alarming signs of rupture occur.

The patient is necessarily a woman within the limits of the child-bearing age. She has been previously in good health or at least has had no serious disorders of the pelvic organs. She has usually borne children, but may not have been pregnant for several years. She comes to you and states that she has missed one or two periods, though exceptionally there may have been no amenorrhea. During the last few days she has had a moderate bleeding from the uterus, the blood being darker than usual at menstruation, and not like her usual flow. She may have passed shreds or a decidual cast. She has had some uneasiness and griping pain in one ovarian region. She has reason to suspect a pregnancy, and often thinks these symptoms indicate an abortion.

A vaginal examination shows to one side, behind, or rarely in front of the uterus, a small, well-defined, smooth, movable, fusiform, elastic tumor, regular in outline, often with pulsating vessels, and at first not particularly tender or painful. As the villi of the fetal chorion begin to grow through the tube-wall, there is apt to be some intratubal bleeding, and the mass grows harder and becomes more sensitive. The uterus is slightly enlarged and slightly softened. The abdomen is not tender.

This history and the physical findings mean only one thing, an unruptured ectopic pregnancy, but unfortunately they are not always so clear, and, in a condition where certainty and quick action are of the utmost value, the greatest danger is in underestimating or mistaking the seriousness of the condition.

Interstitial pregnancy is almost never recognized before rupture, and is marked only by an asymmetrical development of the uterus, one cornu being prominent and very tender on palpation. The cervix is not softened as much as in normal pregnancy. There may or may not be a dark vaginal discharge.

When the diagnosis of an ectopic pregnancy is in doubt, the following conditions may have to be differentiated:

*Abortion.*—Do not depend too much on the his-

tory and symptoms, but make a careful bimanual examination. With abortion there is no mass in the tube, and the uterus is larger than with ectopic pregnancy. Caution is necessary, as the curettage indicated in partial abortion might do serious harm in ectopic pregnancy.

*Anteflexion of the gravid uterus* may occur, and may occasion doubt. Careful bimanual examination should reveal it. No vaginal hemorrhage. Watch for a time if in doubt.

*Retroflexion of the gravid uterus* should never be mistaken, as a careful examination should reveal that condition and prevent the unfortunate mistake of trying to replace a gravid tube. When there is a mass other than the fundus posteriorly, the uterus as a whole is pushed forward, the cervix looks down, and the fundus can be felt by bimanual pressure behind the pubes. A gravid uterus is often complicated by retention, an etopic pregnancy by spotting.

*Pyosalpinx.*—We find here previous ill health and long-continued tubal aching, as contrasted with the fair condition usually preceding ectopic gestation. There are no symptoms of pregnancy. There is a purulent vaginal discharge; pus in Skene's glands; a history of infection; elevation of temperature. Menstruation is usually regular and profuse, but there may be amenorrhea for several months. Both tubes show signs of disease, but one is usually much larger than the other.

*Hydrosalpinx, or small ovarian cyst* of one side with early abortion or temporary amenorrhea, may produce symptoms almost impossible to differentiate, even with closest attention to the history and physical examination.

*Myoma, sarcoman, and carcinoma* of the tube give no symptoms of pregnancy, no recent menstrual irregularities, and are hard and irregular in outline.

*Ovarian neoplasms* are rare, are more movable, are not accompanied by symptoms of pregnancy, or by temporary amenorrhea and bleeding.

**2. Early, with Rupture and Free Hemorrhage.**—The woman has nearly always had a temporary amenorrhea, her last regular flow having occurred eight to twelve weeks before. She has had irregular, moderate, rather dark bleeding, which has only attracted her attention as being different from her regular flow. She has probably had some of the signs of early pregnancy, such as nausea, enlargement and tingling of the breasts, etc., although in early rupture none of these signs may be noted.

Often she has considered herself in perfect health until seized with severe, sharp, colicky abdominal pain, followed by faintness, nausea, weakness, and pallor. At times she says something has given way inside of her. The pain continues; she goes from one faint to another; though curiously quiet and passive, she complains of an imperious air hunger; the weakness increases; she becomes more and more blanched, and finally death closes the scene, the patient's mind remaining clear until the last.

Vaginal examination usually reveals a tumor at one side of the uterus. Blood may be felt in Douglas' pouch as a boggy swelling. If the patient is stout and the bimanual examination inefficient, there may be no obtainable sign of any tubal involvement, and we may have to act, and act quickly, on the evidence afforded by the signs of internal hemorrhage alone. The temperature is apt to be subnormal.

Tubal abortion may occur when the embryo is implanted very near the fimbriated end of the tube. It occurs usually before the end of the eighth week, and is marked by sudden pain and more or less shock from intraperitoneal bleeding. It may even cause death from hemorrhage.

Rupture in tubal pregnancy may be precipitated by mechanical causes, as coitus, defecation, digital examination, falling, or jolt.

The symptoms of early tubal rupture with free bleeding are so sudden, so instant, and so characteristic, that there is small danger of their being mistaken.

One who had never seen a similar condition might think of simple *fainting from pain,* but in a faint, though the pulse may be temporarily lost, when it is felt it is slow and full, as contrasted with the increasingly rapid and weak pulse of hemorrhage.

Ectopic rupturehas been mistaken for *acute poisoning,* but the agitation of the patient, careful questioning, and the absence of the symptoms of intraperitoneal hemorrhage should render the differentiation sure.

*Attempted abortion* gives evasive answers; rise of temperature; rapid, high tension pulse; rigidity and tenderness over abdomen; not marked collapse.

*Acute gonorrheal endometritis* is accompanied by fever; there is pus in urethra; great tenderness over fundus of uterus; no marked collapse.

*Rupture of a pregnant rudimentary horn* in a bicornate uterus may present a history and symptoms impossible to distinguish from a ruptured tube unless the tumor can be demonstrated to rise from the side of the uterus near the cervix instead of at the fundus.

*Rupture or perforation of stomach, appendix, or other abdominal viscus,* when not traumatic, may closely simulate ectopic tupal rupture, but the patient is not usually so greatly collapsed; there is not the history of menstrual delay, and there is usually a record of symptoms pointing to the organ affected and a rapid onset of inflammatory symptoms.

*Small tumors of the ovary or tube* with acutely twisted pedicle may at times produce symptoms and physical conditions extremely like a ruptured ectopic tube, and may be accompanied by irregular uterine hemorrhages. The tumor, however, nearly always has more mobility and an appreciable space between it and the uterus, the history is different, the symptoms do not develop so rapidly, and the collapse is not marked.

**3. Early, with Rupture, Extraperitoneal Bleeding, and Hematocele.**—The history is the same as in the preceding forms, but the signs of internal bleeding are less severe; there is severe pain, faintness, and nausea for a few hours; then a remission of the symptoms for a variable time, with sudden repetitions of the attack. With every bleeding there is pain, weakness, and tenderness for several days. The patient becomes more and more weak and ill; she is confined to her bed; the abdomen becomes painful and tender; with the development of peritoneal inflammation pain with rigidity appears. There is increasing anemia. The pulse is quick (110-120), and feeble. There is a rise of temperature (101-102°) due to blood resorption. Where the bleeding is extraperitoneal the stripping of the peritoneal coat from the rectum is liable to cause a septic (usually colon bacillus) infection, with higher temperature and the so-called typhoid symptoms.

On vaginal examination the clear outlines of the tube are lost in the hematocele. The uterus may be pushed to one side or forward. There may be dullness in the flank that changes slowly with a change in the position of the patient. The mass of the hematocele is at first soft, but later becomes harder. It may be absorbed if small, but is apt to become infected and septic.

*Hematocele* is nearly always the result of a tubal abortion or tubal rupture, but may be caused by trauma or by the rupture of a vesesl in the broad ligament.

*Pelvic cellulitis or peritonitis* is distinguished from

hematocele by a history of infection, by a less sudden onset, more continued fever, by greater hardness, by more marked sensitiveness, by the absence of the history or signs of internal hemorrhage. It is usually bilateral.

*Pelvic abscess* may result from the breaking down of an old ectopic mass or from sepsis from gonorrhea or other infection. The history would decide.

An old hematocele that has become hard may be mistaken for a *myoma* of the uterus, but the history and the absence of recent acute symptoms and of the firm rounded nodular surface peculiar to the myoma should make the diagnosis clear.

*Malignant disease of the tube or broad ligament* gives a different history, is of longer duration, and is very hard and irregular in contour.

*Cornual pregnancy,* or pregnancy in a rudimentary horn is impossible to differentiate after rupture has occurred unless we can feel the sulcus at the fundus or can determine that the round ligament lies on the outer side of the mass, it lying to the inner side in tubal pregnancy.

**4. Advanced, with Living Child.**—*a. Tuboabdominal pregnancy.*—We have here the ordinary signs, symptoms, and history of pregnancy, with, in addition, the history of pain, sickness, and irregular bleeding during the early months. The patient complains that the movements of the child cause her more distress than in former pregnancies.

On inspection and palpation, the movements of the child are seen and the fetal parts felt with curious and extraordinary distinctness. Careful and gentle palpation shows no contractile sac (uterus) around the fetus. This is a most important diagnostic point and must be carefully watched for. The placenta is attached below and to the side. The fetal heart-sounds and placental bruit are unusually clear. Vaginal examination determines that the uterus is displaced to one side and forwards, and is distinctly separated from the child.

*b. Tuboligamentary or subperitoneal abdominal pregnancy.* In this form the conditions are more difficult to detect than in the tuboabdominal, as all the signs and movements are less easily felt. It is often difficult to hear the fetal heart. Child is contained in sac, but you find no rhythmic contractions as in uterine pregnancy. Placenta is apt to be above fetus or at least higher than in the tuboabdominal form. Hemorrhages into the sac are common. Per vaginam the uterus is felt pushed to one side and down. It is in much closer relation to the pregnancy than in the tuboabdominal form, but can usually be recognized. Douglas' pouch is occupied by a firm, rounded, immovable mass.

At term these patients have a more or less well marked false labor. There are crampy pains, vaginal discharge, maybe expulsion of membranous shreds. After several hours or days these symptoms cease suddenly. The breasts fill for a time. The signs of pregnancy disappear, and the patient may go an indefinite time before septic symptoms develop. The condition is apt to be mistaken for a false alarm preceding a normal labor, but the finding of a small displaced cervix should lead to a thorough examination.

*Normal pregnancy,* with a thin uterine wall so that the fetal parts are apparently just under the skin, sometimes occurs, and may be differentiated by feeling the contractions of the uterine wall over the fetus and by vaginal examination showing that the pregnancy is in the uterus.

*Pregnancy in a rudimentary horn* may be disclosed by finding the unimpregnated horn pushed to one side, by noting the deep sulcus between the small uterine fundus and the pregnancy, by the mobility of the pregnancy, and by the uterine contractions about the fetal sac. A double uterus would be disclosed by finding the unimpregnated half pushed forward and to the side, and by a double cervical orifice or double vagina. Both of these conditions are easily overlooked unless we constantly keep in mind the possibility of their occurrence.

**5. Near or after Term, Child Dead.**—In the tuboabdominal form a correct diagnosis is usually not difficult, even in the absence of fetal movement and heart sounds, but in the posterior ligamentary form the condition may become very obscure when several months have elapsed since the death of the fetus. There are no subjective or objective signs of pregnancy. The history is apt to be misleading, and to give no hint of a possible gestation. A careful investigation will, however, gradually make the situation clearer.

This condition is most apt to be mistaken for a *malignant ovarian tumor,* which it very closely resembles. An ectopic sac is apt to remain stationary in size or to shrink, while a tumor shows a slow, steady growth. If there is evidence of suppuration, the mass is apt to be ectopic. The condition may also be mistaken for *tuberculous peritonitis* or *fibrocyst of the uterus,* but a careful physical examination and review of the history should enable the diagnosis to be made.

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## SOME FACTS CONCERNING THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS.*

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As a result of observation and experience gained while acting as the first medical superintendent of the New York State Hospital for the Treatment of Incipient Pulmonary Tuberculosis, the conviction that pulmonary tuberculosis is rarely recognized at an early and proper time for successful treatment has been decidedly strengthened. The organic law under which this novel institution was created provided that only incipient cases of tuberculosis could be admitted. It became necessary to devise and introduce methods by which patients suffering from that disease in the incipient stage could be secured. Applications for admission were sent to the superintendent of the institution, and arrangements were perfected by which the applicants could be examined by physicians designated as State examiners, who were appointed in each city of New York State. The blanks upon which the examiner made his report required a comprehensive study of the individual case, and included a diagram of the chest, which was filled in by the examiner, and showed the extent, location, and character of the lesion. Full instructions containing a description of what would be accepted as an incipient case were sent to the examiners and also to physicians in dispensaries, hospitals, and elsewhere for their guidance.

In the year beginning July 1, 1904, and ending July 1, 1905, the records of the institution show that 965 applications for admission were received. Of these 205 were accepted as incipient or favorable cases. An examination of the records revealed the fact that of these 205 patients at the time of admission, only 101 could be properly designated as incipient or early cases. The average proportion of incipient cases under treatment in the hospital was

*Read before the Academy of Medicine, Buffalo, N. Y., September 18, 1905.

sixty per cent., and only about one-tenth of the applications supposed to be suffering from incipient disease are included in that class. The inference seems fair that only about one-tenth of all the cases which were regarded by physicians as incipient and proper for admission could be rightfully included in that group.

During the seven years of agitation, when determined advocates were urging the necessity for one State hospital devoted to this class of sufferers, it was claimed that such an institution would not alone provide ideal prevention and rational, scientific relief, but that its chief function might be educational. Strenuous objections to its creation by the State were caused by the cry that the demand for admission from a vast number of patients in the early stage of the disease would be so great that the State could never bear the expense. The assurance that it would be difficult to fill the institution with patients if the law was obeyed was regarded as the delusion of an enthusiast.

Thus far no incipient case of tuberculosis has been denied admission to the institution, and the buildings have never contained more than one-third of the cases which could be accommodated. It may be true at the present time that patients may be denied admission because of the stupid parsimony and false economy on the part of the State officials in refusing to maintain more than one hundred patients in violation of the law, which states that accommodation should be supplied for two hundred; but the fact which I wish to emphasize is that it seems impossible to obtain enough patients in the early and curable stage of tuberculosis to fill one hospital which maintains one hundred patients and could accommodate one hundred and seventy-five. A moment's reflection will reveal the importance of this statement.

If an estimate be made by any method within our present knowledge it will be found that there are about 50,000 inhabitants of New York State suffering from pulmonary tuberculosis. During the year 1904 over 14,000 deaths were reported as due to that cause. By collecting the number of institutions for the treatment of tuberculosis in the State, and the percentage of early cases received for treatment, it will be found that only about one per cent. of all those afflicted with tuberculosis entered an institution at the proper time to obtain the highest percentage of recoveries. Furthermore, after years of effort on the part of those interested in procuring promising cases for treatment, it is found that only about twenty-five to thirty per cent. of the really favorable cases have thus far been obtained. Naturally this extraordinary condition leads to the inquiry "Why is the disease not recognized during the early stages?" and "Why are not more patients given the opportunity of receiving treatment which is the most promising at a proper time?"

In attempting to answer briefly these questions time will be saved by dismissing at once from consideration that type of doctor who dislikes to be disturbed by the introduction of progressive methods, and complains of an imaginary tendency to treat disease before it is present. There can be no question that a part of the medical profession honestly believe that a definition of incipiency may be too severe; that a diagnosis is demanded too early, or that refinements in diagnosis are required which only expert skill can supply. The transcendent importance of prompt relief at the earliest possible moment and its influence upon the result should be a sufficient reply.

Until quite recently no definition of an early, favorable, or incipient case has been accepted. During the spring of 1905 a committee was appointed by the president of the "National Association for the Study and Prevention of Tuberculosis" to prepare and present a report containing a classification with definitions for the consideration of that body at the inaugural meeting. The following definition of incipiency or favorability was agreed upon, presented to the association, and adoped for one year's trial:

"Slight initial lesion in the form of infiltration limited to the apex or small part of one lobe.

"No tuberculous complications. Slight or no constitutional symptoms (particularly including gastric or intestinal disturbances or rapid loss of weight).

"Slight or no elevation of temperature or acceleration of pulse at any time during twenty-four hours, especially after rest.

"Expectoration usually small in amount or absent.

"Tubercle bacilli may be present or absent."

If this definition serves no other purpose it will prove exceedingly valuable by supplying a standard for the statistical reports of results. The attempt to prepare a brief definition will naturally be followed by criticism, and it must be assumed that distinctions, whether based upon the extent of pathological changes or the history of symptoms, cannot be made arbitrarily. Thus, tuberculosis of both apices may be slightly manifest and the conditions truly favorable; but it must be remembered that, as a rule with few exceptions, disease in one apex follows disease in the other apex after an interval of months. Again, it is often difficult, and sometimes impossible, to recognize the presence of infiltration until pathological changes in the way of new formation sufficient to fill the air spaces and produce some consolidation have developed. Evidently the meaning is plain that this can and should be recognized during the period of invasion before any destructive process has begun.

Turban's scheme and classification which has been adopted in Europe, does not contain any description of incipiency, nor is the favorable type described. As modified by the committee of the National Association, it will furnish an excellent scheme for the recording of the results of all classes of cases. The most serious objection which is disclosed after careful study is the fact that it is based almost exclusively upon the extent of anatomical lesions.

It is probable that an examination of the records of many institutions will show that after the test supplied by this definition is applied a smaller number of early cases have been treated than have been previously reported. Inquiries submitted to a number of sanatoria in the United States to learn the percentage of incipient cases received, as defined above, reveal the fact that the average percentage of all patients under treatment which could be designated as early and favorable varies from two to thirty. An analysis of all cases treated at the New York State Hospital shows that sixty per cent. were received. To the best of my knowledge, it is the highest percentage published. The results justify the careful selection of applicants, and will be considered at another time. The reasons which may account for the failure to secure early recognition of a tuberculous lesion in the chest may be considered in the following order

The patient does not seek medical advice. This is certainly a potent factor among the poor. On the other hand, the poor patient often visits a physician who does not make a careful examination, or a dispensary where the attending physician may not be qualified to make a diagnosis until the disease is advanced.

A dispensary should be established in every city where men qualified to detect the early signs of tuberculosis are in attendance. Opportunities to become acquainted with the signs and symptoms of beginning tuberculosis at a dispensary make it probably

the best school for a young physician who is seeking instruction in that field of work.

It must not be forgotten that little or nothing could be gained by the early detection of tuberculosis among the poor until the last few years. The discovery of its presence was equivalent to a death sentence, and there was slight inducement to recognize it promptly. The time is rapidly approaching when the conditions surrounding the afflicted poor will be radically changed. The hope of recovery will encourage or compel closer attention and more experience and skill.

During the last decade efforts have been concentrated upon education and prevention, and the result, as evinced by the diminished death rate from tuberculosis, has been exaggerated; and the results of special methods of prevention aimed at that disease have long been misrepresented to a large degree. It has repeatedly been claimed that the death rate from tuberculosis was steadily diminishing in this State, in spite of the increase in population, but in the year 1904 the death rate was increased by more than one thousand, and the surprising rise in the mortality is yet unexplained. The writer has several times called attention to the constant relation between the mortality from tuberculosis and the general death rate.

This has led to a feeling that when the physician applies preventive measures he has practically done his full duty, and that it was regarded as sufficient to perceive the evidence of tuberculosis as portrayed by the picture drawn by the teacher and provided by the text book. Viewed in relation to the appearance of incipient evidence of disease, one is reminded of the days when a fatal case of inflammation of the bowels was regarded as evidence of appendicitis.

This brings me to another reason which I regard as second in importance, and it is realized that any plain speaking concerning it has long been regarded as quite dangerous. I refer to the faulty education in the medical schools, the inadequate and misleading teaching of text books and the lack of proficiency and thoroughness displayed by the medical profession concerning the early detection of tuberculosis of the lungs. This may be largely due to the recent distinctive prominence given to laboratory methods and the tendency to discard the methods of the clinician. The unwarranted dependence upon the presence of the bacillus in the expectoration, and the greatly exaggerated idea of its importance as the only reliable single sign have done immeasurable harm. While the fact that slight changes are overlooked among the poor may be understood, it is only too plain that the well-to-do often receive no more skillful attention. An acquaintance with a large class of patients sent to health resorts reveals the same failure to perceive early manifestations of the disease or to advise treatment at the proper time. This mistake simply adds hardship to affliction.

The student or young practitioner is often afforded no opportunity to examine or study a developing case of pulmonary tuberculosis. His first patient of that description offers him a new experience. The patients seen in the clinic, or the descriptions read in the textbook betray the classical features of advanced disease. The symptoms and signs accompanying early and advanced lesions are jumbled together and made very confusing. Sufficient time is not given to the examination of the healthy chest, to gain a familiar acquaintance with normal sounds. The older clinicians and the men proficient in the methods of physical diagnosis appreciated more fully the importance of comparing the sounds of health and disease.

The ear is not sufficiently trained and the hearing is not acute, and an attempt is made to make the unmusical ear detect slight changes and alterations of pitch. This can never be done without hard work and large experience. Some men can never recognize gradations of pitch because the ear is not capable of appreciating them. The art of palpation and percussion is not valued at its true worth, and the chest is not thoroughly searched.

There seems to be a widespread misunderstanding concerning the premonitory symptoms. Those considered are usually indicative of advanced disease. The fact is not emphasized that disease is present and can be detected for weeks and months before the chest is examined. From the inception of infection three to five months may elapse before the symptoms are complained of by the patient or sufficiently marked to attract attention. The prevalence of tuberculosis is forgotten and other causes looked for. Those most commonly assigned are bronchitis, a prolonged cold, or influenza. The symptoms are sometimes attributed to malaria in regions where it is practically unknown, or an apical pneumonia of small area is found; and it is not remembered that, in almost every instance, even when associated with grippe or influenza, it is tuberculous in origin. The character of the attack; the atypical nature of its course, and the distinct localization are only too plain. As illustrating the progress of symptoms and the time of their appearance, two cases under recent observation may be cited.

Both patients were sisters of consumptives, and were led to request examination by the belief that they had been exposed to infection. In both instances the physician in attendance had given no instruction in the way of prevention. The physical signs were evident at the apex. There were no symptoms whatever, both were apparently in good health. Three weeks after the first examination slight elevation of temperature occurred, and evidence of consolidation had extended somewhat. Under treatment the temperature has now subsided and the weight has increased. Thus far there has not been any cough or expectoration. These cases can be found repeatedly in persons where infection is suspected.

Mr. C. was admitted to the State Hospital. He had lost some weight and was somewhat anemic. The signs of infiltration were apparent at the apex. There was no cough and no fever. After a stay of three months the disease had apparently been arrested, when he caught a cold. Immediately fever with cough and expectoration appeared and bacilli were present in the sputa. The disease became active, later subsided, and was finally arrested.

The classical symptoms almost invariably presented in combination are loss of appetite, chlorosis or anemia, loss of weight, cough, with or without expectoration, hemorrhage, and fever. It is extremely rare that all of these are asociated at an early time. They are apt to be present at a later stage. This is particularly true of patients who have had rest, nourishing diet, and open-air treatment. Many times under these conditions few or no symptoms are apparent, and yet the disease may be progressive. The widely accepted statement that increase of weight and diminished temperature show arrest has many exceptions. It is only too common to find every general symptom of arrest with progressive physical signs, even to cavity formation. With a recent slight lesion about the only symptom observable is slight rise of temperature at some time in the twenty-four hours. Persistent fever, even with rest, is the most reliable and constant guide. It is frequently overlooked because the morning or early afternoon tem-

perature may be normal, or the temperature is not taken on several days successively.

At the State Hospital a prolonged study was made of the significance and the vagaries of fever when associated with pulmonary tuberculosis. It was found that the large percentage of patients have the highest range of temperature between 5 and 8 o'clock. Many times the temperature was one degree higher at 7 o'clock than at 5 o'clock. This rule cannot be followed invariably, and if a case is to be closely observed, the temperature must be taken every two hours. The temperature may show a decided rise at noon. Thus a patient was admitted with a history of normal temperature morning and evening. This proved to be true in the hospital, but it was observed that he lost weight, and that he complained of feeling tired at noon. His temperature was taken every two hours while he was at rest in bed in the open air, and it was found to be 102° daily betweeen 12 and 1 o'clock. The influence of external temperature must be considered, as cold weather certainly controls and has an influence upon the febrile curve. This was particularly marked during one week in June. .

The atmosphere was hot and humid. The temperature of all patients was taken several times a day and comparison made with a week in February which was cold and dry. A larger number of patients showed the presence of fever, and the average elevation of temperature was decisively higher than in the cold week. The rectal temperature is always more desirable and accurate. It is particularly true after the patient has been exposed to cold air for a length of time sufficient to produce an effect. The thermometers which are supposed to register in one or two minutes are usually thoroughly unreliable under this condition. After the thermometer is inserted for four minutes it will very often register a subnormal temperature, and after long exposure to the cold ten minutes may be required before the actual temperature can be known. This fact will also be observed when patients visit the office, and their temperature is taken after they have been for some time in the cold air. It will make a difference which should be considered whether the temperature has been taken after exercise or rest, or after a full meal in a warm room.

In children the temperature range is apt to be higher and other symptoms more marked, because the amount of disease is greater in proportion to the size and body weight. Again, in children the glandular involvement is apt to be much greater, and there may be multiple lesions instead of one.

It is not uncommon, particularly during cold weather, to find the temperature subnormal through the day and fever appear only in the evening. In tuberculous cases two of the most frequent causes of temporary elevation of temperature beyond the usual daily record are menstruation and disturbances of digestion. With few exceptions, the temperature shows an upward curve during the first and second days of the menstrual epoch. Fever due to syphilis, intestinal toxemia, or neurasthenia is apt to be one of the most puzzling features to consider and exclude.

Loss of weight may be gradual or rapid and great or slight. The standard of weight for the individual should not be fixed at the highest ever attained. Age, previous illness, habits, and environment should receive attention, and the statement of patients concerning their normal weight are often unreliable. In view of the chances for error, it seems safe to compare the present with the average weight while in health. In truly incipient and favorable cases, the loss of weight may be very slight or nil. Decided loss of weight is apt to be associated with acute, extensive or prolonged disease. Continual high temperature, often unobserved, with indigestion and loss of appetite, may have been present for weeks or months before an alleged early diagnosis is made. There is usually a difference of two or more pounds between the morning and evening weight. The loss of appetite and indigestion are more important, as bearing upon the prognosis. They are not noticeable to any great extent, as a rule, during early manifestations. Chlorosis and anemia are much overestimated as early symptoms, and are frequently due to other causes. The blood counts and the estimation of hemoglobin failed to show the decided variation from an average healthy standard which has been claimed. The fact that chlorosis and neurasthenia have a decided influence upon the prognosis is another matter.

Practically all textbooks lay stress upon cough as an early and most constant symptom. I have several times called attention to the fact that cough is apt to be due to pharyngeal irritation, and subsides after local treatment. Many times the so-called hacking cough owes its origin to nervous habit and disappears by an effort of will, or as a result of suggestion. It is not nearly so common among men as it is among women. As an early sign of tuberculosis its importance and the frequency of its presence have been much exaggerated, but it has and probably will continue to perform valuable service by directing attention to the chest.

Of the truly early cases treated at the State hospital very few coughed except infrequently. Physicians visiting the institution were forcibly struck by the absence of coughing. A dry cough, accompanied by some pain or irritation in the chest is of value and apt to be associated with localized pleurisy. When bronchial congestion with increased secretion is present the cough is more distinctive. It is not usually of a hacking character, however. The fact should be emphasized that tuberculosis is often present and can be detected before the patient gives any history or manifestations of a cough.

Hemorrhage during any stage of pulmonary tuberculosis rarely occurs in the Eastern or Middle States. A study of several hundred cases of tuberculosis in its incipiency, both in hospital and private practice, has led to the conclusion that less than five per cent. display this symptom. Its importance when other causes are excluded cannot be too strongly emphasized. In fact it is an almost positive sign. Furthermore, the history of a hemorrhage antedating by months or years more recent symptoms is always interesting and should invite a search for a previous lesion which became quiescent, arrested, or healed.

Finally, the three important symptoms which may be reliable guides are hemorrhage, fever, and loss of weight when they cannot be otherwise explained. My experience with the tuberculin test has been so slight that the expression of any views would be of questionable value. Certainly there are conditions in which a well-defined reaction may be misleading. The character of the product should be known, and the technique and what constitutes a reaction thoroughly understood. It is somewhat difficult to understand why this test is necessary except in a very small number of very puzzling cases. The desire to be ultra scientific may account for its exhibition at times. The experienced physician, trained in physical diagnosis, will find little need for its employment.

When suspicion is so strong that its use seems obligatory it may not be dismissed by a negative result. There is no positive proof that a person free from any tuberculous infection may not possibly react to a large dose of tuberculin. The tendency to

depend upon positive evidence leads to a great source of evil. I refer to the stupidity of postponing the diagnosis until the bacillus may be found. In the vast proportion of cases its presence should be regarded as a late manifestation. There are times when its appearance may be one of the first indications of the disease, but experience will show that remarkably few patients call upon a physician until physical signs are manifest. The result of prompt and scientific treatment cannot be known if the habit of waiting until the evidence of tissue destruction are apparent.

Practically all cases of pulmonary tuberculosis detected during life eliminate bacilli at some period of their clinical history. None afflicted at the New York State Hospital failed to produce bacilli at some time during their stay. The disease seems to advance to that stage, even when under treatment, but the extent of the disease and its ravages can be checked. The vast importance attached to the bacillus in its diagnostic rôle has become an excuse for carelessness, various deficiencies, and sometimes a commercial instinct.

The correspondence received from physicians showed that many physicians cannot satisfy themselves that a lung is affected by tuberculosis until the bacillus is discovered. It has been shown that even under broad and liberal construction of the meaning of the law, only about one-fifth of all applicants could be considered for admission. Several times physicians were so surprised by a refusal that the patient was sent to the institution anyway to prove that his opinion was correct. Nothing can be gained by reciting tales of frequent blunders. They are common in any line of special investigation. It may be of interest, however, to mention a few mistakes so apparent that the question of personal equation does not account for a marked difference of opinion. When patients were received, the result of the examination was compared with the findings as reported by the examiners. Errors were perceived concerning the extent, character, and location of the disease. Primary foci of disease previously existent escaped detection, and the fact that the recent lesion was secondary was overlooked. Only one focus was found where two or more existed; the lesion was sometimes located at the wrong apex or ascribed to the healthy lung. Pleurisy with effusion and even empyema were not recorded. The conditions relating to prognosis were not observed, and too much importance attached to the lesion alone. Histories were inaccurate, sometimes due to the dishonesty of patients who had been treated elsewhere, after which the disease became quiescent, and the present attack was simply due to an exacerbation and new invasion or extension. Multiple patches and the disseminated or diffused forms were almost habitually not recorded.

The inclination to regard incipiency simply in reference to time and duration was quite general. It should be obvious that a morbid process may be recent and yet active, progressive, extensive, or very grave. Associated tuberculous diseases were evidently not discovered or reported. The following complicating lesions were recognized at the hospital: anal fistula, infected cervical glands, infiltration or ulceration of the laryngeal apparatus, also tuberculosis of the epididymis and testicle. A difference in the findings was so noticeable and occurred with such frequency that attention was naturally directed to the possible sources of error. In some instances questioning of the patient elicited the statement that the chest had not been stripped. It was claimed that physicians had not insisted upon the removal of the shirt or underwear. A disinclination to bare the chests of women seems to prevail, and thoroughness is quite impossible if this is not done. There is no reason why a woman cannot expose the chest in private and place a soft towel about the lower part of the thorax enveloping part of the breasts.

The chest may be hastily examined in two or three minutes, but a careful search cannot be made in that time. In perplexing cases the mind must be concentrated and the faculty of hearing at its best. There are occasions when one will find it necessary to listen intently for minutes and go over a part of the chest repeatedly to obtain accurate information. The commonest location of beginning disease is at the apex or in some part of the upper lobes. It may be at the middle lobe near a bronchus, but the invasion below the clavicle is usually secondary or accompanied by or following pneumonia of mixed infection or pleurisy.

The tip of the lung rises during inspiration to a height of one and one-half inches above the clavicle, and sometimes a full inch into the neck. This part of the lung is often not investigated, nor is its mobility during inspiration and expiration observed. In attempting to ascertain the presence of delicate shades of sound obedience to the cardinal rule, "Compare, always compare," becomes a prime requisite. Inspection is certainly of little value except to exhibit the fact that the patient has never learned how to breathe. Some women have never taken a full breath.

The conformation of the chest may lead to suspicion, but experience has shown that any type of thorax may be invaded by the bacillus. Palpation may be so perfected that the sense of feeling becomes remarkably acute, but there are anatomical reasons why the stage of invasion cannot possibly be detected by the most proficient. It is sometimes employed and relied upon when the hearing is dull, uneducated, or the ear is not musical. Any teacher of physical diagnosis has learned that percussion is not an easy art, and that technique can only be acquired by practice. Reference to that point might seem trite were it not for the fact that improper percussion accounts for a large share of mistakes and deficiencies. The finger is not properly applied to the chest-wall; the resonance elicited is bony and the sound of a large area is enforced instead of that of a small limited locality. The light tapping, pushing blow from the wrist is not employed, and the normal differences, especially that between the right and left apex, are not diligently studied. Relative dullness, when slight, can be recognized only by distinguishing between gradations of pitch. The quality and duration of the tones may not be sufficiently or distinctly audible. By humming and attempting to imitate the pitch of sound, the difference may be made apparent when otherwise the listener will fail to appreciate any alteration. At times sounds cannot be heard one day and can be readily distinguished the next. This may be explained by temporary dullness of hearing or lack of alertness, and it certainly happens with experienced examiners. There may be men present who can recall the authentic story that Austin Flint, for years during his residence in Buffalo, played the violin daily to preserve the fine sense of pitch with which he was endowed.

The region over the tip of the lung should be percussed during inspiration and the line of highest elevation marked, if necessary, by a pencil. Infiltration and consolidation not only produce relative dullness, but the tip of the lung is apt to be somewhat immovable or retracted. This is particularly noticeable in quiescent or healed lesions, and recent disease in one apex may be co-existent with the evidence of previous trouble at the other. Quite frequently the active lesion is secondary and another can be

found elsewhere. The tendency to teach that invasion of the right apex is difficult or impossible of recognition by an examination of expiratory sounds is not only dangerous, but may be quite untrue. When the shape of the chest above the clavicle in front will not permit of satisfactory explanation, the attention may be confined to the posterior angle along the neck and over the scapula. With few exceptions, the sounds are more easily perceived, and the mouth of the patient should, as a rule, be open. At one place in this State where preliminary examinations were made prior to application for admission, I discovered that a noisy room made proper or reliable work impossible.

The selection of stethoscopes and the fitting of the ear pieces are not always considered carefully. The openings of the earpieces in the newer stethoscopes are smaller than those used in the past, and they are much more liable to be filled with wax and dust, which escapes notice. Wax may accumulate in the ear and plug part of the opening of the ear-tips when they are applied. The practitioner who returns to work after a long vacation finds that the hearing must be tuned up again. This point is touched upon to illustrate the importance of practice and the necessity for opportunity to educate the ear constantly.

It seems highly probable that an unknown percentage of the students and physicians have never heard the natural vesicular murmur. They have always listened to the transmitted nasal or buccal sound produced by the friction of the air current. This factor is mentioned because the changes in the respiratory murmur can be detected at times only when this transmitted sound is introduced. The diagnosis of infiltration by auscultatory signs offers scope for discussion. The Germans rely very largely upon what is called "harsh," "roughened" breathing. We are acquainted with the following four types of breathing, which may be considered: First, vesicular; second, vesiculobronchial; third, bronchovesicular; fourth bronchial. The distinction between the second and third is arbitrary, and the element of personal equation exists as an indeterminate factor. It must be admitted that any change in the nature of harshness or roughness must be manifested by a change in quality, duration, and pitch or it could not be differentiated. Furthermore, the alteration must be more evident at the time of expiratory effort. I fail to see how anything but confusion and obscurity could follow the introduction and use of this term. Certainly the word bronchovesicular is preferable, and it is sufficient and explicit. It is enough to recognize the fact that the expiratory sound is prolonged, changed in quality, and higher pitched; and that the transition is due to the increased transmission of the tubular or bronchial breathing through a medium undergoing a difficult pathological change.

The essential difficulty is found in being able to perceive distinctions when the change is slight, and then comparison is the chief aid. Although any change is much more difficult to discern and is more unreliable at the right apex, the effort should not be discouraged and certain puzzling conditions exaggerated. A few of the older textbooks contain a reference to the normal relative increase of the bronchial element at the right apex, and state that the evidence of tuberculosis as revealed by change in the expiratory sounds may not be accepted as a reliable guide unless râles appear. In the last edition of Cabot's Physical Diagnosis the following statement bearing upon this point may be found:

"When some râles are present at the apex of either lung the diagnosis of tuberculosis is almost certain, but if, as not infrequently occurs, there are no râles to be heard over the suspected area, our diagnosis is clear *only* in case the sign occurs at the left apex. Precisely the same signs if present at the right apex leaves one in doubt regarding the diagnosis, for the reason that, as has been explained above, we find at the apex of the right lung, in health, signs almost exactly identical with those of a slight degree of consolidation. Hence if these signs, and only these signs, are discovered at the right apex, we cannot feel sure about the diagnosis until it is confirmed by the appearance of râles in the same area of the left side, whether under the influence of iodide of potassium or spontaneously, or by the finding of tubercle bacilli in the sputum."

After reading this quotation, the deduction seems warrantable that an opinion or conclusion may be delayed until some softening has occurred or the signs of a possible destructive process are divulged. On the contrary, the signs of old or recent consolidation are often perfectly apparent in the right apex when no râles are present. When in doubt, comparison should be made with adjoining portions of the same lung, and the mobility of the apex and the character of the whispering voice sounds especially should be noticed. Again, the extension of consolidation in the right apex with the characteristic sounds which denote it can be followed, and repeated examinations are apt to reveal a decided change in the size of the area involved. The difficulty in recognizing bronchovesicular breathing is not so great as that encountered when the breathing is partially suppressed, and the percussion note and the whispering sound become quite valuable.

Cogwheel respiration and the transmission of heart-sounds are often purely nervous in origin. Cogwheel breathing may have little diagnostic value or significance except to arouse suspicion and lead to further examination. If the heart-sounds are transmitted more clearly to the right apex than to the left, it is entitled to some consideration. As a rule, however, the transmitted heart-sounds are only noticeable after considerable consolidation, and they may be present one day and absent the next, depending upon the nervous excitement sometimes caused by undergoing examination.

One of the most reliable signs of slight consolidation is surprisingly neglected. I refer to the transmitted whisper produced by the patient whispering the word ninety-nine. The variation in pitch and the prolongation of sound are far more easily detected than when the speaking voice is employed. I regard this sign as one of the greatest value, especially when attempting to define the limit of an affected area. Finally, it must be remembered that the duration of the expiratory sound cannot be properly measured if the patient is not allowed to breathe naturally and preserve the rhythm. By forcing the patient to breathe rapidly, as is frequently done during examination, the full length of expiratory effort is curtailed. The older English and American writers employed a term most concise and descriptive. The moist sounds were alluded to as "clicks" and "râles." The word click should be preserved as descriptive of the tones heard at an early period and indicative of an abnormal amount of mucus or mucopus which coats the mucous membrane. These fine moist bronchial râles can usually be heard at an early period during infiltration and deposit by obliging the patient to cough, otherwise they will escape observation. Without cough the mucus may not be dislodged or the agglutinated surfaces separated. Their localization, when absent elsewhere, is an important aid in diagnosis. They are fugitive and scarce, and râles of the character which should be designated as crackling or moist râles appear later in large numbers, due to fluid in the bronchioles and the smaller bronchial tubes when softening has occurred.

Perhaps localized sibilant breathing has been assigned too much importance as a sign of tuberculosis, particularly in a person suffering from a cold, lithemia, influenza, or grippe. On the other hand, a localized bronchitis should be watched, and may lead to the detection of other signs and symptoms as they appear.

One word in reference to the term "dry râle." It seems to be gaining general acceptance. Thus far the most labored explanation fails to excuse its adoption. One refers to its causation as pleuritic and uses it as synonymous with the pleural crepitation or fine friction sounds. Another attempts to discriminate between dry bronchial râles and moist bronchial râles. I confess to a feeling of confusion and a strong antipathy to the term. It seems to have no pathological basis, and it is hard to conceive of a dry rattling in the bronchi.

In closing, permit me to explain that I present this paper largely because the time seems ripe for a discussion of surprising conditions only too prevalent. A widespread growing movement has been inaugurated to provide proper care for the consumptive. At present this subject is being agitated in most of the States in this country, and many of them will build institutions in the immediate future. To attain lasting results the case should be reached early. There will certainly be a reaction when the tendency to relapse is fully appreciated and statistics of so-called arrested cases have been carefully scrutinized. The prediction that great difficulty would be encountered in securing cases for treatment at the proper time has been verified, and the opinion that the medical profession requires education as well as the public has not been relinquished. Evidently renewed attention must be directed to the vital importance of a more thorough and accurate study of the physical signs.

## A SUBMUCOUS RESECTION OPERATION FOR DEVIATION OF THE NASAL SEPTUM; WITH THE DESCRIPTION OF SEVERAL NEW INSTRUMENTS.*

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Cases of this class were formerly corrected, more or less satisfactorily, by some one of the fracturing methods, namely, the operations of Asch, Gleason, Roe, and others.

Gibb of Philadelphia, in the *Journal of the American Medical Association* October 29, 1904, reports the results of 100 cases of septal deviations treated by the methods of Asch, Watson-Gleason, and the saw. Sixty-five cases were operated upon by Asch's method in which a good result was obtained in 47 cases. He qualifies the words "good results" by saying, that "it does not mean that in each case recorded as good, a perfectly straight septum had been secured, nor that each case has been entirely uneventful in its course." But out of 65 cases 47 were good, 11 fair (fair means "those which could not be considered successful either from an artistic or functional standpoint, but in which better breathing space and more comfort to the patient was secured"). I personally would consider these cases pretty near failures; and the 3 remaining cases were failures. In one of the failures a Watson-Gleason operation was subsequently done successfully. Of those treated by the Watson-Gleason method, 19 resulted good, 3 fair, and 1 unknown. In the remaining cases the projection was sawn off. He also states in his conclusions, that "A certain number of cases are inoperable." I quote only Gibb, as his results seem to be better than the average. So much for the results obtained. Some of the disadvantages are, that a general anesthetic is necessary, the after-pain is considerable, and the removal and reintroduction of the hard rubber splints daily, as is the custom of most operators, is extremely painful. Rarely do the splints used fit the nose, and having it plugged with a hard rubber tube for several weeks is far from pleasant, and then, after all this discomfort only to get good results in about two-thirds of the cases. By the submucous window resection a local anesthetic only is required. There is practically no pain, and the nose is packed for one day, instead of hard rubber splints being worn for four or five weeks; and the results, as you will see later, are uniformly good.

The submucous resection was first performed by Suckstorff; Hartmann, Roux, Juracz, and Krieg were pioneers. Krieg removed the divergent part of the septum, but also removed the mucous membrane on the convex side as well. This destroyed the secreting surface on one side of the septum and left a large granulating wound that healed slowly. Killian and Hajek later used a single buttonhole incision and preserved the mucous membrane on both sides

About the same time, Freer of Chicago perfected his method, which also aims to save all the mucous membrane. Freer recently reports 116 cases with uniformly good results; the only complication were 13 perforations, six of which occurred in the first 15 cases. I may say here that a perforation of the nasal septum seldom gives any trouble. Killian reports 220 cases operated upon in his clinic and he mentions no poor results.

Indications for the submucous resection are the same as those observed in the Asch or Gleason methods plus many cases that were formerly classed as spurs but which are really deviations either of the cartilage or of the bone and sometimes of both. Experience with this method has shown that there are comparatively few real septal spurs. It is now recognized that they are deflections with some slight thickening along the ridge or angle. In these so-called spur cases the more prominent portion of the convexity and overlying mucous membrane is removed with the saw, which often results in a dry spot on the septum that forever afterward has an annoying crust formation.

There is another class of cases in which the cartilaginous septum is considerably thickened naturally, or in consequence of some previous inflammation or traumatism, and in this class only a submucous resection will relieve the condition Forming another class are neuroses due to nasal irritation from the deflected septum pressing against a turbinate. In this case one should straighten the septum rather than destroy the turbinate. There are also cases of accessory sinus disease, which probably are caused by a deflection which prevents drainage and treatment of the sinus intranasally.

It makes no material difference whether the deviation is due to traumatism or faulty development. There is no case inoperable so far as the condition of the septum itself is concerned, but there are a few contraindications that, as a rule, would apply generally to any operative procedure—advanced tuberculosis for example;

*Read before the Essex County (N. J.) Medical Society at Newark.

but patients who have pulmonary trouble with a fair prognosis may be greatly benefited by increasing the calibre of their nasal passages. Any infective process on or near the nose, such as lupus or furunculosis, would jeopardize the result; also constitutional diseases such as diabetes and active syphilis should prevent any operative procedure.

Patients suffering from acute coryza should be allowed to recover before being operated upon, and where there is purulent secretion the nose should be treated first to reduce the pus as much as possible before proceeding; but when the septal deviation prevents drainage from an accessory sinus, and the treatment of the sinus disease is hindered by the deflection, I believe in going ahead and performing the resection under as nearly aseptic conditions as can be obtained.

Fig. 1. Myles' Septal Knife.

Technique of the operation. Nearly every operator has perfected a method of his own. Krieg, for instance, removes the membranous flap, leaving but one thickness of mucous membrane, namely, that on the concave side. Under these conditions the raw surface has to heal by granulation and if not well watched the result is not always good. Killian uses a straight incision running from the floor "about one-half a centimeter back of the movable edge of the septum, not parallel to it, but a little oblique. The upper end is one centimeter or more further back than the edge of the cartilage." Hajek makes his incision along the free border of the cartilage; this brings it into the mucocutaneous portion of the septal membrane. Freer uses an L-shaped, an oblique, or an inverted T-incision, according to the nature of the deviation. I use a slightly curved incision, differently placed, according to the nature of the deflection, extending from the nasal floor upward and forward to the junction of the septum with the lateral wall.

Preparation of the patient: Have the face washed well, then follow by an application of bichloride of mercury, 1 to 5000 solution. Cover the hair and clothes with aseptic towels. If the membrane of the nose is normal the nasal cavity needs no preparation; if there is evidence of any infective secretion a douche of physiological salt solution should be given.

One of the most important points in the technique is the cocainization. It will repay one for the time expended to do this thoroughly, for the comfort of both the operator and the patient. I first spray both sides of the nose with a solution of an adrenal extract, 1 to 1000 containing 1 per cent. of cocaine, I then pack both nostrils, if the deflection will permit, with cotton saturated with 5 per cent. cocaine solution and leave it in about twenty minutes. If the deviation is so extreme that it is impossible to pass the cotton pledgets, I then use a small silver cannula and inject a small quantity of 5 per cent. cocaine past the deflection several times during the twenty minutes. On the removal of the cotton, spray with adrenal extract 1 to 1000, and then submucously inject, at several points along the line of the incision, a few drops of 1 to 1000 adrenal extract, containing one-half per cent. cocaine. If this method is used there will be absolutely no pain experienced. I operate with the patient in the upright position.

Instruments used. It is apparent that special nstruments are required and different operators have devised sets ranging in number from five to over twenty for use in this operation alone. I will describe the ones used by me, which comprise five special instruments supplemented by three others that can be found in any rhinologist's armamentarium. A large number of instruments is often confusing to the operator, and in addition causes loss of time in selecting the one desired. I will describe the different instruments as they are used in the course of the operation.

Having the nose perfectly anesthetized, as described, the incision is made in relation to the character of the deflection. If the free border of the quadrilateral cartilage is deviated, I start the incision on the floor of the nose and extend it along the deflected free border forward and upward to the junction of the septum with the lateral cartilage. If the deflection begins further back in the cartilage, the incision starts at the nasal floor about 3-16 of an inch in front of the deviation and runs upward to the junction of the septum with the lateral wall. The incision is given a slight curve forward to facilitate the elevation of the membrane and to increase the area of cartilage exposed. The cut should pass through both the mucous membrane and the perichrondrium and a little way into the cartilage to make sure that the perichrondrium has been divided along the entire length of the incision. I use for this purpose Myles' septal-knife which is semicircular in shape set at right angles to the shank. I use this knife as it is the most convenient instrument I have found for this purpose, but an operator can use any knife that is most convenient for him. I find it nearly impossible to incise accidently the mucous membrane on the opposite side with Myles' knife. Now I am sure that the perichrondrium has been divided. Next I use the sharp end of my elevator, which is a double ended instrument, the sharp end resembling a Volkmann curette, except that the cavity of the spoon is filled with metal. At first I used the curette for this purpose, but later had the elevator made like his curette without hollowing out the spoon. I have recently found out that Hajek's elevator closely resembles this instrument, the only difference being that mine is somewhat smaller. The other end of the elevator is made of copper and is blunt and rounded. The flexibility of the copper allows this blunt end to be bent in any way desired so as to reach the posterior portion of the greatest angular deflection. The sharp end of the elevator is now inserted into the incision and worked along until the perichrondrium is elevated back about one-third of an inch, then the blunt end should be used

Fig. 2. The Author's Submucous Elevator.

to continue the elevation over the entire cartilage on the convex side. The next step is to penetrate the quadrilateral cartilage. This I do just in front of the deflection with an ordinary bone curette as suggested by Yankauer, scraping through the cartilage until the membrane of the other side appears. I find this the safest way, as the membrane is pushed before the curette and not wounded, as is frequently the case when a knife is used for this purpose. Having exposed the membrane for about three-eighths of an inch vertically, I pass the elevator through and separate the mucous membrane from the concave side. Care must be used in elevating the membrane in order not to perforate it, as it may mean a permanent perforation. The cartilage now being free from membrane on both sides, the

Fig. 3. Bone Curette used for scraping through the cartilage.

Fig. 4. Ballenger's Swivel Knife.

next step is to remove the deflected portion. Some operators use punch forceps for this purpose, biting the cartilage out in small pieces; others use small knives, set at different angles to their shanks, and cut the cartilage out in one piece, but the best instrument, in my opinion, for this purpose is the swivel knife, devised by Ballenger of Chicago. This is a small U-shaped knife about three mm. wide, which swings between two prongs like a tuning fork; the ends of the U or stirrup knife are hinged to the ends of the prongs so that the cutting edge follows the direction of the pressure at the ends of the prongs. With this swivel knife the cartilage can be removed in a few seconds, while the other methods take minutes, and it leaves a smoother edge on the remaining portion. The Ballenger knife is so placed that the blade is against the edge of the cartilage where it has been perforated with the curette with one prong of the instrument on either side. The blade is pushed back along the incisor crest of the superior maxilla and the superior border of the vomer until the perpendicular plate of the ethmoid is reached, then upward along the perpendicular

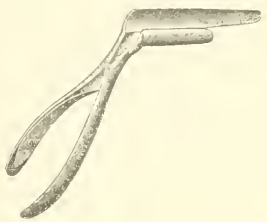

Fig. 5. The Author's Submucous Nasal Speculum.

plate as high up as the deviation extends, then forward to within about an eighth of an inch of the junction of the septum and the lateral nasal wall, then downward until the blade emerges where it entered the cartilage. This all takes but three or four seconds in an uncomplicated case. The deflected cartilage can be removed *in toto* with dressing forceps. The cartilage is thoroughly removed by the sense of touch. Now the cavity is inspected to see if the cartilage alone is deflected; if so the operation is completed, but if we find that it extends into the bone we proceed with the removal of the bony deflection. For the purpose of inspecting this cavity caused by the removal of the cartilage, some operators depend only on the ballooning out of the mucous membrane by the patient's inspiration, but as the patient cannot inspire all the time it strikes me that the operator must make slow progress. Killian uses his nasal speculum, which holds the membranes apart with its long blades. I have a speculum with a long upper blade and a short lower one, thereby rendering the aid of an assistant unnecessary. All

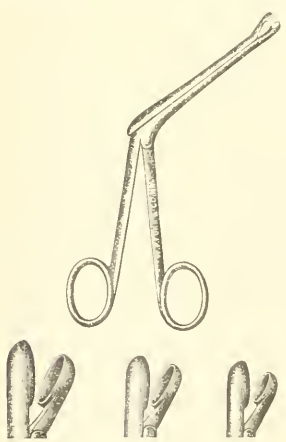

Fig. 6. Grunwald's Forceps.

the operators with whose writings I am familiar, require at least one, sometimes two, assistants, but my speculum separates the two membranes without possible injury and holds up the tip of the nose at the same time. The long blade is passed between the membranes and the instru-

ment is used with the long blade uppermost at all times. This instrument is not intended for use until the cartilage has been removed, which allows for the entrance of the long blade. With this speculum in place the interior can be easily seen at all times, and the bony deflection attacked in full view.

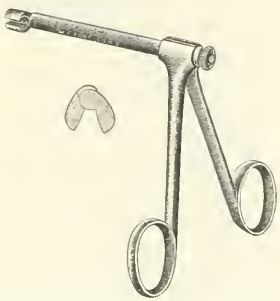

Fig. 7. The Author's Down-cutting Forceps for attacking the Septal Ridge.

Of the instruments used at present for removing the bony portion probably the best is Grunwald's forceps, which bites out that part of the perpendicular plate and vomer that is deflected, but there is no forceps yet described that will satisfactorily remove the incisor crest of the superior maxilla or a low deflection of the vomer. Most operators use a chisel or gouge. Chiseling the bone from the nasal floor in this way requires at least one assistant, and there is also thereby a fairly good chance of injuring the membrane. After the bone has been freed from the floor it is still attached behind, where it has to be broken off. For this purpose I have devised a cutting forceps on rather novel lines. It easily separates the membrane from the bone without causing it any injury, keeps the parts well in view, is worked without the aid of an assistant, and in addition secures a much smoother surface than that obtained by the use of the chisel. Now place the two septal membranes in apposition and if they are perfectly in the median

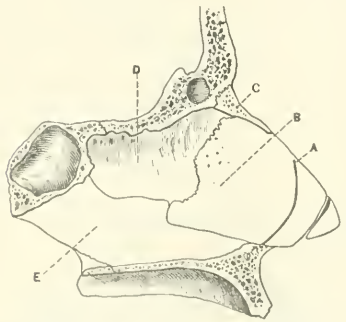


Fig. 8. Nasal Septum. A, Curved incision; B, quadrilateral cartilage; C, nasal bone; D, perpendicular plate of ethmoid; E, vomer.

line with no prominences, the septum will be straight when healed. I now wash out the cavity with peroxide of hydrogen and follow with a nasal douche of physiological salt solution. I then place a small Bernay sponge in the side operated upon, taking care to keep the edges of the wound in apposition. I also place a Bernay sponge in the opposite side to keep the membranes in the median line and prevent the formation of a hematoma. The sponges are to be saturated with some nasal wash that contains a small amount of formalin; this causes the sponges to swell and holds the septal membranes firmly, preventing hemorrhage. The patient is then

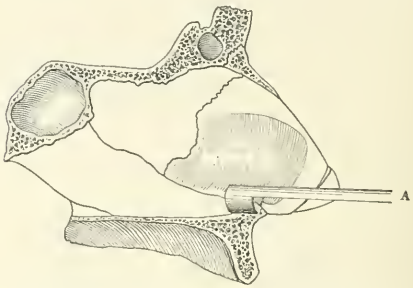


Fig. 9. The shaded part shows the portion of the cartilage removed. A, the cutting forceps engaged on the anterior nasal spine or incisor crest and the vomer.

allowed to return home. Some operators put their patients to bed for a day, but as there is no shock in the average case, and with my method of using cocaine, but little depression, I think they are better off out of bed. I remove the Bernay sponges on the next day. The patients are provided with an ointment, consisting of salicylic acid and menthol, each five grains; lanolin and vaselin each half an ounce, to use liberally in the nose for the next twenty-four hours, and then I have them gently douche the nose twice daily with physiological salt solution. As the normal function of the elevated membrane does not return for several weeks the use of the ointment is continued, which overcomes a tendency of the mucous membrane to become dry and crusted. Some swelling is liable to occur after the removal of the Bernay sponges, which gradually subsides at the end of from ten to fifteen days. The one unpleasant complication that may arise is septic infection, but

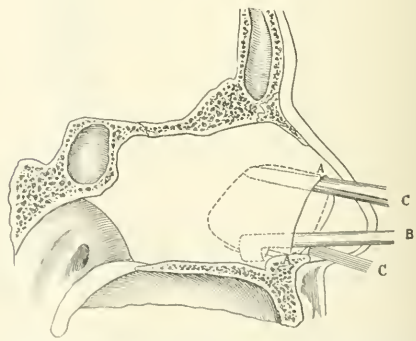


Fig. 10. A-A shows the incision held open by the long blades of the speculum C-C; the dotted enclosure indicates the amount of cartilage removed; B, down-cutting forceps attacking the lower deflected border.

if the patient is properly prepared and the surgeon's hands and instruments are sterile it should not occur; if it does, there is only one thing to do, and that is to open up the wound and drain. Another less serious complication which has happened to me once, is to have a hematoma form between the membranes after the removal of the

sponges. If this occurs and is neglected the clot probably will organize and the nose again become occluded; but it amounts to nothing if recognized and properly treated by compression between Bernay sponges for a day or two.

The after-results and permanency. Killian seems to use the submucous window resection to the exclusion of all other operations for a like condition in the septum. Freer's first cases of nearly three years' standing are in excellent condition, septum being firm and giving him the impression that the cartilage and bone had reformed. In one of the cases, in which a perforation occurred, it was found free from crusts and gave no trouble whatever. I removed a piece of the septal membrane in one of my cases over a year after the initial operation, and subjected the specimen to microscopic examination, but could find no evidence that the cartilage was reforming, yet the septum in some of my other cases seems firm to the touch and leads me to believe that cartilage does form. I have done this operation thirty-one times, the youngest patients were 12 and 14 years of age, the oldest 60 and 63 years. I do not consider the extremes of age a contraindication as some do, except that very old people have tolerated their condition so long that it does not seem necessary to change it for an additional year or two. In very young subjects this condition is rare and sometimes the deflected septum is a part of a more extended deformity of the facial bones. Quimby (*Medical News*, March 12, 1904) reports the case of his own child who developed a deflected septum with a high narrow palatal arch; spreading of the teeth brought down the arch and so relieved the pressure on the septum that it finally became normal.

The possibility of weakening the nose or destroying the nasal profile. No one has, as yet, so far as I am able to find, reported a case in which the nose has been depressed by any injury after the operation. Freer reports four cases, in which severe blows were received upon the nose subsequent to the operation, with no ill effects. As to the sinking in or change of the nasal profile, most operators have not observed the slightest alteration in contour. However, Menzel and Mueller think they have seen some slight depression follow removal of the cartilage from under the lateral cartilages, but as many others have done this without recording any ill effects, and as it is not necessary in the majority of cases to go right up to the attachment of the septum with the lateral cartilages, I think this is no danger as long as primary union is secured. If the whole truth could be known it would probably be found that an infection caused fibrous tissue to form which contracted and pulled down the superior lateral catilages, thereby changing the nasal profile somewhat.

Time consumed in performing the operation. Killian claims the average of twenty minutes; Freer averages forty-five minutes. As long as one is not hurting the patient, a saving of time is not so very essential. The one keynote to success in throat and nose surgery is to have the patient thoroughly cocainized and take the time to see what one is doing. Do not work at the bottom of a dark cavity filled with blood, if you expect to achieve good results. My shortest time was ten minutes and my longest nearly an hour. Sometimes the elevation of the mucous membrane is difficult and tedious, but more often the time is taken up in removing the deep osseous deflections, for this, as a rule, is rather slow work Inasmuch as this operation has come to stay it will in time probably supplant the crushing operations of Asch, Gleason, Roe, and others, entirely. However, it is a much more difficult operation to master thoroughly than the above mentioned, and in consequence of these technical difficulties it may not be as universally employed for some time as its merits justify.

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## REMARKS ON CONSERVATIVE GYNECOLOGY.

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The usefulness of the ovaries is no longer a matter of doubt and they are certainly possessed of a regulating and dynamogenic function analogous to other glands of the body, while pathologic disturbances occur in subjects after ablation. In this short paper I intend to discuss those lesions for which these glands have been removed, and endeavor to ascertain if a large number of females who have undergone irreparable mutilation might not have recovered and been mothers if other operations or treatment had been carried out. In going over the literature from 1882 to 1892, one would be led to suppose that there are few cases where a temporizing and conservative treatment is justifiable. During this decade it is to be noted that operation was resorted to, not only in serious cases, but even for very trifling lesions. Not only were quantities of healthy ovaries removed, but mistakes in diagnosis led the most expert surgeons to remove healthy adnexa, and it is unfortunate, but yet true, that even at the present time ovariotomy and hysterectomy are still being done for simple metritis, catarrhal salpingitis, hydro or hematosalpinx, bilateral or unilateral cystic transformation of the gland, ovarian neuralgia, so called, generalized pains of nervous origin, hysteria, insanity and even nymphomania and masturbation. Then, again, all types of prolapsus and displacements have been subjected to hysterectomy, which can hardly be called a rational procedure in these cases. In every other branch of surgery, modern technique has resulted in conservatism, and it seems most curious that gynecology alone, is the exception to the rule, and has not followed this conservatism since the discovery of the antiseptic and aseptic technique. At the present time, instead of amputating, the surgeon endeavors to preserve the limb intact. Cavities are drained, abscesses and joints are curetted, and it is always the function and importance of the organ which guides the surgeon in his acts. To remove is not to save, and one should endeavor to obtain a satisfactory result by every possible means, before undertaking an operation which, besides its inherent gravity, will place the woman in a condition of marked inferiority from a social point of view. Conservative surgery is, without any doubt, much more difficult and arduous, and far less brilliant than the other, but it appears to me far more scientific and fruitful in its results. The future will without doubt show this, and so great an authority as Emmet hoped that future generations would not have to undergo castration, because he believed that surgeons would become better equipped for treating disease. It has been upheld that it is because the profession in general is not sufficiently well educated, skillful, or patient enough to treat clients by

simple means, and that physicians are in a hurry to have recourse to both violent and dangerous procedures.

On the other hand, although the operating surgeon has many causes to complain against conservative treatment in many acute abdominal cases, and to reproach conservative operators for their lack of power in certain surgical conditions, it may be said in reply that, this is still one more reason for endeavoring to improve a method which, in spite of its imperfection, or rather its nonperfection, has already given such splendid results, and which will enormously diminish the cases justifiable for ovariotomy or hysterectomy. Although it has been upheld that many affections, which are a despair to medicine, are easily recovered from by surgical treatment, in reply to this it may be said that at the present time many diseases which were the triumph of surgery, can be cured by medical treatment, and that not infrequently hot vaginal irrigations, revulsion, rest in bed and simple means are quite sufficient for avoiding an operation which has been advised. For that matter, the greater number of surgeons who currently advise major interference are becoming more and more conservative, having experienced all the inconveniences and delusions, and they now operate only when absolutely necessary, in the first place endeavoring to treat the case by milder means. This tendency towards surgical conservatism is becoming more marked every day, and many prominent operators are endeavoring to preserve the physiological function of the ovaries.

The theory which gave rise to hysterectomy, that is to say, the formation of a large opening, which would give issue to intraabdominal collections of pus, is now giving way to curettage and drainage by incision through the posterior cul-de-sac. The pathogenesis of infection being better known, has revealed the fact that the uterus is invariably the primary starting point, and that inflammation of the ovaries, salpingitis, and generally speaking all the various inflammations of the adnexa are merely the consequence of a metritis or some uterine infection, which has developed from most varied causes. Whether the infection extended by the way of the lymphatics, as it is the present tendency to admit and as seems to be proven by the evolution of the process, or has followed the veins as certain authorities still uphold, it has been demonstrated that, if a curettage is done and a careful antisepsis of the uterine cavity carried out, not only will the lesion of the uterus be cured, but the infectious phenomena by propagation are capable of subsiding little by little, and finally completely disappear. The salutary influence of a well-directed intrauterine treatment, that is to say, conducted with every possible care and persistency from the very minute that the first sign of infection makes its appearance in the genital apparatus, cannot be too greatly insisted upon, and curettage, free dilatation, and drainage of the uterus, represents a very effective treatment. It is not at all doubtful that when they are rightly handled the cases which have been considered as requiring the major interferences may be greatly reduced, and from our knowledge of the pathogenesis of lesions of the female genitals, it has been demonstrated that the therapeutics of affections of the adnexa are intimately united to pathologic processes in the uterus so that, under these circumstances, it is easy to understand how certain types of tuboovarian inflammatory processes, such as catarrhal salpingitis, purulent salpingitis at the beginning, and hydrosalpinx, may be greatly improved or even completely cured by simply treating the concomitant uterine lesions. It is only logical to maintain that in the treatment of periuterine inflammation serious interferences, such as laparotomy or hysterectomy should always be reserved for those cases in which it is manifestly impossible to resort to conservative surgery.

The uterus being the cause of infectious processes arising in the female pelvis, it was naturally logical to look in the first place for means of preventing this infection, or to control it if it had already developed, and all conservative operators have practically returned to the older procedures which had been abandoned. Hot vaginal irrigations, curettement, drainage, the various amputations of the cervix and intrauterine applications were taken up and some method having been applied to these various procedures, it was not long before all these conservative means were again adopted in current gynecological practice. The best conservative treatment is that which does not allow the lesions to develop, and consequently the prophylaxis of the various forms of metritis will certainly diminish the number of cases requiring major interferences; but this teaching, although perfectly true in theory, is in my way of thinking, very difficult to accomplish in practice. This may be accomplished in cases of metritis arising from postpuerperal infection, but one will always meet other cases which arise from causes of a more or less complex nature. For example, the gonococcus has a large share in the pathogenesis of pelvic inflammation and all the various microbic associations are quite capable at a given time of causing various complications to make their appearance, which may be attributed to a kind of latent microbism, a sort of virtual infection waiting for some pathologic change to arise in order to develop. All reflex congestion produced by affections of the ovaries or tubes, excessive coitus, fatigue, and traumatism, are so many more causes quite impossible to prevent. As far as metritis is concerned, the results obtained by curettement are excellent, and it is well known that even when other infections do not exist it is nearly always a cause of sterility. Owing to the acid secretions given off by the inflamed uterus, the obliteration of its glands, the excessive proliferation of its epithelium, and by the mucous plugs obliterating the cervix, the organ becomes incapable of receiving the spermatozoid, and even if it should allow its entrance, cannot preserve it alive in its cavity. And still more, when there is a metritis, it is almost always accompanied by a certain degree of salpingitis on account of the continuity and contiguity of the tissues. The question consequently comes up as to whether or not the lesion can be cured by the various means that I have mentioned, and if, for example, by destroying the uterine mucosa, the seat of the lesion, one might not permanently remove the power of gestation from the uterus. In reply to this it may be said that beside the numerous instances of pregnancy arising after this treatment, and which have settled the question, many authorities have experimented on animals, and have found the uterine mucosa endowed with a surprising vitality, and that it is not long in becoming completely regenerated after having been removed by the curette. In dissecting metritis, which is a very rare lesion in which part of the muscular layer of the uterus is also eliminated with the mucosa, regeneration becomes an impossibility, but in all the other types of metritis, even when large strips of mucosa have been expelled, *restitutio ad integrum* occurs.

From the purely physiological and functional standpoint the numerous writings of Schroeder, Martin, Durclius, Benicke, Henricius and others have demonstrated that after curettement, conception can perfectly well take place, while gestation

will undergo its regular evolution. Out of a total of 56 patients treated by curettement, Henricius found that 16 became pregnant, in other words 32 per cent.; while de la Torre was able to obtain 11 pregnancies out of 48 interventions of this kind, which practically represents the same percentage. Among the patients treated by Henricius, pregnancy took place in two, five weeks and in one eight weeks after curettement, which would seem to show that very little time is required for complete regeneration of the uterine mucosa. In 13 cases of metritis complicated with catarrhal salpingitis, in which the patients had been advised radical operation, I was able to obtain a cure by thorough curettement and antiseptic treatment, and three of these patients ultimately became pregnant and went to term. In several other cases of unilateral or bilateral purulent salpingitis, when I deemed removal of the tubes necessary, and where the operation was refused by the patients, I did a thorough dilatation and curettement, and found that the tubes discharged by way of the uterus, and ultimately recovered perfect health, although I am unaware that any of these ever became pregnant.

The therapeutic results of curettage are too numerous and well known to require further discussion as to the value of this operation, but I would point out that when contrasting it with hysterectomy, it is far superior if the desired result is obtained by it, because it in no way disturbs the physiological functions of the organ, and in certain cases even, it appears to awaken them. Many cases of sterility might be quoted which have been overcome by this operation, and in my own notes I have two cases of women who had been married respectively three years and five years, who had remained sterile, and who conceived within four months after they were curetted. For example, in glandular cervical endometritis, which gives rise to hardly any painful phenomena, having no influence on the general health and simply giving evidence of its presence by a slight discharge, or by a little mucous plug obstructing the cervix, finally leading to stenosis, pregnancy will frequently take place after curettage, dilatation, and removal of a portion of the cervical mucosa.

Personally, I believe that in cases which have reached the stage where they are giving rise to symptoms, there are several lesions in the genital apparatus, and that the success obtained by operation depends entirely on the rational treatment of all the lesions met with. To this complex condition a complex treatment is required and each element should be carefully treated and, if all the indications are not taken into consideration, an unsuccessful outcome will be the result. For example, the uterine mucosa and parenchyma must be attended to, the position of the uterus corrected, if displacement exists, and intraabdominal adhesions broken down, if they are present. It was these very indications that caused Schroeder to invent his operation, Emmet to practise his well-known operation of trachelorraphy, and Bouilly to remove a portion of the cervical mucosa in order to open the deep-seated culs-de-sac and attend to the stenosis of the cervix or amputation of the cervix performed at different parts of the organ, by all the well-known procedures. If, for example, we take a complete metritis with laceration of the cervix and perineum, prolapsus of the vaginal walls, and backward displacement of the uterus, a cure can be obtained only by curettage followed by Schroeder's operation with a plastic operation on the vaginal walls, and some method of shortening the round ligaments. If one of these procedures is forgotten, the result will be that the patient will continue to suffer as she did before the operation, and I have come to the conclusion that a large number of cases considered as incurable and in which every conservative treatment had been tried without effect, have been submitted to a major operation only because the operator had omitted a certain point in the treatment which he considered perhaps as of too little consequence.

I have already pointed out that metritis rarely exists without some salpingitis, and, although the uterus is the starting point of the infection, the process does not always remain localized to the mucosa of this organ, because it invades the tubes, and from the periuterine parenchyma extends to the ovaries and peritoneum, so that when this has taken place one will be dealing with a salpingitis combined or not with inflammation of the ovaries and pelvic peritonitis, forming those cases presenting serious symptoms; in other words, a pelvic peritonitis. Now, it is just in these cases that I am of the opinion that a radical operation is far from being always indicated, and that more conservative measures may result in cures which can hardly be expected. I am firmly convinced that in the treatment of inflammation of the adnexa, whether this has or has not extended to the pelvic peritoneum, a certain proportion of patients may be cured by medical treatment, particularly so in infection from the gonococcus, even when very severe peritoneal symptoms are present, which might lead the inexperienced surgeon to believe that the ultimate consequences would be serious. In point of fact, evidences of a former pelvic peritonitis will be met with in a very large proportion of autopsies, although the subjects have entirely recovered from the process which apparently has given rise to little disturbance during life. Experience demonstrates that a large percentage of patients presenting these conditions recover, and some even to such an extent that they not only have no discomforts from their affection, but they have even conceived at a later date, and have been delivered at term. It would, however, be most illogical to suppose that each and every case will recover simply by *vis medicatrix naturæ* aided by conservative treatment.

Drainage in cases of metritis with inflammatory lesions of the adnexa, has been a most effective treatment, and numerous recoveries without further operation have been recorded, and I have no doubt whatsoever but that drainage of the uterine cavity with gauze may result in a cure of pyosalpinx in not a few cases, and that not infrequently the patients may ultimately conceive and go through a normal labor. Whatever material is used for drainage, be it silkworm gut, iodoform gauze, or rubber drains, it certainly favors the discharge of the mucopurulent secretions, and by acting favorably on the circulation of the uterus, the muscular tonicity of the organ is awakened and the menstrual functions finally return and are carried on normally.

In a certain number of cases of encysted collections, surrounded by masses of dense false membrane, which might seem at first to require laparotomy or hysterectomy, recovery may in some few instances be secured by drainage of the uterus, and on several occasions I obtained excellent results in cases of suppurating salpingitis by dilatation, curettage, and drainage of the uterus, the purulent collections in the tubes being emptied out through the uterine cavity, although this process has been denied by a number of eminent authorities. It was formerly thought that curettage should never be undertaken when lesions of the adnexa were present under the pretext that these lesions might be aggravated by the operation, but on this

point I cannot agree, as I have seen great improvement or even recovery follow this operative interference under these circumstances.

It may be questioned why one should be desirous of preserving the organs, which, when patients are relieved of their pathological process, will be of little or no use, because they are forever afterwards incapable of accomplishing their functions. Now, it is quite certain that after a salpingitis the tubes do not always return to their normal state, and that by a fibrous or sclerous process their lumen becomes closed, so that a functional impotency results, producing sterility. Although this may be a general rule, I would point out that sterility does not appear to be an absolute consequence of salpingitis, and the tube may remain perfectly patent and never become obstructed. Even admitting that following some suppurative process, the lumen of the tube becomes occluded, it may nevertheless be hoped that this mechanical or pathological obstruction will in time disappear, as the lesion regresses. If the lesion is unilateral, as is often the case, it is evident that the healthy tube will continue its normal function, and no surgeon ever dreamed of removing both testicles when only one was the seat of an orchitis or an epididymitis under the pretext that the healthy organ would no longer be useful, and it is of every-day observation to find that after an inflammatory process the genital power has been preserved.

The pavilion of the tube may be compared to the epididymis, and in point of fact an analogy exists between tuboovaritis and epididymitis, and there is no doubt in my mind but that certain lesions, such as catarrhal salpingitis, perisalpingitis, and periophoritis may be recovered from, the patient retaining her reproductive functions. I have notes of two cases seen in consultation of pregnancy following salpingitis, in which conservative treatment was used, so that it seems possible that, under the influence of some conservative treatment, such for example as curettage and drainage, the uterine ostia of the tubes may become free of their obstruction, and by the action of the drainage the lesions regress sufficiently for permeability of the lumen of the tube to result. Assuredly, when in presence of serious suppurative processes in the uterus and adnexa, one should not be prevented from acting by a mere philosophical consideration, but such consideration, although no longer philosophical and in reality practical, is to be seriously considered when the suppurative process does not place the life of the patient in danger.

In this short paper it is not my intention to consider all the various conservative treatments, because given the great variety of pelvic suppurative processes, it at once becomes evident that one must make a choice of technique. I would, however, refer to posterior colpotomy in suppurative lesions, a subject to which I have given much thought, and with which I have had no little experience. The various changes this technique has undergone and the brilliant results it has given at the hands of many operators, make it at the present time a most valuable procedure. In the very acute cases, when it would be hazardous to open the abdomen with the purpose of performing any radical interference, drainage through the posterior cul-de-sac will relieve the patient of her septic symptoms, and place her in a condition such that later on she will be able to undergo a radical operation with all possible chance for a successful outcome.

Upon several occasions when I have done an exploratory laparotomy, the result has been fortunate, and, although nothing radical could be attempted, abdominal incision, followed by drainage, has worked marvels. Many similar examples have been published by other operators who, after having attempted removal of the diseased organ, were obliged to give up on account of the difficulties presented, and still, much to their surprise, within a short time, the process disappeared and the patients completely recovered. Whether or not the fact of opening the peritoneum has a revulsive effect on the lesions, producing a kind of irritation, greatly changing them, and even causing them to disappear, is an hypothesis which has been admitted, but not generally accepted.

As has been said, metritis is usually the direct cause of sterility, but it occasionally happens that this process gives rise to a retroversion of the uterus, and it is this displacement that is the hindrance to fecundation. Consequently, if the uterus is replaced surgically, there may be some prospect of conception taking place.

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## TRYON, N. C., AS A CLIMATIC RESORT

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Tryon is situated in the western part of North Carolina, at the foot of the steep slope forming the connection between the mountainous region and the lowland, slightly above the 35th degree of north latitude, at an altitude varying from 1,000 to 1,200 feet above sea level, and about 250 miles from the Atlantic.

Its scenery is beautiful—not one of those amazing natural phenomena like Niagara Falls, Yellowstone Park, Yosemite Valley, or the Grand Cañon in Arizona, that almost overwhelm one, and are too grand for daily use. Tryon's landscapes are of a decidedly feminine character. Everything is near and cosey. From all the hills, upon and among which it is built, the eye glides quietly over wooded or cultivated valleys, and is soon arrested by mountains not passing the modest height of 2,500 feet. The longer one looks at it the more it gains on one. One absorbs it; it becomes part of oneself.

From all I have been able to gather by studious inquiry of persons from different parts of the country, of people who have traveled all over the states, and from my own personal experience, I conclude that Tryon has the best all-year-round climate in the United States. It is mild and dry. Half a dozen chains constituting the southwestern Appalachian Mountains give the little village shelter from the cold northwest winds blowing over the plains from North Dakota, and from the wet northeast winds laden with the fogs of the Newfoundland banks, and it lies thus in a haven open only toward the southwest. The prevailing wind is a soft breeze moving from the southwest fast enough to keep the air fresh, and slow enough not to make one feel chilly. It rains little, and mostly at night, or as part of an afternoon thunderstorm. The number of totally or partially sunny days is very great; in the year from September, 1904, to and including August, 1905, there were 296 such days. Even in summer the air is light, sunstroke and overheating, which may kill several hundred persons in New York in twenty-four hours, are unknown; and the nights are always cool, affording restful sleep.

Northerners are inclined to expect too much, and they are sorely deceived when they think that here is no winter. Sometimes it freezes, very rarely it snows, and most people enjoy a fire in the stove during seven months of the year; but the real winter

is short, lasting little more than two months, and, compared with that in the more northerly states, is exceedingly mild. Cold snaps that extend their devastating influence down into Texas and Florida reach Tryon so mitigated that they are hardly perceived. On the other hand, summer heat is never oppressive. Even in July and August, the inhabitants of the states lying south of North Carolina, find Tryon a pleasant, invigorating summer resort, free from any kind of fever. Spring and autumn are indescribably beautiful. In April the trees begin to bud, and soon leaves of rare beauty and enchanting flowers afford never-ceasing, daily-renewed joy. In October the leaves turn, but cling long to the trees, some even all winter. During the autumn one can follow the transition from green to red and yellow in endless variety.

The temperature avoids extremes. The lowest degree I have seen was 14° F. above zero, the highest 98°, but the change occurs quite gradually. Drops of 40° within a day, which are not rare in New York, are unknown here. Last winter, which was an exceptionally severe one, the thermometer went below 32° F. in the daytime on only eighteen days, and the preceding winter on only fourteen.

Drainage is perfect. The surface being hilly and the soil sandy, all water runs off to the numerous creeks and branches, or sinks into the ground. Hardly has the last drop of rain fallen, before one can walk about dryshod. Nowhere is there any stagnant water, therefore mosquitos and clothes moths are rare.

The woods offer a happy combination of hardwood trees and pines, so that the scenery remains green all through winter.

A point of great importance is the moderate distance from the large cities of both North and South. A person can come from New York in 25 hours, with only one change of car for the last 26 miles, and with all conveniences as to meals and other comforts.

My personal experience in Tryon has been most satisfactory. I left New York two years ago so sick a man from rheumatism and goutiness that I could be transported only in an invalid's chair to the stations and in a so-called drawing-room, with bed and lounge, in the train; and now I can work for hours with spade and mattock.

The dry, mild climate allows even delicate persons to spend a large portion of the day in the open air. Some even make up their beds on the piazzas or sleep in hammocks in the open. The place is, therefore, particularly recommendable to rheumatic and gouty people, to convalescents after serious diseases or operations, to anemic persons, to those who suffer from a broken-down nervous system, to those affected with tuberculosis, heart disease, or any ailment of the respiratory tract.

Tryon is a place that is being sought both from the North and the South, and would be much more so if the great advantages it offers as a health resort were more generally known.

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**Report of a Case of Traumatic Asphyxia.**—R. H. Birge describes this interesting case. The patient, a large, muscular man, was caught and pinned down against the sharp edge of a platform by an overturned car loaded with steel rods. The writer reached him just as he was being extricated from his perilous position. The patient's face was rapidly becoming a bluish black. The eyes protruded, there was a slight flow of blood from the nose and mouth, and he was unconscious for a few minutes after being released. From the level of the nipples upward over the neck and face and into the scalp the skin had a dusky, bluish, mottled appearance. When pressed by the finger the color became only slightly paler, and when pressure was removed the original tint slowly returned. On the supposition that the patient was cyanotic, artificial respiration was administered, but with this treatment the appearance of the skin became even worse. It was evident that cyanosis was not the cause. Uniformly distributed all over the skin were tiny areas of natural skin tint surrounded by an indefinite bluish border, these borders uniting in a meshwork. After about three days this peculiar appearance of the skin began to disappear, although it was four weeks before its normal appearance was resumed. The color did not go through the usual stages of extravasated blood, but gradually the normal areas of skin became larger until the blue points had disappeared. Recovery was uninterrupted, and eight months later the patient was back at work. The writer says that the gross cause of this curious clinical picture is forcible compression of the chest, extending over some minutes, accompanied by entire cessation of respiration. Microscopic study of skin taken from such cases has shown no signs of blood in the tissues outside the blood vessels. As to the cause of the sharp limitation of the color to the head and neck, the writer is inclined to ascribe it to the lack of valves in the jugular and facial veins. It seems rational to suppose that the immediate use of artificial respiration and oxygen, and possibly adrenalin, might resuscitate certain of such cases, could it be applied at once. The secondary treatment, aside from combating shock, must be symptomatic.—*The Cleveland Medical Journal.*

**Acute Anasarca in Recent Malaria.**—A. Masucci describes anasarca as one of the rare manifestations of malaria, which develops independently of any renal alteration. It has been little studied and its pathology is obscure. The author reports the case of a patient who had had mild malarial attacks for a month, and who, after exposure to cold, was the subject of a general anasarca, beginning at the feet and ascending to the other parts of the body. It was noticeable that the edema increased with an attack of fever, and lessened after it was past. There are several there may be edema, not due to renal, lesions, in malarial These are the renal, that there has been a latent kidney trouble; the hydremic, that it is the result of the poverty of blood due to the fever; the cardiac, that it is due to transitory heart weakness; the arterial, that it is due to changes in the vessel walls. The author concludes that there may be edema, not due to renal lesions in malarial cases; it may occur, after exposure to cold, in persons weakened by poor food and bad hygiene living in malarial localities who have not been treated for the disease. It is a complication of malignant tertian fever. There is a hydremic condition of the blood, due to the parasite, combined with severe gastrointestinal disturbances. It may also be produced by a direct action of the parasite on the endothelium of the vessels. There may be trophic and vasomotor disturbances of the parts of the body affected by the edema.—*Annali di Medicina Navale.*

**Eclamptic Convulsion Occurring Fourteen Days After Confinement.**—George Cuscaden reports this case. Fourteen days after the patient's confinement, on her return from a call across the street, she was seized by an epileptic form of convulsion lasting thirty minutes. Six hours later another fit, lasting twenty minutes, occurred. The muscles of the nostrils and the face moved spasmodically, and the mouth was drawn to one side. The tongue was bitten, the thumbs were applied to the palms with the fingers over them, and the forearms were flexed. A condition of slight coma followed. The patient became half conscious and answered when spoken to. The urine contained albumin. The temperature after the fit was 102°, and the pulse was 120. Several fits occurred later, but were not so severe as the first one. The patient is now in good health and eats and sleeps well. There is no albumin in the urine. This patient was thirty-three years old and a primipara. The important factors in the causation of eclampsia are faulty metabolism and impaired secretion. The writer states that he has had good results with thyroid extract treatment. In the present case he advised rest in bed with milk diet.—*The Australasian Medical Gazette.*

# MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

THOMAS L. STEDMAN, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, November 25, 1905.


## THE MEDICAL DISCOVERY OF OLIVER WENDELL HOLMES.

THE name of Oliver Wendell Holmes is held in high honor by the medical profession in America, and we are proud to remember that this most genial of poets was one of us by title. We are wont to think of him, however, as a literary worker simply, and most of us have forgotten, if we ever knew, that he had claims to the gratitude of the world as a life-saver and a medical discoverer. In an address recently delivered before the Trowbridge Division of the Bath and Bristol Branch of the British Medical Association (*British Medical Journal*, November 4, 1905) Dr. Charles J. Cullingworth reviewed the almost forgotten essay of Holmes on the contagiousness of puerperal fever, in which he revealed, with the clairvoyance of the poet, the true nature of this murderous disease. The paper was read before the Boston Society for Medical Improvement and was published in the *New England Quarterly Journal of Medicine and Surgery* for April, 1843, some years before Semmelweiss, to whom the credit for the discovery is usually given, proclaimed his theory. The journal in which this essay was published unfortunately died at the age of one year, and Holmes' discovery was buried with it. So completely has it been forgotten, indeed, that some of the latest American textbooks on obstetrics do not even mention it.

Holmes' attention was first directed to the subject by an incident informally related by a member at one of the meetings of the Boston Society for Medical Improvement. The narrator told of a physician who had made a post-mortem examination of the body of a puerperal fever patient, and had himself died in less than a week, apparently in consequence of a wound received at the examination. In the meantime, he had attended several women in confinement, all of whom were said to have been attacked with puerperal fever. The one who related the incident failed to see its significance, but the quick perception of Holmes grasped it, and he set about to collect the evidence upon which to base his theory of puerperal infection. There was an abundance of material, and in the essay which followed there was an array of facts that should have left no doubt in the mind of the reader that the disease was communicable. But, like all revolutionary discoveries, it was received with incredulity, and the theory was actively opposed by the leading obstetricians of the day, the bitterest among them being the celebrated Hodge of the University of Pennsylvania and Meigs of the Jefferson Medical College. Holmes was no fighter, and though he continued to teach medicine for many years, his heart was more inclined to the gentler art of poesy, and he made no strenuous effort to uphold his views, contenting himself with a general review of the objections raised by Meigs and a few quiet remarks on the worthlessness of the negative testimony upon which the opposition was chiefly based. "No man," he said, "makes a quarrel with me over the counterpane that covers a mother with her newborn infant at her breast."

We cannot quote more extensively from Dr. Cullingworth's interesting review of this epoch-making essay, which we hope will be republished in a form more accessible to American readers, but we cannot forbear reproducing the conclusion of Holmes' paper. These conclusions and rules for preventing the spread of puerperal fever were: " (1) A physician holding himself in readiness to attend cases of midwifery should never take any active part in the post-mortem examination of cases of puerperal fever. (2) If a physician is present at such autopsies, he should use thorough ablution, change every article of dress, and allow twenty-four hours or more to elapse before attending to any case of midwifery. It may be well to extend the same caution to cases of simple peritonitis. (3) Similar precautions should be taken after the autopsy or surgical treatment of cases of erysipelas, if the physician is obliged to unite such offices with his obstetrical duties, which is in the highest degree inexpedient. (4) On the occurrence of a single case of puerperal fever in his practice, the physician is bound to consider the next female he attends in labor, unless some weeks at least have elapsed, as in danger of being infected by him, and it is his duty to take every precaution to diminish her risk of disease and death. (5) If within a short period two cases of puerperal fever happen close to each other, in the practice of the same physician, the disease not existing or prevailing in the neighborhood, he would do wisely to relinquish his obstetrical practice for at least one month, and endeavor to free himself by every available means from any noxious influence he may carry about with him. (6) The occurrence of three or more closely connected cases, in the practice of one individual, no others existing in the neighborhood, and no other sufficient cause being alleged for the coincidence, is prima facie evidence that he is the vehicle of contagion. (7) It is the duty of the physician to take every precaution that the disease shall not be introduced by nurses or other assistants, by making proper inquiries concerning them and giving timely warning of every suspected source of danger. (8) Whatever indulgence may have been granted to those who have heretofore been the ignorant cause of so much misery, the time has come when the existence of a *private pestilence* in the sphere of a single physician should be looked upon not as a misfortune but as a crime, and in the knowledge of such occurrences the duties of the practitioner to his profession should give way to his paramount duties to society."

With the addition of a few remarks on the bacteriology of puerperal sepsis and the insistence on antiseptic precautions, these rules might have been

written three score years later, and would be accepted as truisms. In the words of an English correspondent: "It seems to be a reproach to us English-speaking doctors that we have forgotten the illustrious autcrat's original medical work as we have basked in the sunshine of his literary presence. It is true that his medical discovery dates a long way back and a new generation of doctors has arisen, fed on text-books only, but there are still many who care for medical history and who should delight to remember the poet's early medical work."

## STAINS FOR SPIROCHÆTÆ.

During the past few months the various staining methods that different observers have advocated for demonstrating the *Spirochæta pallida* have been abstracted in the Medical Record, but for the convenience of our readers we reprint several of the more important. The stain recommended by Schaudinn and Hoffmann in their original publication, and which most other observers have been using, is a modification of the Romanowski method devised by Giemsa for blood films and described by him in the *Centralblatt fur Bakteriologie*, Vol. XXXII, No. 4, 1902. The improved form which the inventor gave to this two years later is the one now commonly used, and the formula for this, which was reproduced in the Medical Record Vol. LXVII, p. 280, is as follows: Three grams of azur ii-eosin and eight-tenths of a gram of azur ii are exsiccated, finely pulverized and sifted, and then dissolved in 250 grams of chemically pure glycerin at 60° C. When solution is complete, 250 grams of methyl alcohol at a temperature of 60° C. are added; the whole is well shaken, allowed to stand for twenty-four hours, and filtered. The films are first fixed in methyl or ethyl alcohol and dried with blotting paper. The stain is diluted with distilled water in the proportion of one drop to one cubic centimeter of water, and is poured over the preparation. For blood films staining requires from five to fifteen minutes, at the end of which time the preparation is washed thoroughly under a jet of water and is dried. In applying the stain to the search for the spirochætæ the time of contact with the dye must be very greatly prolonged, however, and different observers recommend leaving the preparations in the mixture from one to twenty-four hours. Giemsa in a later publication (*Deutsche medizinische Wochenschrift*, No. 26, 1905) advises the addition of one to ten drops of a 1-1000 solution of potassium carbonate to the water with which the stain is diluted in order to obtain more rapid action, and he states that by this means the spirochætæ may be demonstrated after fifteen minutes of staining, though to secure the best results an hour's contact with the dye is preferable.

Other procedures have also been suggested in the effort to save time. Oppenheim and Sachs (*vide* Medical Record, Vol. LXVIII, p. 272) describe their technique as follows: The smears are dried in the air and then without previous fixation are flooded with an alcoholic solution of carbol-gentian violet. This is made by adding ten cubic centimeters of concentrated alcoholic gentian violet solution to one hundred cubic centimeters of five per cent. watery carbolic acid solution. The preparation is warmed until it steams, is washed gently with water, and dried. The spirochetes are stained blue, and the authors claim for the method the advantages of simplicity and rapidity. Reitmann (*vide* Medical Record, Vol. LXVIII, p. 110) advocates another plan. The smears are fixed for ten minutes in absolute alcohol, are washed with distilled water, and placed for five minutes in a two per cent. solution of phosphotungstic acid. This mordant is washed out with water and seventy per cent. alcohol, and the preparation, after rinsing with water, is stained with the ordinary carbolfuchsin solution, heated till it steams. The excess of dye is removed with seventy per cent. alcohol, the preparation is washed with water, and dried. The spirochetes are stained red. Dudgeon (*vide* Medical Record, Vol. LXVIII p. 390) recommends a modification of the Leishman stain, and various other combinations have been suggested. It is not yet certain, however, that these several procedures are as reliable as the Giemsa method, although this is open to objections on the score of the length of time required to effect staining, and because its constituents are difficult to prepare, so that it is advisable to purchase it ready made.

A method which is said to give ample staining in fifteen minutes is one described for blood films by F. C. Wood in the *Medical News* Vol. LXXXIII, p. 248. Dr. Wood has furnished the following details regarding the application of his technique to the demonstration of *Spirochæta pallida*: The smears are fixed in strong methyl alcohol for five minutes and dried with blotting paper. The stains are then applied in succession: First, a few drops of a 1-1000 aqueous solution of yellow, water-soluble eosin are spread over the smeared surface with the tip of a pipette; then, four or five drops of a 3-1000 aqueous solution of methylene azur ii are added. The two dyes are thoroughly mixed by spreading over the slide or cover and tipping it backward and forward. The mixture is then allowed to stand for ten minutes. At the end of this time the stain is washed off with a strong stream of tap or distilled water and the smeared surface dried with blotting paper and examined with an oil immersion lens directly without mounting, or mounted with xylol dammar. The ordinary Canada balsam bleaches these preparations very rapidly, as does also oil of cedar. Usually any precipitate which forms can be removed from the slide by a strong stream of water, but if there is a considerable amount, or if specially clean preparations are desired, the precipitate may be removed by dipping the specimen for one second into ninety-five per cent. alcohol and immediately washing off with water. The examination of such smears is exceedingly tedious and a severe strain on the eyes. A mechanical stage should always be used, and artificial light is much more satisfactory than daylight. The best form of artificial light is a Welsbach mantle burner placed quite close to the microscope. The diaphragm of the Abbe condenser should be fully open, and a greenish yellow screen interposed between the light and the microscope. Such screens not only reduce the brilliant white of the Welshbach to a green tone, which is much less trying to the eyes, but in-

crease the contrast between the background and the stained spirochetes. The organisms usually take a carmine red color, which appears almost black when a suitable greenish screen is used. The screens made for photomicrography or for three-color photography are quite satisfactory. Screens are easily made by mixing a one per cent. solution of tartrazin and a two per cent. solution of patent blue (Hoechst). The mixture can be placed in a small bottle with plane sides and suitably diluted to reduce the depth of the color. If preferred one cubic centimeter of each of these solutions may be mixed with twenty cubic centimeters of eight per cent. gelatin. This is sufficient to coat two ordinary 5 by 7 photographic plates. The hot gelatin is poured on the plates and allowed to dry. Two of these plates are cemented together and the edges bound with paper. This forms a permanent screen, which does not lose its color.

### A Suit Against the Health Department.

A case, the outcome of which will be of much importance to the Department of Health and its physicians, has been moved for early trial before the Supreme Court. On July 19, 1905, a little girl who was suffering from diphtheria received an injection of diphtheria antitoxin given by a physician of the Health Department. He also administered to a sister of the patient, who had been exposed to the contagion, a prophylactic dose of antitoxin. According to the complaint, immediately after the injection of antitoxin the child became ill and complained of terrible pains and of burning sensations, and immediately thereafter passed into convulsions, and died within fifteen minutes. The father is suing the Health Department and the physician to recover $50,000 damages for the death of his daughter, which he alleges was caused by the improper injection of antitoxin. The case is said to be the first of its kind ever brought in the courts of this State. From the published accounts of the fatality it would appear that the little girl was one of those unfortunate subjects affected with the status lymphaticus who are likely to die suddenly on being subjected to any physical or emotional shock, and who furnish so many of the cases of death in the early stages of chloroform anesthesia. If the autopsy findings have revealed such a condition it is hard to see how any blame can be imputed to the physician, and while such terrible accidents are always deplorable in the extreme, they are fortunately so very rare that they cannot be brought forward in opposition to a practice that is admittedly so valuable as the protection by antitoxin injection of those exposed to diphtherial contagion.

### An American Invasion Turned Back.

What with the tuppenny tube, the big hotels, sewing machines, typewriters, poker, quacks, and peeresses, the American conquest of England is almost complete, but in one skirmish we have to record a signal defeat for the Yankee forces. The Britons have swallowed a good many things made in America, but they have revolted at the quick lunch counter. Two attempts have recently been made to feed Londoners on surpassing coffee and sinkers, but they have come to grief. One such place was opened, against the protest of *The Lancet*, on the Strand two years ago. It struggled manfully against the competition of the A. B. C. establishments, went through two bankruptcies, and has finally succumbed. Despite this warning another was started a few months ago, and this has now gone under, with a load of debts and no assets beyond a few pots of Boston baked beans. Whether the British mind revolted at the idea of a "quick lunch" or the British stomach could not digest pumpkin pie, waffles, baked beans, and butter cakes, emphemiously styled "sinkers"—we do not know—but the venture has failed. The beef of old England is American, as is the wheat that makes what is called bread in that benighted country, and perhaps if the "sinkers" had been called Yorkshire pudding, and cranberry pie tarts, they too would have gone down with the other Yankee products. The promoters of the scheme were, however, too aggressively American; they called their establishments quick lunch restaurants, they gave Yankee names to their dishes, and they went bravely down to defeat. The moral is evident and should be taken to heart by future purveyors to British appetites.

## News of the Week.

**The Tuberculosis Exhibition** under the auspices of the National Association for the Study and Prevention of Tuberculosis and the Committee on the Prevention of Tuberculosis of the Charity Organization Society will be opened at the Museum of Natural History on Monday, November 27, and will continue until Saturday, December 9. Among the exhibits will be models of tents, balconies, shacks, and other outdoor living places. The New York Health Department will show various phases of its work, and the Tenement House Department and the tenement house committee of the Charity Organization Society will exhibit models of old and new tenement houses. This exhibit will show a typical dark bed-room alongside of a lighted room of the same character, after a window has been put in by order of the Tenement House Department. Models of cells in Clinton State Prison where most of the consumptive convicts are kept, will be shown in comparison with the ordinary cells, which are held responsible for the large death rate from consumption among prisoners. There will also be pathological exhibits from various cities of the country. Public addresses will be given on four evenings. On November 27 Talcott Williams of Philadelphia will make the opening address. On November 29 Samuel Gompers, Prof. Graham Taylor, J. W. Sullivan, and Prof. E. T. Devine will speak on the labor aspect of tuberculosis. On December 1 Drs. Lawrence F. Flick of Philadelphia, William A. Evans of Chicago, A. Jacobi of New York, Vincent Y. Bowditch of Boston, and others will speak on the medical side of the subject. On December 8, Dr. S. A. Knopf will talk on the teachers' part of the campaign against tuberculosis. The exhibition and lectures will be free, the object being educational, and every effort will be made to attract the public.

**New York Red Cross Society.**—The first annual meeting of the New York State Branch of the American National Red Cross was held on November 14 at the residence of Mr. and Mrs. Douglas Robinson. Col. William Cary Sanger of Dangerfield, N. Y., president of the State branch, was present and delivered the opening address. It is the intention of the State branch to organize subdivisions throughout the State. There are already subdivisions in Buffalo, Islip, L. I., and Westchester county. A Brooklyn subdivision will be organized soon and others are under way in Syracuse, Rochester, and Rome. A feature of the work is the enrollment of nurses and doctors for emergency service. Dr. Samuel N. Lambert, Dr. George E. Brewer, and Dr. John W. Brannan have consented to act on the advisory committee. Miss

Laura D. Gill is the chairman of the committee for the enrollment of nurses.

**New York Foundling Hospital Praised.**—The New York State Board of Charities has investigated the criticisms directed against the New York Foundling Hospital for its manner of placing the children under its care in families in the western States. Secretary Robert W. Hebberd of the State Board of Charities and Commissioner Michael J. Scanlan of New York city recently made a ten days' inspection trip, going as far west as North Dakota, where the homes of families in which these children are placed were visited in order to investigate the truth of the assertions that children were being placed in the care of those unlikely to give them proper treatment. In a report on this subject, which has been approved by the State Board of Charities, they say that from personal observation and reliable information they have been convinced that the homes had all been carefully selected and were of satisfactory character, and that they could discover nothing to indicate that the children had been taken with any unworthy object in view.

**A New Wound Dressing.**—Dr. Aymerd, in an article in *The Lancet*, advocates the substitution of plain glass for gauze in dressing wounds. He describes an experiment with a piece of thick window glass, the edges of which were ground smooth. He smeared the glass with an antiseptic preparation and applied it to the wound, which healed quickly, without leavinga scar. The author claims for his method that it enables the wound to be examined without the removal of the dressing, that it relieves pain, promotes healing, and is economical.

**Radium in California.**—It is reported that a prospector has discovered in Kern County, California, a deposit of ore, apparently of volcanic origin, which contains uranium. Among the constituents of the material are said to be uranite, carnotite, and pitchblende, all of which contain salts of uranium rich in radium. This is the first deposit of this ore found in California and the second in the United States, others being in Gilpin county, Colorado.

**Dr. Hemmeter Honored.**—On November 15 Dr. John C. Hemmeter of Baltimore was presented with a portrait of himself which was the gift of ninety-five of his professional friends in this country and Europe, in commemoration of the twentieth anniversary of his doctorate. The presentation was made by Surgeon-General Walter Wyman of the United States Marine Hospital Corps.

**Dr. Joseph Price.**—On October 30 and 31 last, at Dallas, Dr. Joseph Price of Philadelphia was a guest of the medical profession of Texas, and numerous courtesies were extended to him by the Dallas County Medical Society, of which Dr. A. M. Elmore is president. Dr. Henry K. Leake was chairman of the Committee of Arrangements.

**Dr. A. H. Andrews** was elected to a professorship of Otology and Rhinolarynology at the regular meeting of the Board of Directors of the Chicago Eye, Ear, Nose, and Throat College.

**Yellow Fever in Cuba.**—So far appearances seem to show that the health officials of Havana are acting with commendable zeal and judgment in their efforts to avert the threatened yellow fever epidemic. Although a number of new cases of the disease have been reported during the past week, the morbidity is no greater than natural under the circumstances, and the risk of a serious outbreak still seems remote. A quarantine has been declared against Havana, applying to all Gulf ports and to all Atlantic ports south of the southern boundary of Maryland.

**No Yellow Fever in Mexico.**—The officials of the Mexican Health Department have announced that not a single case of yellow fever exists in the Republic. Statistics show that while there were 635 cases of yellow fever last year, for nine months of the present year there were only 70 cases, of which 33 were fatal.

**State Charities Conference.**—The sixth New York State Conference of Charities and Corrections was opened on November 14 at the Carnegie Lyceum. Health Commissioner Darlington and Mr. Joseph H. Choate delivered the opening addresses.

**Tuberculosis Notification in New Bedford, Mass.**—By a recent action of the board of health of New Bedford, this city takes rank among the few communities in Massachusetts which require physicians to report cases of pulmonary tuberculosis.

**Tri-State Medical Association.**—At the session of the Tri-State Medical Association of Oklahoma, Indian Territory, and Texas, held at Oklahoma City, November 8 and 9, it was decided to hold the next meeting in South McAlester on October 16 and 17 of next year. The election of officers resulted as follows: *President*, Dr. George W. West of Eufaula, I. T.; *Vice-Presidents*, Dr. G. H. Moody of San Antonio, Tex., Dr. E. H. Troy of South McAlester, I. T., and Dr. R. T. Edwards of Oklahoma City, O. T.; *Secretary and Treasurer*, Dr. R. J. Craybill of Allen, I. T.

**Ambulance Accident.**—Owing to the lack of experience of a substitute driver an ambulance of the Lebanon Hospital was run into an elevated pillar at Third avenue and 169th street by the spirited horse drawing it. The surgeon and the driver were thrown out and slightly injured, and a policeman drove the ambulance back to the hospital.

**A Novel Use for an Ambulance.**—When an ambulance of the Williamsburg Hospital recently reached the house from which a call had been sent the surgeon found that he had been summoned by the mother of a bad little boy who was refusing to take a dose of some needed household remedy. The mother had carried out her threat to call the ambulance if he "wasn't good," and calmly asked the irate doctor to carry out his role of "bogey man."

**Jewish Hospital Fair.**—Preparations for this fair, which is to open on November 27 are being made on a large scale. Gov. Higgins has consented to the use of the Forty-seventh Regiment Armory, and will be present with his staff on the opening night. The hospital is to be ready for occupancy early next spring, and when completed the building will probably be the most modern one in Brooklyn. The total cost, including the necessary capital for the reception of patients, is $311,000. Of this amount there is still a shortage of $111,000. To help raise this amount the fair is to be held.

**Pure Food Bill.** The New York Section of the Council of Jewish Women invite the medical profession to attend a mass meeting in support of pure food Saturday evening, December 2, 1905, at 8 P. M., at Mendelssohn Hall, 113 West Fortieth street, New York City. Addresses will be delivered by U. S. Senators W. B. Heyburn, P. J. McCumber; Dr. Harvey W. Wiley, Chief of Bureau of Chemistry, Department of Agriculture, and others.

**Measles in New Jersey.**—An epidemic of measles has been in progress since early in the month at Highlands, N. J. Over a fifth of the 125 children in the public school have contracted the disease, and the school has therefore been closed until December 4.

**Bequests to Hospitals.**—By the will of Mrs. Harriet H. Wilcox the New York Skin and Cancer Hospital has received a legacy of $35,000, in addition to $20,000 previously received from the same estate. During the past year the hospital has also received $5,000 for another endowed bed from Miss Emily Watson. By the will of George Finkelstein of Philadelphia the sum of $100 each is bequeathed to the Mt. Sinai Hospital and to the Jewish Sheltering Arms. By the will of Frank F. Risinger of York, Pa., the sum of $500 is bequeathed to the York Hospital. By the will of Mrs. Nancy King of Doylestown, Pa., the sum of $5,000 is bequeathed to the Episcopal Hospital of Philadelphia for the endowment of a free bed. The Presbyterian Hospital of Chicago, according to the will made by the late Mr. James C. King, receives $10,000, and in addition to that a second sum of equal amount was left to this hospital as an endowment for a free room for such patients as might require a private room, but be unable to pay for it. The Hahnemann Hospital also receives $10,000.

**Tuberculosis in Iowa.**—This State has joined the list of those that exclude tuberculosis from the public schools, and the State Board of Health has issued an order notifying the superintendents of schools throughout the State to exclude all teachers, pupils, and employees suffering from the malady.

**A Subterfuge of the Quacks.**—The ingenuity of some sharp lawyer has enabled the quacks of Boston to add another difficulty to the task of convicting illegal practitioners. The trick is in putting the word "office" after the name. "The Dr. John Blank office" may be any sort of an office, whereas just Dr. John Blank would be much simpler to proceed against. As these offices are usually run under an assumed name, it is impossible, of course, to prove "Dr. John Blank" is guilty of anything, and against the person who is conducting the business, definite proof must be had, which is extremely difficult.

**Varioloid in School for the Blind.**—The State School for the Blind at Janesville, Wis., has been quarantined owing to the discovery of one case of varioloid and eight or nine other suspicious cases.

**Harvard Medical School Buildings.**—It is stated the project of adorning each of the new buildings of the Harvard Medical School with the names of some branch of medical science such as "Medicine," "Pathology," etc. has been abandoned on the ground that such inscriptions would be out of keeping with the architecture. One set of the large letters, representing "Pharmacology" has already been placed in position, but will be removed.

**Ohio Valley Medical Association.**—At the seventh annual meeting of this association, held in Henderson, Ky., on November 8 and 9, the election of officers for the ensuing year resulted as follows: *President*, Dr. D. M. Griffith of Owensboro, Ky.; *First Vice-President*, Dr. Brooks F. Beebe of Cincinnati, Ohio; *Second Vice-President*, Dr. H. P. Sights of Paducah, Ky.; *Third Vice-President*, Dr. Duncan Pope of Louisville, Ky.; *Secretary and Treasurer*, Dr Benj. L. W. Floyd of Evansville, Ind.

**Worcester County Homeopathic Medical Society.**—The thirty-ninth annual meeting of this association was held in Worcester on November 8. The election of officers resulted as follows: *President*, Dr. R. G. Reed, Woonsocket, R. I.; *First Vice-President*, Dr. Edwin Roy Leib, Worcester; *Second Vice-President*, Dr. Ellen L. Keith, Framingham; *Secretary* and *Treasurer*, Dr. Albert E. Cross, Worcester.

**The Cost of Drugs.**—In the suit of a Philadelphia cut-rate druggist against the firms who are endeavoring to maintain a uniform scale of prices, the counsel for the plaintiff produced statistics by which it was attempted to show that in six years, since the druggists began their fight against cut rates, the public has paid $96,000,000 more for drugs than it did before.

**Chicago Coroner's Report.**—The Coroner of Cook county, Illinois, has investigated 285 deaths during the month of October, 52 of which he finds were due to natural causes; suicide claimed 35, and homicide 17. Of the suicides, 16 died by shooting, 3 by hanging, and 7 by poisoning. Of the latter, 4 employed carbolic acid.

**"The Central States Medical Monitor"** is the title given to the journal formed by the recent union of the *Central States Medical Magazine* and the *Medical and Surgical Monitor*. Dr. S. E. Earp was editor of the former and Dr. S. P. Scherer was editor of the latter. The new journal will have Dr. S. E. Earp as editor and Dr. S. P. Scherer as associate editor.

**St. Louis' Black List.**—Under the title of the "St. Louis Medical Credit Guide" a list of the local residents who have failed to pay their doctors' bills is being prepared and will soon be published. The book is being compiled from the records of a collecting agency which devotes itself to this class of business. and the 15,000 names it contains are the fruit of three years' experience in collecting the bills of 500 physicians. The book is also to contain the names of 70,000 persons who are "good" in the sense that they have property and are responsible. It is to be kept up to date by the issuance of a monthly sheet, and will be revised once a year, like a city directory.

**South Georgia Medical Association.**—This society was organized at Cordele, Ga., on November 2, with the following officers: *President*, Dr. J. T. Gammage of Pineview, Wilcox County; *Vice-President*, Dr. Archie Griffin of Luke, Turner County; *Secretary and Treasurer*, Dr. T. J. McArthur of Cordele, Crisp County; *Board of Censors*, Dr. V. O. Hardvard of Arabi, Dr. J. A. Ward of Cordele, and Dr. L. A. Williams of Abbeville.

**Obituary Notes.**—Dr. CHARLES H. LANGDON, who for many years had been a member of the medical staff of the Hudson River State Hospital near Poughkeepsie, N. Y., died at that institution on November 15. Death was caused by exhaustion following a second operation for appendicitis, which was performed two days ago. The first operation was performed on October 2, but last week the second operation became necessary. Dr. Langdon graduated from the College of Physicians and Surgeons of New York and entered the State Hospital shortly after it was opened.

Dr. CHARLES M. ZEH of Newark, N. J., died in that city on November 12 of diabetes. Dr. Zeh was born in 1827 at Knox, Albany county, N. Y., and attended the Knoxville Academy, Albany Medical College, and Castleton Medical College of Vermont, from which he was graduated in 1848. Then he went to Port Huron, Mich., and practised there until 1852, when he went to Newark. He was a member of the Board of Health, and Health Officer for many years.

Dr. Henry J. Sanders of St. Mary's Parish, La., is dead in Cincinnati. He was eighty-two years old and his life covered almost the entire history of Louisiana in its identification with interests solely American. Dr. Sanders was born on a sugar plantation, where the town of Franklin now stands. He had long retired from active practice, but was one of the leading physicians in the yellow fever epidemic of 1878.

Dr. Alexander Tunstall of Norfolk, Va., died on November 10, at the age of sixty-two years. He received his diploma from the Bellevue Hospital Medical College in 1868 and began to practise in Norfolk in 1870, in association with his father. He retired from active work in 1899.

Dr. Thomas W. Jones of Columbus, Ohio, died on November 6 at the age of eighty-three years. Dr. Jones had resided in Columbus since 1878. He was a native of Chillicothe and was educated in his profession at the Medical College of Ohio, Cincinnati, and at the University of Pennsylvania. He was active in his practice until eight years ago, when he was stricken with blindness.

Dr. Geo. W. Larrick of Middletown, Va., died on November 6 at the age of fifty-three years. He was a graduate of the University of Maryland in the class of 1878. For a number of years he was a member of the board of visitors to the Western State Hospital at Staunton, Va., a Baltimore and Ohio Railroad physician, and a member of Frederick county board of health.

Dr. F. K. Castelhun of San Francisco, Cal., died on November 1 at the age of seventy-seven years. He was born in Germany but came to this country at the age of twenty years and was graduated from the University of Michigan in 1852. He practised for a time in St. Louis but came to San Francisco in 1875. He was known as a writer of German poetry.

Dr. Paul Grossman of Omaha died on October 13 at a town in Brandenburg, where he had gone in the hope of recovering his health. Dr. Grossman was graduated from the University of Breslau in 1870, and was for a time a Prussian army surgeon. He came to Omaha many years ago and was a prominent member of the German community of that city.

Dr. Edwin Curtis Bidwell died at Vineland, N. J., on November 14, at the age of eighty-four years. He was graduated from the University of Maryland Medical School in the class of 1844. He served as surgeon in the army during the Civil War.

Dr. George Reed Morehouse died at Philadelphia on November 12 at the age of seventy-six years. He was born at Mount Holly, N. J., and was graduated from Princeton University in 1848 and from Jefferson Medical College in 1851. Subsequently he took a special course in the University of Pennsylvania. In collaboration with Drs. Weir Mitchell and W. W. Keen he made a study of the surgical injuries of nerves during the Civil War.

Dr. William Tait of Galesburg, Ill., died in St. Louis on November 8 as the result of a facial epithelioma from which he had long suffered. He was born in Scotland, June 21, 1836, and came to America with his parents when three years of age. He served through the Civil War, and for a number of years he was assistant surgeon at the Soldiers' Home in Quincy.

Dr. J. H. Austin died at Toronto, Canada, on November 5 at the age of thirty-four years. He was graduated from Toronto University in 1893, and practised for several years in Kansas City, Mo., but was obliged to give up his work six years ago on account of ill health.

# Correspondence.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

ARMY NURSING HOMES—TREVES ON THE ARMY SERVICE—INFLAMMATION AND PERITONITIS AS PHYSIOLOGICAL PROCESSES—HUXLEY MEMORIAL LECTURE—NEW SCIENCE ORGANIZATION — CORONER TROUTBECK — SIR BATTY TUKE — OBITUARY.

London Nov. 3, 1905.

So much dissatisfaction has been expressed with the arrangements for the new Army Nursing Home that the public attention, so slow to arouse, has been awakened. Whether the Queen's name should have been introduced into the dispute may be questioned, but it is well that the public should know that Her Majesty's desires have been set at naught by the War Office, which has thereby added another blunder to the many that it has accumulated. The Queen, it is stated, actually offered to give a sum of £2,000 to meet improvements she deemed important, but the War Office declined and persisted in carrying out the plans it had adopted, but which have not obtained the approval of eminent sanitary architects or engineers. And it should be remembered that the Queen is not a novice in nursing matters. When the Army Nursing Board was formed Her Majesty at once became its president, and has all along taken a deep interest in its proceedings, frequently appointing one of the members to express her views and always having the minutes sent to her for inspection. In fact, there is no movement in connection with this service with which the Queen-President is not kept informed.

Turning to the Army Medical Corps, which has been for years a burning subject, no doubt much has been accomplished in the way of reform since the Advisory Board was established, but not a little remains to be done. Last week Sir Frederic Treves, who is a member of the board, gave an address at the Sussex Medico-Chirurgical Society, taking the Army Medical Service for his subject. Having pointed out the improvements which, he said, would leave little to be desired in time of peace, he asked how it would do in war time. He replied that by a curious arrangement that rested not with the corps, but with a body which had nothing to do with it—the Army Council—he felt bound to declare that that body had yet to make arrangements to enable the medical service to cope with a great war. Among the anomalies he noticed was that the medical service is under the control of an officer who is not a medical man, *i.e.* "the chief doctor of the army is not a doctor." Another is that the Director-General of the service has no direct access to the Army Council or to the War Secretary, his only access being through a non-medical officer. A third curiosity is that the money voted for the medical service is not administered by that department, but by the Adjutant-General and the Quartermaster-General. "Would there not be difficulties in any household if money set apart for the kitchen was administered by the coachman and gardener?"

That the medical department requires a freer hand was illustrated in the late war by the fact that nearly half the total losses by death were due to preventable diseases. They would be prevented if the doctors had a free hand, but there is no preparation in peace to cope with the problems of war, and the doctor's power is practically nil. Of course the service cannot be kept always on a war footing, and there must be a reserve. The military doctors had done their best, but their schemes were pigeonholed somewhere in the War Office. Sir Frederic declared that (1) the director-general of the Medical Corps should be the head of the department, responsible for its efficiency; (2) he should have direct access to the Army Council and Secretary for War; (3) he should control the money voted for it; (4) an efficient reserve must be formed; (5) combatant officers should have a knowledge of hygiene applied to campaigning and barrack life. Like knowledge, but more elementary, should be possessed by the privates; (6) the army medical officer should have authority and be provided with a personnel, suitable for carrying out the sanitary arrangements in the field which are necessary to reduce the loss from disease to a minimum. The public was deeply interested in the medical service during the war, but soon after forgot it. "That is an old story," said the lecturer, as appears from the last sentence of the "History of the Peninsular War"—"Thus ended the great war, and the veterans were soon forgotten."

"Inflammation and Peritonitis Regarded as Physiological Processes" was the subject of a paper by Mr. Malcolm at the Medico-Chirurgical Society. He objected to the common view that microorganisms were always concerned in simple inflammation, which he rather regarded as a normal process, but when extensive or severe became associated with increase of tissue change throughout the body, this increase constituting fever whether the tempera-

ture was raised or not. In support of this view the changes in twisted pedicle and in ruptured gestation sac were advanced. In such conditions the evidences of peritonitis are clear, and in the midst of the inflamed area there is a strangulated tumor, or a dead fetus, or a mass of blood. These are favorable conditions for microorganisms, but often no putrefaction occurs. It was held, therefore, that they were not septic in origin, but they produce adhesions and may be compared to the changes that occur in union by first intention of a simple incision. So acute septic peritonitis may be regarded as related to the adhesive form in the same way as suppuration in a wound, healing by first intention. In both cases all gradations between complete union and none at all are to be observed. Dealing with febrile reaction, Mr. Malcolm was dissatisfied with the notion that substances circulating in the blood acting on a heat center caused it. A rise of temperature from an injury gives rise to exudation into the tissues instead of absorption from them. The stability of temperature in health and the immediate increase of heat production following a lowering of the superficial temperature suggested that damaged tissues rather send messages to the heat center that they are cold so long as they are not revived, absorbed, extended, or marked off, but either of these may occur in a moment if the center is unable to counteract. The processes seem to take about three days, during which the temperature rises. In fine, inflammation, whether septic or aseptic, might be defined as a series of phenomena necessary for removing, or attempting to remove, effete and irritating matter from a damaged area by the physiological processes of absorption, extravasation, demarcation, or revival, or by one or more of these.

Mr. Doran supported the view proposed by Mr. Malcolm by quoting two conditions in which rise of temperature without septic infection occurred. These were twisted pedicle and ruptured tubal gestation.

Mr. L. S. Dudgeon said an incision with aseptic precautions brought about increase of leucocytes very quickly, as also did injection of certain sterilized fluids into the blood. Many so-called aseptic wounds have been proved to contain staphylococci albi. Then the peritoneal exudate may be sterile when the great omentum shows staphylococci albi. It was also constantly present in ruptured gestation as well as in twisted pediele.

Sir L. Brunton held that ferments played a part in the production of variations of temperature.

Dr. Herman believed that local peritonitis followed abdominal section in every case. It was always present if the abdomen was reopened within three weeks.

The sixth Huxley memorial lecture was delivered on Tuesday by Dr. John Beddoe, at the Anthropological Institute, in which the lecturer and Huxley were long associated. The subject selected was "Color and Race," and in discussing it Dr. Beddoe drew attention to the color connection between the people of central Europe and the British Isles. He suggested an anthropological survey of complexion and other physical characters. His own investigations had proved the existence of red-haired persons in negro tribes, and that there was much red pigment in hair, which we commonly call black. Blondes seemed to persist in southern Europe, but only by reinforcements from the north. The varieties in the British Isles were accounted for by the intrusion of races and tribes of a light complexion, the early inhabitants being believed to have been dark. It was remarkable that there was a preponderance of dark hair among criminals and the insane.

The Huxley memorial medal was presented to the lecturer after the address.

The British Science Guild was duly inaugurated on Monday, under the presidency of the Lord Mayor. The object of this new organization, as stated by Sir Norman Lockyer, is to promote the application of scientific knowledge and methods to all branches of human industry. Mr. Haldane, M.P., was elected the first president, and a member of vice-presidents and officers were appointed. The new president said the guild would endeavor to bring thinking and method into the management of public affairs and private industries. He commented on the ignorance of science in our various Government departments.

An inquiry is being made by the local Government Board auditor, at the instigation of the British Medical Association, as to the legality of Mr. Coroner Trontbeck's allocation of fees to his brother-in-law, Dr. Freyberger, for post mortems and evidence at inquests.

Sir J. Batty Tuke, M.D., M.P. for the Universities of Edinburgh and St. Andrews, who has been one of the most active of the medical members in all matters of interest to the profession, is to be opposed at the next election, on behalf of the thoroughgoing free traders, by the editor of the *Spectator*, who, though a prominent journalist, has no connection with or experience of medical matters.

Dr. Wm. Carr Sprague died on Tuesday, aged 39. He was formerly in the Indian Medical Service. After retiring from it he practised at Saffron Walden. He qualified at Edinburgh in 1887 and took the M.D. in 1890.

Liverpool has lost Dr. J. N. Cregreen, at the age of 69, a very highly esteemed practitioner, who died on the 27th ult. Two days later, also at the age of 69, died Dr. J. K. Smith, J.P., another esteemed Liverpool practitioner, for twenty years surgeon to the Stanley Hospital. Miss Alexander, L.R.C.P., of the Liverpool Medical Mission, died on the 18th ult., from accidentally swallowing a fish bone, for which an operation was performed without avail.

Dr. J. O. Brookhouse, physician to the Nottingham Hospital, died on the 27th ult. He was one of the founders of the Eye Infirmary, and at one time surgeon to it. He was M.D., St. Andrews, 1862; F.R.C.S., 1868; M.R.C.P., 1874.

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## DR. HENRY G. DAVIS.

To the Editor of the Medical Record:

Sir:—Since the publication of my contribution to the memory of the work accomplished by the father of orthopedic surgery in America, in the Medical Record of August 19 last, I have received several letters of inquiry as to the dates of birth and death and as to something of the personality of this man. One of our foremost surgeons who is prominent also as an author, said that he had been unable to find anything in medical literature which gave so much as a glimpse of the *ipse* of Dr. Davis. After some effort, I am able to give, upon the best of authority, some of the events of his life. That all who wish to do so may profit by this search, and that they may be the better preserved, I send them to you for publication in your columns.

Henry Gassett Davis, M.D., was born at Trenton, Me., November 4, 1807. His parents were Isaac and Polly (Rice) Davis, his father being a brother of Gov. "Honest John" Davis, and his grandfather, Deacon Isaac Davis of Northboro, Mass., was a descendant of Dolor Davis, who came here from England in 1634. Isaac Davis was a manufacturer and the mechanical ingenuity of his son, Henry, was doubtless due in great part to that fact. Theré is reason to believe that Henry would not have taken up the study of medicine, except for a mere coincidence. He was on his way to the South to establish the manufacture of cotton bagging, and stopped, en route, to visit a sister who was under treatment for scoliosis. The treatment she was receiving so impressed him as lacking in scientific principles, that he immediately gave up his intended career and began the study of medicine. He attended the Yale Medical School, graduating in March, 1839. A portion of his clinical training he received at Bellevue Hospital. He began active practice in Worcester, but soon moved to Millburg. Here he remained until 1855 when he left for New York City. For the following fourteen years he was continuously active, in mind and body, attending to a large private practice and never ceasing in his original researches.

Upon the urging of physicians, and partly for the accommodation of patients from abroad, of whom he had a great many, Dr. Davis opened a private hospital at the corner of 37th Street and Madison Avenue. In 1866 Dr. Davis proposed to the profession and to their benevolent friends, the establishing of a hospital for those suffering from pulmonary consumption. I have not been able to ascertain what results his efforts in this direction produced, but the sincere attempt, in a printed appeal which I have before me, establishes his right to be called the pioneer in this great field of sanatorium work against tuberculosis.

In 1869, having laid aside a competence for his family and himself, and his health beginning to show the strain of his active life, he returned to Massachusetts. He died at his home in Everett, November 18, 1876. Until his death he continued his interest in the profession, and the new American Orthopedic Association elected him an honorary member in 1895.

It may help, in our estimation of the man, to know that he was an active member of the Congregational Church, and those who knew him considered him gentle, kind, and loving toward his fellowman. At this writing his widow, a son, and two daughters survive him. It is of interest to note that among the things outside of his profession, which bear the marks of his genius, it was he who first suggested the raising of the outer rail upon railroad curves; a simple but unthought of and most valuable expedient. His chief publication was his "Conservative Surgery." However, he contributed to the medical journals during the period of his greatest activity, especially for the purpose of making his methods of treatment of orthopedic cases known to the profession. For these articles, and reports in reference to his methods, the reader is referred to the Bulletin, Vol. I, of the Academy of Medicine; the *American*

*Medical Times*, Vol. II; *American Medical Monthly* (1856-1859); *New York Journal of Medicine* (1859) and the *Philadelphia Medical and Surgical Reporter* of 1861.

John Joseph Nutt, M.D.

The Seminole,
Broadway and Sixty-ninth Street.

## SYPHILIS AND TABES.

To the Editor of the Medical Record:

Sir:—Apropos of the paper of Dr. F. von Raitz and the letter of Dr. Collins, in your issues of October 21 and November 4, I would suggest that tabes dorsalis is a pretty well distributed disease. Lues is also so generally distributed that the human race may be said to be syphilized as well as civilized. In support of this statement witness the mild and curable form in which it now occurs as compared with its frightful ravages in earlier times and its febrile fatal nature in races virgin to it. Being so exceedingly common, ordinary experience shows that in almost any condition syphilis may be found to have existed in the patient previously, but this would not justify its being given as a cause. The neurologist, having exhausted his ingenuity in finding a cause for a condition, is prone to turn to syphilis on account of its extreme frequency. Alcoholism and neurasthenia are often used in the same way.

In the case of tabes dorsalis the most recent argument is about as follows: *a*. Given 1000 tabetics. Eight hundred show a history of syphilis. In 200 syphilis is denied, or the cause is unknown. Efforts to inoculate these 200 with syphilis fail. *b*. Given 1000 non-tabetics. One hundred show a history of syphilis. Nine hundred deny syphilis, or it cannot be made out. *c*. Hence, syphilis is always the cause of tabes. Of course this argument is illogical, and moreover such investigations are always more than liable to be erroneous, still we all acknowledge that tabes does frequently occur in persons who have had syphilis, and that in many such the latter may have a predisposing influence. There is nothing characteristic of syphilis in the lesions of tabes, it is not benefited by specific treatment, and there are certainly many seemingly sufficient exciting causes for the disease, which simply cannot be overlooked, such as injuries, exposures, and excesses. Dr. Collins, by his able, critical, and somewhat dogmatic letter, does not lessen the value of Dr. von Raitz's excellent, though perhaps slightly positive, paper.

The neurological specialist deals largely with obscure and oftentimes incurable maladies, his output of opinions and theories is voluminous, and like other men in special fields of work, he is liable to suffer from a resulting condition of autosuggestion, which leads him to believe that his theories are facts. In the present instance, it may be his opinion that syphilis is the causative influence in tabes; let him use this opinion for his guidance in handling the case, but under no circumstances let him attempt to stigmatize a possibly innocent patient by the unguarded enunciation of his theories, Gowers, Erb, Fournier, and others to the contrary.

The occasion of this letter is the wish of the writer to express the conviction that while there may be ground for opinion, there is no ground for dogmatic assertions, and further that the time has not yet arrived when a medical man is justified, in the face of the patient's denial, in stating that because he is a tabetic he must be a syphilitic. Such a course is outside of the limit of justice, may lead to the most unfortunate social results, and in case of litigation, would perhaps be held to be libellous, if not criminal on the part of the physician. In closing, it may be added that statistics can be made to prove anything, their value depending on freedom from bias. The writer has heard some of the distinguished men above mentioned make out syphilis when there was absolutely no positive evidence to justify it

George Franklin Shiels, M.D., C.M., F.R.C.S.E.
39 W. 35th Street

## A SUIT FOR ALLEGED DAMAGE FROM SKIN-GRAFTING.

To the Editor of the Medical Record:

Sir:—In the Medical Record of November 4, page 745, it is stated that suit has been brought against a physician of Spokane, Wash., for removing 150 square inches of skin, it being asserted that the surgeon promised to remove only two or three strips an inch wide and three or four inches long, etc. The article does not quite do justice to the physician, who happens to be myself. I wish, therefore, to publish the facts. In the first place the man had no conversation with me or my agent prior to the operation, therefore no agreement existed. He was the third to donate skin at this sitting, and being a great friend of the family requested that as much be taken from him as possible. Second, he was the last suitable subject at hand, neither of the other two presenting themselves being in good health. Third, instead of 150 square inches of skin being removed, only one-half of that space was denuded, simply of the superficial layer. Thiersch's method was used and no ill effects followed, contractures or other permanent deformities being impossible after simple removal of the epidermis. The same amount was taken from the patient's husband, and a corresponding amount from the brother (he being a small man) and no ill effects were produced upon either of them

The facts are, this party was seeking some cheap notoriety and is not satisfied with the amount he got, and he is now trying to get some cash which he has not earned, and it is due to the medical press as well as the Profession to see that he makes a failure of it, otherwise no physician is safe

Spokane, Wash. C. P. Thomas, M.D.

## RADIOACTIVITY.

To the Editor of the Medical Record:

Sir:—The action of radium and of radioactive solutions has been carefully studied. There is no doubt that these agents do sometimes influence the growth and development of normal and tumor tissues; but there is no evidence obtained that radium emanations have any elective or special action on tumor tissues while the amount of radioactive solution necessary to produce any curative action is far in excess of the quantity that can be safely introduced into the human system. The disappointment following the use of the radium rod in the treatment of cancer one would imagine would lead to its abandonment, except perhaps as a show piece in the hands of those persons who like to shine by the electric light

Port Chester, N. Y. W. H. Gregg, M D.

# Progress of Medical Science.

*Boston Medical and Surgical Journal, November* 16, 1905.

**Technique Employed in the Last One Hundred Laparotomies, with a View of Restricting the Employment of Drainage.**—The experience of L. J. Hammond has led him to dispense with drainage wherever possible. In the cases of the present series, it was entirely avoided. Four cases were fatal, one of which was a case of appendicitis, drained; a second, a suppurating fibroid, and two typhoid perforations. But one case of post-operative hernia occurred in the entire series. The technical steps of operation on the abdominal cavity are summarized by the author and cannot be detailed here. Suffice it to say that he divides separately each layer of the abdominal wall (after the external oblique fascia is reached) between tissue forceps. After the peritoneum is divided, it is allowed to go free until the operation is completed. The incision is large enough to admit the whole hand, provided one or two fingers are not sufficient to detect the disease. Every effort is made not to loosen the peritoneum from the underlying tissues. Dry gauze sponges used with the greatest gentleness are used to dry the peritoneal cavity, from which all irritating solutions are rigorously excluded. The author avoids separating adhesions that hold together such tissues as the omentum, mesentery, and broad ligaments, preferring to remove the entire mass after ligation above and below the points of adhesion, in this way lessening the risk of scattering infective products. Whenever possible the laparotomy is carried on extraperitoneally. Unyielding adhesions may prevent this. Then perfect walling off is substituted before any step is taken toward removing the offending condition. Hammond emphatically condemns the gauze drain, except in cases in which there is partial necrotic tissue not removable from the abscessed site, and in one or two special conditions, such as a pyemic gall bladder, etc. He believes that its presence not only lessens the power of resistance of the peritoneum, but goes far towards keeping up shock, encourages the excessive formation of adhesions, and is the commonest of all causes of about all of the post-operated hernias; and the argument that is used by some, that gauze drainage is useful because nature builds a wall around the infected area, can be logically employed as an argument against its use at all, as the fact that nature does shut it out from communication with the general peritoneal cavity shows clearly its utter worthlessness.

*New York Medical Journal, November* 18, 1905.

**Case of Transposition of Viscera, Showing Heredity.**—The patient of B. M. Randolph was a boy of nine years, with pertussis. Routine examinations showed trans-

position of the viscera. The cardiac apex beat was located one-half inch within the right nipple line, and one inch below the nipple in the sixth intercostal space. From the relative intensity of the various valvular sounds, the inference was that the transposition was symmetrical, the ventricle of the aortic or peripheral circulation being to the right or outside, and that of the pulmonary circulation to the left or inside. A skiagram gives a good illustration of the intrathoracic relations. The more particular point of interest in this case is that the maternal grandfather of the boy also had transposed thoracic viscera. The author has failed to find any hereditary connection recorded between two cases. All the rest of the patient's family circle were normal, as to chest topography.

**A Plea for Routine Examination of the Middle Ear.**—E. Danziger reminds us that the middle ear of infants and young children is especially liable to pathological changes, because it contains at birth an embryonic jelly-like substance and a highly succulent serous membrane, which rapidly undergoes retrograde changes, and tissues under such active metabolic conditions are liable to inflammation. Again the pharyngeal mucosa is richly supplied with blood vessels and lymphoid tissue, and the Eustachian lumen is narrow and slit like. The slightest swelling will occlude the ostium, a vacuum tends to form in the middle ear, blood is sucked into the tympanic capillaries, and small serous transudations occur into the cavity. Finally, the tube of a young child is wide and nearly horizontal; when the child lies on its back the ear cavity is lower than the pharyngeal opening of the tube. Hence inspection is easy. The author then summarizes the clinical conditions under which inflammation of the middle ear is likely to occur, enumerates the symptoms, and reminds us that ninety per cent. of all cases shows the pneumococcus in the discharge. Nothing new is presented under the head of treatment, but insistence is laid on the fact that increasing pain, fever, and a red, bulging drum call for early paracentesis, especially in scarlatinal otitis, where this treatment often forestalls irreparable harm.

*Medical News, November 18, 1905.*

**Further Evidence of Immunity Against Cancer in Mice after Spontaneous Recovery.**—G. H. A. Clowes and F. W. Baeslack report a continuance of their work along the lines suggested by the title of their paper. They have previously reported that the serum of spontaneously-recovered mice exerted an effect on growing tumors in other mice, but have admitted that the method employed failed to prove the existence of a specific immune body because of the impossibility of determining the cause of development which a tumor would have taken if untreated. They have, therefore, (1) reinoculated spontaneously-recovered mice and have (2) mixed cancerous material previous to inoculation with the serum of recovered mice, the results being controlled by mixing material from the same tumor with normal serum or salt solution. Their recent experiments are detailed and their results tabulated. They summarize by declaring that (1) evidence has been afforded that mice which have recovered from cancer possess an active immunity against further inoculation and (2) by mixing cancer materials previous to inoculation with the serum of such spontaneously-recovered mice, and comparing its effect with that of cancer materials from the same source mixed with serum from normal mice, it has been shown that the former exerts an inhibiting effect, and that the percentage of tumors is much smaller and the percentage of mice surviving the treatment is larger in the immune than in the normal series.

**Diplococci and Pneumococci; their Pleomorphism Virulence, and Mode of Causing Disease.** E. Palier gives the details of his experimental studies. He declares that the germ commonly known as the pneumococcus is polymorphous and that when obtained from man it is virulent only in young cultures of the first, but not of later generations. It causes pneumonia, therefore, only under exceptional circumstances. As to its frequency in the sputum of healthy people, Palier believes that it is found in one form or other in the expectoration of every healthy human lung. In some conditions, as catarrh and asthma, it is increased, while in advanced tuberculosis it may be diminished. Tuberculosis bacilli are very apt to be scanty where the above-named microorganism is abundant. Palier suggests that the latter, which are our habitual guests, perform rather a useful function, something like the leucocytes. He thinks we are justified in believing that neither the sputum nor the cultures therefrom of healthy people, nor of those suffering from pneumonia, are virulent enough to cause pneumonia, that is, general infection, of man, who is considered among the most resisting animals to this microbe. In order to do so, the pneumococci, or, as he calls them, the diplo-lanceo-bacilli-cocci, must pass first through an animal most susceptible to them, like the house mouse, for instance, whereby the virulence of these germs is greatly enhanced. And hence, mice, in his opinion, are the main factors, if not *the* factors, in causing pneumonia.

*American Medicine, November 18, 1905.*

**Clinical Experiences with Certain Drugs in Heart Disease.**—Thomas E. Satterthwaite calls attention to the facts that in the year 1900, according to the last census, as many as 70,000 persons died of heart disease in this country. Also that of the nine principal causes of death, heart disease was third on the list, in point of frequency; tuberculosis holding the first place and pneumonia the second. And now that apparently successful efforts have been directed against tuberculosis, and pneumonia has been investigated by a commission, heart disease should logically be next attacked. Insofar as drugs were concerned he regards suprarenal gland as the most powerful heart stimulant known. As to the dangers from the nitrites and nitrates, about which much has been written, he finds their effects are always evanescent. Ordinarily in angina, hypertension and arteriosclerosis they are useful but if they produce violent pulsations in an arteriosclerotic they should be suspended. For advanced cases of this affection the tetranitrate of erythrol was specially adapted, owing to its prolonged action. But after all iodin in some form or other should be the main reliance. Strychnine is a reliable heart stimulant, but should be used with discretion and in moderate doses. Larger doses produce nervousness and insomnia. It should never be continued more than a couple of weeks at a time. Cactus he finds a good heart regulator, and strophanthus is excellent if prompt action is needed. Digitalis acts best when the arteries are flaccid, and just enough is given to restore normal tension. If the drug produces too much tension, the work of the heart is unnecessarily increased. In acute endocarditis, the fat heart, fatty degeneration, advanced arteriosclerosis, aortic diseases, and cardiac neuroses, digitalis may do serious harm. In deficient or failing compensation digitalis is useful up to the point of producing normal arterial tension, after which its action is harmful, except insofar as it may increase diuresis. Circulatory depressants such as antimony, veratrum, pulsatilla, and hellebore are out of date in the treatment of cardiac diseases. But aconite is useful certainly in cardiac neuroses. There are some drugs in particular the action of which requires further investigation, because we are not sufficiently acquainted with their active principles or modes of action. These are adonis vernalis, trythropleum epocynin, and cretegus.

**The Retroverted Uterus.**—A. P. Stoner asserts that in many cases of recent dislocation in which the pelvic floor is intact, the uterus may be replaced and retained without the use of instrumentation or operative procedure. A few such patients are permanently cured by prolonged rest, faradism, hot douches, and tamponment with gauze saturated with ichthyol and glycerol. The tampon should be changed daily and snugly packed in front of the cervix, in order to prevent it from rotating forward, and thus aid in supporting the uterosacral ligaments. Nearly all supports act largely by their pressure upon the uterosacral ligaments, which, in being rendered tense by the posterior upright bar of the pessary the cervix is swung upward and backward. When, however, the pessary is withdrawn, the ligaments relax and the cervix drops downward and forward. Thus it is plainly seen that so far as the uterosacral ligaments are concerned, such pessaries as the Albert Smith or Thomas, the kind commonly used, actually interfere with the recovery of the tensility of these ligaments.

**Struggle Against Tuberculosis in Pennsylvania.**—Jonathan M. Wainwright says that local Boards of Health take no cognizance of tuberculosis except in Philadelphia and Erie. In Scranton and Pittsburg sputum is examined. In both State prisons efficient measures are being taken to prevent the spread of infection. Five societies have been formed to combat tuberculosis. They are in Philadelphia (State Society), Pittsburg, Harrisburg, Reading, and Scranton. An obstacle to progress in this work is the very general failure to make an early diagnosis and indifference to preventive measures when it has been made. Another serious menace is the general medical dispensary. In one dispensary in Philadelphia, last year nearly nine hundred people of the poorer classes were treated, and in none of them was tuberculosis diagnosed. Dr. Wainwright recommends: 1. A State commission on tuberculosis should be appointed to frame legislation governing health boards and to determine the best system for sanatoriums. 2. Compulsory divisions for diseases of the lungs should be enforced in all dispensaries receiving State aid directly or indirectly through the hospitals or schools to which they belong. 3. The State Society for the Prevention of Tuberculosis should be put on a State basis with annual meetings

at the same time and place as the State Medical Society; this society to collect material for an exhibit to be given together with public lectures in each city in which it meets. In this way each large city in the State would be reached in a few years. The State society should do missionary work and establish local societies in communities now without them.

**Mental and Moral Effects of the Removal of Adenoids.**—Edward A. Huntington gives the history of three interesting cases prepared in connection with the psychological clinic conducted at the University of Pennsylvania The patients were children who, because of incorrigibility and backwardness, were sent to special schools from the regular elementary schools. They were under careful observation before and after the removal of the adenoids, and their mental, moral, and physical improvement recorded.

*Journal of the American Medical Association, November 18 1905.*

**Uterine Displacements and Plastic Gynecological Surgery.**—Daniel H. Craig advocates greater conservatism in operating for retroversion of the uterus. He protests against the not uncommon notion that the multiplicity of operative procedures indicates that no one satisfactory operation has as yet been devised. In his opinion, it testifies to the infinite variety anatomically manifested in these cases, and to support his view he has addressed questions to the devisers of different operations, asking them as to their own opinions of the limitations of their respective methods, and publishes their replies. These, he thinks, establish his contention that no one operation fulfills all conditions, and that a multiplicity of methods is essential to a broad success. He also pleads for the utilization of normal structures as against unnatural uterine supports. He does not say that ventral and vaginal suspension and vaginal fixation are absolutely unjustifiable operations, but holds that they are performed altogether too often, and that the only cases in which they are advisable are those in which from concomitant or prior operations, developmental arrest, atrophy from untreated disease or senile degeneration, the normal supporting structures of the uterus were absolutely unavailable. It is the duty of every surgeon operating in these cases to familiarize himself with all the methods and to be able to use any or all of them, governed by the needs of each individual case. The same principles apply to all plastic operations for the repair of injuries to the birth canal. The individual case should determine the method for each tracheoplasty or cervical amputation for the relief of laceration, and only principles, not details can be definitely described for the repair of the lacerated perineum.

**Blood Cultures from Typhoid.**—R. Duffy believes, from his observations here reported, that blood cultures afford a surer and earlier diagnosis of typhoid than the Widal reaction and are perfectly feasible in family practice. In his 88 cases, the Widal test was positive in all but two, and in 18 the blood cultures showed bacilli before the Widal test. The cases were not selected, but were taken as they came. Eleven were fatal. The blood was taken from the arm veins and cultivated in bouillon (1-50th dilution) in the incubator for 48 hours. In a few cases positive results were obtained only at the end of four days. In 36 cases in which the temperature was above 102 the bacilli were present in the blood in every case, and in 23 cases in which the temperature was 100 or 101 F., the bacilli were cultivated from the blood in 10 cases, or 43 per cent. Other organisms than the typhoid bacillus were found in the cultures after the second week with the temperature 103 or over, but none before. His conclusions are given as follows: "1. *Bacillus typhosus* is present in the blood in all cases of typhoid fever in the second and third weeks, when the temperature is 102 or over. 2. Bacilli of the enteric group of bacteria (*Bacillus alcaligenes*) are present in a considerable percentage of the cases after the second week, at first accompanying *Bacillus typhosus*, then supplanting it. 3. Later in the disease, cocci may be present in the blood. 4. *Bacillus coli communis* is never present in the blood of typhoid patients." In the cases in which the typhoid bacillus was isolated no control cultures were made to exclude the possibility of air contamination.

**Methyl Alcohol Amblyopia.**—C. S. G. Nagel believes that wood alcohol amblyopia sets in first through a defective local blood supply consequent on disturbances in the general circulation. The first symptoms are therefore due to what Graefe has described as ischemia of the retina, and it would be of great interest if contraction of the blood vessels could be ophthalmoscopically demonstrated during the attack. The later eventual attack of grave amblyopia Nagel attributes to the later cumulative action of the poison shown by Pohl. As the prognosis in the incipient cases is so bad, he would advise prompt iridectomy or at least keratomy, to lower the intraocular pressure. He asks whether so-called simple glaucoma might not come about sometimes under normal intraocular pressure if the optic nerve or lamina cribrosa has lessened resistancy. Settling this, he thinks, would help to clear up the vexed question concerning the therapeutic effect of operative measures in glaucoma simplex.

**Quinine and Iron in Pneumonia.**—C. F. Nieder reports that he has treated six cases of pneumonia according to the method of Galbraith, with large doses of quinine and tincture of chloride of iron with very satisfactory results. Histories of three of the cases are given. He remarks especially the effect of this treatment on the circulation Instead of the high-tension pulse usually present in pneumonia, the pulse was of nearly normal tension and of good volume. Cyanosis, when present, was promptly relieved.

*The Lancet, November 11, 1905.*

**Abscess of the Spleen in Typhoid Fever.**—A. W. Harrington presents notes of two cases. Case one was that of a woman of forty-six years, who was admitted to hospital in what was said to be the fifth week of her illness. She was delirious, had bed sores, and foul aural discharge. No enlargement of the spleen could be detected at the time, but progressive increase in size was detected later. She had several rigors, continued high temperature, and died on the seventeenth day after admission, of intestinal hemorrhage. Autopsy revealed typical typhoid lesions in the bowel. The spleen was much enlarged and showed numerous adhesions at its upper end. On incision an abscess cavity containing a large quantity of pinkish thick pus was opened up. This cavity hollowed out practically the entire organ. The other organs showed the changes incident to continued fever, the heart muscle being very soft and pale. A culture from the spleen proved the presence of abundant staphylococcus pyogenes aureus and bacillus typhosus. Case two was that of a man, aged thirty-three years, who, on the fifty-eighth day of a typical typhoid course, complained of severe pain in the left hypochondrium. The symptoms suggested some infection, and a week later a swelling was detected below the costal margin, and three days later a portion of the twelfth rib was removed. Punctures of the spleen revealed pus at its lower portion where it was adherent to the kidney. A tube was inserted and the wound packed. The patient made a slow recovery, which was interrupted by an osteomyelitis of the upper third of the right femur, from which a large sequestrum was removed. Staphylococcus aureus and streptococci were found in the femoral wound, the same having been found also in the splenic abscess.

**Extraordinarily Rapid Diminution of Renal Dropsy under Citrate of Caffeine.**—The patient of H. D. Rolleston and J. Attlee was a man of thirty-six years, who, when first seen, presented edema of the legs, which gradually extended, in spite of vigorous diuretic measures, up to the angles of the scapulæ. There was considerable free fluid in the abdominal cavity and signs of double hydrothorax. The face, eyelids, hands, and arms, were practically free from any puffiness. At the time the caffeine was commenced he was passing two pints of urine daily. The remedy was then commenced in doses of seven and a half grams t. i. d.; so continued for nearly a month, when it was gradually diminished, and finally stopped. During this time his fluid ingesta amounted to twenty-eight fluid ounces daily. The effect of the caffeine on the urinary output was manifested immediately. The quantity steadily rose to seven and a half pints, and then gradually diminished to four pints, when there was only a slight edema of the ankles remaining. When seen several months later, he was free from edema, in excellent health, and actively at work. The urine had a gravity of 1,017 and presented only a faint trace of albumin, whereas at the commencement of his illness it contained ten parts per thousand by the Esbach test

**The Parathyroid Glands in Graves' Disease.**—This question has been investigated by L. Humphrey. So far as the results of parathyroidectomy on animals are concerned, he notes a practical agreement of all authorities on the following points: (1) Removal of the parathyroid glands together with the thyroid produces in a large number of cases very acute symptoms and a fatal result; (2) removal of all four parathyroids, the thyroid being left intact, produces the same acute symptoms, but with a less frequently fatal result; (3) removal of the thyroid alone, leaving the parathyroids, is followed by chronic symptoms of myxedema and by trophic lesions. He records two fatal cases of Graves' disease, both running an acute and unusual course. In both the parathyroids showed extensive fatty infiltration, the fat being intruded between the columns of gland cells, and in places only a few scattered epithelial

cells were left between the masses of fat. The author has examined the human parathyroids in twenty-six cases of death from various causes, and gives the directions for finding these structures on dissection. In none of four cases of Graves' disease examined did the parathyroids show any signs of compensatory hypertrophy or any evidence that the glands were becoming more specialized, and forming colloid. He declares that it is difficult to say whether the fatty infiltration is preceded by atrophy or degeneration of the gland cells, owing to the want of opportunity of obtaining fresh specimens in the human subject. He notes that the hypothesis that this gland is merely compensatory to the thyroid appears to be losing ground, and the facts that it develops in chronological advance of the thyroid, that it has an epithelial structure which somewhat resembles the suprarenal, and that its removal in the hands of most observers gives rise to definite and severe symptoms in animals, suggest that it should be regarded as an independent and essential gland. The parathyroid may have some specific function in relation to the thyroid gland and its secretion, and if it can also be proved that pathological changes occur in the gland in persons dying from Graves' disease, it would have an important bearing upon the acute toxic symptoms in this complaint.

*British Medical Journal, November* 11, 1905.

**Exophthalmic Goiter and its Treatment.**—George R. Murray says that some enlargement of the thyroid gland is one of the most frequent symptoms of exophthalmic goiter. In all cases of this disease there is an increased frequency of the pulse. Although exophthalmos is so obvious when present, it is entirely absent in many cases. The mental condition in this affection is peculiar, and in some cases is noted before the appearance of the other signs. In its typical form it is a state of subdued excitement or nervousness, such as is seen in a person undergoing some trying ordeal. It varies in different cases. Actual insanity develops in a few cases. One of the most constant symptoms of exophthalmic goiter is a fine regular tremor of the hands. The skin, as a rule, is rather pale, although it is sometimes flushed. It is often moist or greasy in appearance from the increased sebaceous secretion. Pigmentation is observed in a few cases. The treatment of this disease is a matter of considerable difficulty. The combination of rest with open-air gives excellent results. One of the most valuable methods of treatment is the systematic application of a faradic current. This treatment should be perseveringly given. In certain cases the *x*-ray has met with good results. The results of the administration of small doses of arsenic have proved this medicament to be one of the most useful drugs in this disease. In some cases, suprarenal and thymus tablets have been of service. The writer believes that the risk of surgical treatment is so great that he does not consider partial thyroidectomy advisable in exophthalmic goiter. As yet no serum or other animal product can be considered to give better results than general hygienic treatment combined with the use of electricity and certain drugs.

**Remarks on the Treatment of Syphilis by Intramuscular Injection of Mercury, with an Epitome of 3,230 Cases.**—F. J. Lambkin describes the various preparations of mercury used for intramuscular injection. He believes the best to be metallic mercury. It is sufficiently active and practically painless. Its greatest advantage is that it is very slowly absorbed. After being injected into a muscle, it remains there for some time and is very slowly, gradually, and evenly, absorbed. It is to this property that it owes its great influence over the disease. The mercury is used in the form of a cream. In compounding it, the mercury and lanolin are rubbed up together in small quantities in a glass mortar until no particle of the former can be seen. This trituration will generally take two hours, but it is absolutely necessary. At this stage, carbolized liquid paraffin is added. The cream, after being well stirred, is poured into a specially-made glass-stoppered bottle, with a very wide mouth and no angles. Before being used, the cream is stirred with a glass rod, which is first dipped into boiling olive oil. The gluteal region is the best for the injection. The needle ought to be driven straight into the muscle with one thrust. It is impossible to lay down any hard-and-fast line with regard to dosage. Each case must be treated by itself, as the results in different patients are most variable. The average time of treatment is from six weeks to two months, when the injections are given once a week. Then they are given once in two weeks for three months. Two months are devoted to repose from treatment, followed by a three months' course of fortnightly injections. Two months are again given up to rest from treatment. Even then the patient is not said to be cured, but is kept under strict observation, and, if necessary, treatment is resumed. Two years is the average length of treatment altogether. The writer also employs hot-air baths extensively. The patient's general health must be carefully looked after. Special attention should be paid to the condition of the mouth. The "inunction method" is regarded by the writer as more or less an adjunct to the intramuscular method. He concludes that on the whole, his success from this method of treating syphilis is out of all proportion to that which was obtained in days gone by, when the older methods were used.

*Berliner klinische Wochenschrift, October* 23 *and* 30, 1905.

**A Case of Somnolence Due to Metastatic Carcinoma of the Brain.**—Blum describes this case, which presented several unusual features. The patient was a woman of forty-six years, whose illness began with frontal headache which hindered sleep for two weeks. Then an apoplectiform seizure developed, but the resulting hemplegia improved greatly within a few days. When taken to the hospital six weeks after the first symptoms she was in a state of continual drowsiness from which she could be completely aroused into full possession of her faculties. At first there were no occular manifestations, but ten days later optic neuritis was present and the pupils ceased to react to light. Motor symptoms also developed in the arms. The condition of somnolence persisted for over a month, at the end of which time death ensued through respiratory paralysis. The autopsy revealed a tumor of the cerebral cortex as large as a cherry and situated in the upper part of the left central convolution. On examination this was found to be carcinomatous, and the primary focus was then discovered in the middle lobe of the right lung where it had not given rise to any physical signs.

**Experiments on Ascending Urogenital Tuberculosis.**—Baumgarten reports on experiments undertaken to determine the possibility of the advance of tuberculous infections of the urogenital tract in the upward direction; *i. e.* against the current. Ligatures saturated with an emulsion of perlsucht bacilli were tied about the ureters of rabbits, close to the bladder, and about the vas deferens. In the case of the experiments on the ureter the results were strikingly severe, but the infection of the vas was less pronounced. The upward extension of the process to the kidney was much favored, the author believes, by the stagnation of the urine, with its consequent hydronephrosis, and the absence of this feature, owing to the low secretory pressure in the vas, determined the nature of the process in that situation. While this experiment proves the possibihty that under certain conditions the infection may travel up the ureter or vas, it does not follow that this is also possible against the stream, for in the case of the animals the current had artificially been cut off. Such conditions occur but rarely in human beings, and it must be concluded that the usual path of dissemination in spontaneous tuberculosis of the urogenital tract is in the descending direction.

**The Refractometer.**—Perlmann recounts all the disadvantages attending the usual method of estimating errors of refraction and describes an invention of his own, by means of which these inconveniences can be avoided. The ordinary refraction frame is difficult to center, is hard to fit to different faces, and to keep vertical, the lenses are difficult to place in position quickly, so as to allow of accurate comparisons by the patient, the lenses easily get dim and scratched, etc. The author's apparatus consists of a frame having adjustments, permitting it to be adapted to faces with any degree of interpapillary distance, nasal depression, etc., and bearing in front of each eye two disks, which carry a series of lenses six mm. in diameter. These are arranged like the lenses in an opthalmoscope, so that all combinations from − 8 to + 7 diopters may be obtained by gradations of .5 diopter, and the extremes to − 21 and + 20 diopters, by gradations of 1 diopter. Provision is made for the insertion of stenopeic slits, which are used in the estimation of astigmatism. A shutter to cut off the vision of the resting eye is provided, as also a quadrant in which cylindrical lenses may be inserted to test the accuracy of the determinations made with the stenopeic slit. One of the chief advantages of the apparatus is the rapidity with which it permits the refraction to be tested, and while it is actually equivalent to an entire set of lost lenses it may be carried in the pocket. A red glass and maddox's rod are included. The author has used the instrument in 2,000 cases and has compared the results obtained with those gotten by the usual method, in order to see whether the small size of the lenses interfered with the accuracy of the determinations, but found that no discrepancy worth mentioning could be detected.

*Münchener medizinische Wochenschrift, October* 24 *and* 31, 1905.

**Local Eosinophilia.**—Stäubli refers to the experiments of Pröscher, who, after injecting an emulsion of teniotoxin into the peritoneal cavity of guinea pigs, obtained an

exudate rich in eosinophile leucocytes. Staübli says that guinea pigs make admirable experiment animals for this purpose, as their eosinophiles are perfectly typical and vary in number in different animals, so that individuals with low or high percentages, as the conditions of the experiment may require, are easily obtainable. In studying the peritoneal exudate induced in guinea pigs infected with trichinæ, he found large numbers of eosinophile cells, but on investigating the peritoneal fluid of normal animals, he discovered that practically the same conditions were present, and he therefore concludes that Pröscher's observations are not altogether correct, as the normal guinea pig's peritoneal cavity contains 20 to 40 per cent. of eosinophiles as well as transitional and mononuclear forms, he concludes that this membrane may form a source of origin of these cells as well as the bone marrow. On injecting dead or living cultures of bacteria into the peritoneal cavity, the eosinophiles disappeared and were replaced by polynuclear neutrophiles. In the mesentery, however, the eosinophiles were still present, showing that in this situation, as in the bone marrow, they found the conditions for existence particularly favorable.

**The Symptomatology of Barlow's Disease.**—Schlesinger says that orbital hematoma is often one of the earliest lesions of this disease, and exophthalmos, therefore, may give the first warning of the incipient malady. The case he describes illustrates this feature, as well as the unusual location of the femoral ecchymoses at the upper instead of at the lower extremity of the bone, where they usually occur. The upper zone is affected in this way so seldom that in fifty-four cases Heubner found the neighborhood of the knee involved forty-seven times. The author goes on to say that the disease is commonly encountered about the eighth month of life in infants belonging to the better classes, evidence of rachitis is often absent. Hemorrhages into the gums occur only if teeth have been cut. Enteritis precedes the malady in about one-fifth of the cases; profuse occipital sweating, rapid heart, and albuminuria at the height of the disease are other frequently observed manifestations. The disease is due to some error in diet, depending on the use of too dilute milk, of overheated milk, or of an infant's food not containing milk. Improvement follows with marvelous rapidity when raw milk is substituted for the unsuitable food.

**One-Day Pneumonias.**—Bechtold enumerates a large number of reports from the literature, which show that pneumonia of one day's duration is not as rare as might be supposed. In the medical clinic at Würzburg, however, of 1,057 pneumonias observed during the years 1887-1905, only ten were of the one-day variety. These ten cases had in common the initial chill, high temperature, and crisis usually with sweating, but they showed great disparity in the remaining symptoms, which, in some cases, were very slight or even entirely absent. The disease began with the usual evidences of an infectious disease—headache, vomiting, etc., and usually with piercing pain at the site of the lesion. The percussion note was found very variable, ranging from normal to pronounced dullness, and on auscultation crepitant râles were oftenest heard. Bronchial breathing was detected only twice. In two cases pleuritic frictions were heard later on, showing that the inflammatory process had reached the surface of the lung. Bronchophony was elicited in four cases. Leube considers that this sign is an earlier and more reliable evidence of beginning infiltration than bronchial breathing. The sputum was not very characteristic, only once was it rusty, and in another case it was blood-streaked. The question of whether the pneumonia runs through the usual stages in twenty-four hours, or whether it ceases to develop at a certain stage, is undecided, as owing to the benign nature of the sickness, anatomical observations have not yet been made. In many instances, no doubt, increased powers of resistance on the part of the patient determines the abortive nature of the infection; but in four of the author's cases he believes that the prompt crisis was due to decreased virulence of the organisms.

**Enteritis Due to the Balantidium Coli.**—Nagel says that enteritis due to this protozoan is a more serious condition than that caused by the anchylostoma duodenal. The organism was first observed in the stools, by Prof. Malmsten of Stockholm, in 1856, and since then a number of other authors have reported cases. Lately Jacoby and Schaudinn have discovered a new species, the *Balantidium minutum* in diarrheal stools. *Balantidium coli* has a round or oval body .09 mm long and .06 mm. wide. A mouth and anal opening may be distinguished. A nucleus and one or two vacuales can usually be demonstrated. The organism gives rise to constant diarrhea, with more or less bloody stools, which often contain pus. In advanced cases severe types of anemia and cachexia are seen. The author describes a case occurring in a miner of thirty-eight, who had never left his home in Westphalia. His illness began with obstinate diarrhea, which was later accompanied by weakness and prostration, which was not relieved by treatment. A year and a half after the beginning of the trouble he came under the author's care, and was then extremely anemic. Treatment with calomel, quinine enemata, etc., has only brought about temporary decrease in number of infusoria present in the stools. The author advises a search for this malignant parasite in all cases of obstinate diarrhea.

*Deutsche medizinische Wochenschrift, October 26, and November 2, 1905.*

**The Spirochæta Pallida.**—Hoffmann reviews the results obtained by the various observers who have published the one hundred or more articles on this organism that have appeared during the few months since he and Schaudinn presented their first report. A study of the descriptions, and in many instances of the preparations, of those investigators who have reported the presence of the spirocheta in the lesions that were not syphilitic leads the author to believe that the structures referred to were not of the variety *pallida*, and he maintains that so far this form has been discovered only in the infectious manifestations of syphilis, and never in other conditions. He summarizes his position by saying that the *Spirochæta pallida* is being found with great regularity in the most varied products of the disease, so that now its constant presence may be asserted. In uncomplicated cases of acquired syphilis it has been demonstrated in the depths of the primary lesions, in the lymph glands, in the secondary exanthem, and in many cases also in the blood, in pure culture uncontaminated by other organisms. Numerous authors have also succeeded in finding it in the inner organs in the exanthem, and in the blood of children infected with congenital syphilis. While observations on healthy monkeys have never revealed it, the spirochete has been identified in the lesions of monkeys that have been infected with human virus, and also in those that have been inoculated from other infected animals. He therefore concludes that there is now but little doubt that the *Spirochaeta pallida* is the cause of syphilis.

**The Experimental Production of Aneurysms.**—Fischer describes investigations on the mode of formation of aneurysms which he has carried on by injecting various substances into the circulation of rabbits. The attempts of older investigators to cause lesions of this class by traumatism of the vessel wall have been unsuccessful, as the process of regeneration promptly and completely cures the injury. Aneurysms have been produced by cauterizing the vessel walls locally with certain chemicals, causing circumscribed areas of necrosis, but the author has succeeded in accomplishing the same result by purely general means and without any local manipulation whatever. This is by the intravenous injection of 1-1000 adrenalin solution, twenty or more injections being made of from .3 to .5 c.c. each. The effect of this is first to cause a necrosis of the muscle bundles of the media of the vessel walls, followed by dilatation of the wall and straightening of the normally contorted elastic fibers. The necrotic area becomes calcareous so that a compact plate is formed in the media. The process is different in its nature from human arteriosclerosis, owing to the preliminary necrosis, and the author applies to it the term arterionecrosis If the process has gone on to the extent of causing destruction of the entire thickness of the media, aneurysm formation takes place owing to the complete loss of elasticity of the elastic fibers. The calcification is advantageous and tends to protect the vessel from rupture, a contingency that occurred in one of the author's cases in which for some reason no deposition of lime salts took place. The author's experiments with the injection of mineral poisons gave negative results, but in one instance he was able to cause aneurysm formation by the injection of a digitalis preparation. In applying to human pathology the principles illustrated by the experiments the author thinks that the two chief factors concerned are shown to be disease of the media and a heightened blood pressure.

**The Treatment of Pseudarthrosis.**—Jottkowitz refers to a method of inducing callus formation in cases of delayed union after fractures, which was first described by Gwyon It is much simpler and is just as efficient as the plan advocated by Bier as the most satisfactory. This consists in taking a large syringeful of blood from the patient's median vein and injecting it immediately, before clotting can take place, between the bone fragments. Guyon's plan is to inject iodine between and about the fragments Jottkowitz employed this procedure in two cases with excellent results In one he injected 2 c.c. and in the other 4 c.c. of tincture of iodine without causing much pain or undesirable local reaction.

**Permanent Cutaneous Changes Following the Use of Radium.**—Schmidt calls attention to the fact that very undesirable after-effects may appear long after the application of radium rays. The usual atrophic and white scar which follows burns due to prolonged exposure becomes the seat of telangiectoses which may be very disfiguring, and even the site of a moderate exposure gives evidence of vascular new growth and dilatation. The author thinks that this is an attempt to compensate for the malnutrition which first follows the action of the rays. He, therefore, warns against attempts to treat nevi etc., by this agency in situations where cosmetic effect is of importance, as it may easily happen that the cure will be worse than the disease.

**Wind and Draughts.**—Herz analyzes the conditions present when air impinges in the body: first, in the direct forcible manner attendant on exposure to out-of-door air currents, and second, in the localized feeble streams called draughts. The difference between the two is so striking from a hygienic standpoint that he attempts to show in what physical properties they may be distinguished from each other. He comes to the conclusion as the result of observation and experimentation that while wind is accompanied by compression of air, drafts are the result of suction in the more or less remote neighborhood, so that rarefaction takes place near the body and waves of this attenuated air play over the exposed surfaces. He compares the injurious effects of such rarefaction to what occurs on the large scale in caisson workers who are obliged to spend their time in the exhausted air of diving bells. In other words, a draft is a current of air of lower tension than that of the surrounding space, and it is this peculiarity that gives it its physiological significance rather than its temperature, which is of little consequence.

*French and Italian Journals.*

**Tuberculosis of the Mamma in the Cow.**—Peyronny states that up to recent times the milk of cows showing tuberculous mammitis has alone been considered dangerous. It has been considered that the milk of cows which reacted to tuberculin or even of those which were clinically infected, but without mammary lesions, was not harmful and would not give rise to any trouble. Of late years various experimenters have demonstrated that these theories are false. They have noted from animal experiments that the milk of cows which have reacted to tuberculin was sometimes capable of causing tuberculosis when used for inoculating the peritoneum. It may be suggested that tuberculosis, while being produced by such a severe method, would not be contracted by animals who merely took such milk into the stomach. But recent work along these lines has demonstrated that calves have been infected by merely drinking such milk. This whole question, then, is a far more serious one than has been generally supposed. The writer finally emphasizes the necessity of the surveillance of milk.—*Gazette Hebdomadaire des Sciences Médicales de Bordeaux*, October 1, 1905.

**Tuberculous Bacillemia.**—André Jousset, after having studied by various methods the blood of fifty tuberculous patients, has formulated certain conclusions: In chronic ulcerative tuberculosis the blood very exceptionally contains bacilli. In acute or subacute tuberculosis the blood is very often charged with bacilli. This occurs in almost half of the cases. Especially in caseous pneumonia is this phenomenon noticed, in which it is far more frequent than in "galloping" ulcerative tuberculosis. Whatever may be the type of tuberculosis in which the condition of bacillemia is found, the latter constitutes an epiphenomenon of limited duration but essentially recurrent. These discharges are characterized by their irregularity. They cannot be foretold.—*La Presse Médicale*, October 4, 1905.

**Defibrinated Animal Blood as a Local Hemostatic in Cases of Hemophilia.**—Perthes has employed defibrinated blood still containing the ferment capable of coagulating fibrin, in the case of an obstinate hemorrhage in a hemophiliac. The patient was a young boy (whose brother had died from a hemorrhage following an accidental wound of his under lip) who for three weeks had been bleeding freely from the gums. He was in a condition of extreme anemia. Cauterizations, tamponage, adrenalin, and subcutaneous injections of gelatin, had not succeeded in arresting the hemorrhage. The writer then injected into the gums of the patient one cubic centimeter of blood taken from the carotid of a rabbit and carefully defibrinated in a sterilized vessel. The hemorrhage was arrested. It began again, however, eight days later, but was once more stopped by an application of cotton dipped in the defibrinated blood. Three days later it started up again. This time it was absolutely stopped by the same means.—*Revue Française de Médicine et de Chirurgie*, October 2, 1905.

**Malaria with the Symptoms of Acute Peritonitis.**—Gillot has observed four cases of this extremely rare type of malaria. Such a patient shows the classical symptoms of peritonitis—meteorism and pain in the abdomen, incessant vomiting, small pulse, and characteristic facies and voice—and the clinical picture looks like that of perforation of the intestine. A surgeon would not doubt for an instant the necessity of a laparotomy. This type of the disease may be seen at the period of its invasion or after it has already existed for some time. These symptoms begin rather brusqely at the beginning or in the course of continued or remittent malarial fever. Early correct diagnosis is most important in these cases. All of the modern means of investigation should be employed to determine the true nature of the infection. The possibility of the absence of the malarial organism from the peripheral blood should be remembered, for the patient may have been treated by quinine. The prognosis must be conservative, for the outcome may be serious, or it may not be alarming. On account of the possibility of the occurrence of these cases, quinine should be made use of at the beginning in the treatment of acute peritonitis in a malarial climate and season.—*Caducée*, October 7, 1905.

**Metatarsalgia.**—F. A. Michele Daniele has made a study of seven cases of metetarsalgia, a rare disease, whose pathology is still unsettled. By some it is believed to be true neuralgia, by others it is stated that there are always osseous lesions, or even affections of the small joints of the foot. The symptoms consist of pain, intense and tormenting, occurring suddenly and periodically in the metatarsal region, especially at the articulation of the fourth and fifth metatarsal bones. Pressure increases the pain, and there is tenderness over the affected articulations. It is increased by much walking or heavy labor. Walking becomes impossible when the pain is severe. In some of the author's cases there was considerable articular deformity, as was shown by the *x*-rays. The author believes that the malady may vary in its etiology. It may be simply neuralgic, or alterations of structure may go with it, as well as a profound trophic disturbance. It may be in some cases a morbid entity, a neuralgia of the plantar surface. In other cases it is a symptom of more or less profound osseous alterations of the articulations. Radioscopic and radiographic examination should always be made. In neuralgic cases electrical treatment, after the method of Picinnino, will produce a cure.—*Annali di Elettricità Medica e Terapia Fisica*, August, 1905.

**Action of Formate of Sodium on the Blood.**—Francesco Marine calls our attention to the use of formate of sodium, which has been used under the name of formagnolo, in chronic infective maladies, such as cancer and tuberculosis. It has a marked diuretic action, increasing the amount of urine immediately on its administration, the action ceasing at once on the cessation of the drug. It also diminishes the amount of albumin in kidney diseases. Urea is increased, while uric acid remains unchanged. The acidity is diminished. The drug is quite harmless. Clement states that it has a favorable effect on metabolism. The author investigated its effect on the blood condition by experiments on dogs and rabbits, when used by hypodermic injection. For a period of eight days before the drug was injected, he made determinations of the hemoglobin and corpuscles in the blood. His conclusions are as follows: 1. In small doses the drug has a beneficial effect on the blood, increasing the number of corpuscles, and the amount of hemoglobin. 2. In large doses, up to a certain point, this effect goes on; after that the hemolytic action ceases and there is a diminution of the hemoglobin.—*Giornale Internazionale delle Scienze Mediche*, September, 1905.

**Action of Caffeine on Blood Pressure.**—Gaetano Carlo Mirano has made careful observations of a number of cases after the administration of citrate of caffeine by hypodermic injection. He desired to settle the question as to whether the drug produced a rise or a fall of arterial pressure. The cases were of various kinds, heart diseases, compensated or the reverse, arteriosclerosis, fever with mental symptoms, etc. Neglecting the action of caffeine on the nervous and muscular systems, it has a powerful action on the circulation, through the vessels themselves, as well as a direct action on the heart. It produces vasodilation when the vessels are normal. The author concludes his observations as follows: 1. Caffeine, through its vasodilation, produces a marked diminution of arterial pressure. 2. It excites the heart to stronger contraction, and regulates its movements, partially counteracting the fall of pressure due to vasodilation; in arteriosclerotic cases, in which vasodilation is impossible it increases arterial pressure. 3. There is usually a slowing of the pulse, due to the forcible heart action produced.—*La Riforma Medica*, September 23, 1905.

# Book Reviews.

THE NATIONAL STANDARD DISPENSATORY. Containing the Natural History, Chemistry, Pharmacy, Actions, and Uses of Medicines, including those recognized in the Pharmacopeias of the United States, Great Britain, and Germany, with numerous references to other Foreign Pharmacopeias. In accordance with the United States Pharmacopeia, eighth decennial revision of 1905, by authorization of the Convention. By HOBART AMORY HARE, B.Sc., M.D., Professor of Therapeutics in the Jefferson Medical College, Philadelphia; Member of the Committee of Revision of the U. S. P.; CHARLES CASPARI, Jr., Ph.G., Phar. D., Professor of Pharmacy in the Maryland College of Pharmacy, Baltimore; Member of the Committee of Revision of the U. S. P.; HENRY H. RUSBY, M.D., Professor of Botany and Materia Medica in the College of Pharmacy of the City of New York; Member of the Committee of Revision of the U. S. P.; JOSEPH F. GEISLER, Ph.C., Chemist New York State Dept. of Agriculture; EDWARD KREMERS, Ph.D., Professor of Chemistry University of Wisconsin, and DANIEL BASE, Ph.D., Professor of Inorganic and Analytical Chemistry, University of Maryland. Philadelphia and New York: Lea Brothers & Co., 1905.

THIS important work is the legitimate successor of the old National Dispensatory of Stillé and Maisch—the standard book of reference in the fields of materia medica, pharmacy, and therapeutics for a quarter of a century. Of the three chief authors Dr. Hare has written the sections on medical actions and uses, Dr. Rusby those on pharmacognosy, and Dr. Caspari those on pharmacy. Of the other authors Geisler assisted in the preparation of the section on the organic chemical substances, Base of those on the inorganic chemicals, and Kremers of those on the volatile oils and their constituents. The subjects treated of include not only the drugs contained in the newly revised United States Pharmacopeia, but also those sanctioned by the British and German Pharmacopeias, as well as many (not all) of the medicaments in more or less common use which have not as yet been admitted to any pharmacopeia.

The drugs are treated of in alphabetical order, and under each title full details are given of the pharmacognosy, the pharmaceutical methods and preparations, and the therapeutic applications. An appendix contains a great number of formulas, tests, tables of comparative weights and measures, and much other useful information. There are also two copious indexes—the usual therapeutic index and a general index, in which is to be found every drug treated of in the work under its official name, its botanical or chemical name, and its popular name, with the same also in the French and German equivalents.

The work is of equal utility to the physician and the pharmacist, and no member of either profession can well afford to be without it. Its 1,858 pages contain information which one could glean otherwise only in searching through an entire library. A valuable feature is the illustrations, 478 in number, of the crude drugs and the plants from which they are derived.

ABDOMINAL OPERATIONS. By B. G. A. MOYNIHAN, M.S., F.R.C.S. Philadelphia and London: W. B. Saunders & Co., 1905.

THE large amount of successful abdominal surgery done by the author will lend interest to a work in which the operations are described as practised by himself. In this volume he includes only operations which are common to both sexes, on the stomach, intestines, liver, pancreas, and spleen, omitting those on the kidney and bladder and hernia operations. The book also contains an introductory section on bacteriology, preparations for operation, complications, and after-treatment, and a discussion on peritonitis and visceral prolapse. The technique of the preliminaries to a operation is that in general use here, but the details of after-treatment vary somewhat from those to which we are accustomed. The chapers on the specific operations are each very complete, particular attention being given to the subjects of appendicitis, peritonitis, gastric ulcers, and diseases of the pancreas. Those operations which have proved of value, he includes in addition to the numerous methods devised by himself, all of which are described in great detail and fully illustrated by appropriate drawings and case histories. The various methods of intestinal suture are carefully described and criticised, and in asserting that all mechanical aids to anastomosis are unnecessary, Moynihan practically abandons the Murphy button and similar devices are being dangerous and as having served their day. The remaining chapters are very complete, that on the liver and gall-bladder deriving especial interest from the author's extensive experience in this field of surgery. The book is well printed and the illustrations, though not very numerous, are new, pertinent, and well executed.

ATLAS AND EPITOME OF DISEASES OF THE SKIN. By Dr. FRANZ MRÁCEK, Professor of Dermatology in the University of Vienna. Authorized Translation from the German. Second Edition, revised and enlarged. Edited by HENRY W. STELWAGON, M.D., Ph.D., Professor of Dermatology, Jefferson Medical College, Philadelphia, Etc. With 77 colored plates by the Artists J. FINK and A. SCHMITSON, and 50 half-tone illustrations. Philadelphia and London: W. B. Saunders & Co., 1905.

IN its original form this atlas was one of the most satisfactory of the series of which it forms a part, and this enlarged edition should prove still more useful. The added plates are quite numerous and have been well selected with the view of completing the series of the commoner lesions the practitioner is likely to encounter. The list of diseases chosen for depiction is a thoroughly practical one, and the text is concise and useful, so that the volume may be commended as a serviceable guide for frequent reference. The editorial comments interspersed throughout the work bear evidence to the care with which the American edition has been prepared.

A TEXT-BOOK OF CHEMISTRY for the use of Students and Practitioners of Medicine, Dentistry, and Pharmacy. By WILLIAM RUSSELL JONES, M.D., Ph.G., Professor of Medical Chemistry and Toxicology, and Lecturer on Medical Diagnosis in the University College of Medicine; Visiting Physician to the Virginia Hospital, Richmond, Va. Illustrated. Philadelphia: P. Blakiston's Son & Co., 1905.

THIS volume is intended specially for students, and consists of six parts, dealing with physics, chemical philosophy, inorganic chemistry, organic chemistry, quantitative analysis, and physiological chemistry. The first part consists of a brief sketch of such parts of physical science as are necessary to an understanding of general chemical methods. The sections dealing with inorganic and organic chemistry compose the bulk of the book, and contain a fairly full account of such portions of the subject as appeal to the class of readers for whom the book is written. A few pages are devoted to methods of quantitative analysis; and the volume closes with a section on physiological chemistry. The book is well and clearly written, but the amount of chemistry contained in it is certainly the irreducible minimum that any college can demand. As an introduction to the subject, this volume will serve a good purpose, being both accurate and easily understood; but the medical student of to-day will find it necessary to supplement the knowledge here obtained by reference to a more complete text-book.

FERIDAS E RUPTURAS TRAUMATICAS DO CORAÇAO (Cardiorrhaphia). A proposito des tres cacos pessoaes de cardiorrhaphia. By FRANCESCO SOARES BRANCO GENTIL. Lisbon: Libanio da Silva, 1905.

GENTIL, in this brief treatise, considers the traumatic lesions of the myocardium and their surgical treatment, especially by suture. He reports in detail three cases of cardiorrhaphia, in two of which the patients died, and in the third recovery took place. In view of the fact that only 77 cases of this kind are on record from 1896 to 1904, the present set of three cases is certainly an addition to our knowledge of the operation of cardiorrhaphy. The rest of the work is occupied by a systematic account of the causes, pathology, symptoms, and operative treatment of wounds of the heart. The work of Ricketts on the Surgery of the Heart" has evidently not been consulted, as it does not appear in the list of references, which is up to date, and includes titles up to the present year. The list of periodicals used includes ten titles, embracing the MEDICAL RECORD, and the year book edited by Gould, as the two American publications consulted.

METHODS OF ORGANIC ANALYSIS. By HENRY C. SHERMAN, Ph.D., Adjunct Professor of Analytical Chemistry in Columbia University. New York: The Macmillan Company, 1905.

WHILE this book is not primarily intended for medical students or physicians, it presents a concise, yet complete, treatment of the subject of organic analysis, including the analysis of food products such as milk, cereals, butter, etc. It will be especially useful to students in advanced courses or in postgraduate work who are fitting themselves for the position of food experts, or as agricultural chemists. An important feature is the references to the original sources of the methods described, which are given in almost every instance. The book presupposes a considerable knowledge of general and analytical chemistry, and is not recommended to any but the more advanced students. It is carefully put together, and contains a great deal of information in a very condensed form.

# Society Reports.

## AMERICAN ACADEMY OF MEDICINE.

*Thirtieth Annual Meeting, Held in Chicago, November 9 and 10, 1905.*

DR. WINFIELD S. HALL OF CHICAGO, PRESIDENT, IN THE CHAIR.

**Report of the Committee on Laws Regulating the Practice of Medicine.**—The Secretary, Dr. CHARLES MCINTYRE of Easton, Pa., read this report. The Academy began the study of laws relating to the practice of medicine in 1880, and the report gave some of the results of this twenty-five years' investigation. Some of the imperfections of the laws were considered: (1) The lack of uniformity in common with most legislation. In time this might be corrected. (2) The relation of wandering practitioners. Each State by special legislation, by exemption in general legislation, or by sufferance, permitted certain classes of people to perform the office of a physician without the tests required by the State for doctors in medicine. The report suggested that the general practice acts should recognize this by providing for two classes, one to be known as "Limited Licentiates in Medicine," who would be examined only on the elementary subjects. As these laws were to protect the people, they should not take cognizance of any special system. Each one should have liberty to treat disease after his own sweet will, but only after he had demonstrated to the State officials that he possessed such knowledge of the human frame as the legislature had decided was necessary for the proper protection of the citizens. (3) Another imperfection of the laws of to-day was that they did not accept the statement of the medical college as final. This had been thought to have been necessary because some medical schools had been found not to have acted in good faith. The result was a somewhat mechanical statement of requirements. Time would right this, and the future laws would accept a diploma without going behind the returns. (4) Another weakness was the provisions for the transfer of a legal practitioner from one State to another. The report suggested that authority be given to each board to accept the license of another State at its value, and to make such additional tests as might be required. (5) The laws too frequently failed to protect those who were licensed. They should provide for some official whose duty it was to search out and prosecute the unlicensed and those who were abusing their licenses. The report favored having osteopaths represented on State medical examining boards.

Dr. CARL H. VON KLEIN of Chicago referred to the gradual evolution that was taking place toward higher medical education, and said he had always been an earnest advocate of it. America was not behind in this progressive movement. In some medical schools the courses of instruction were equal to those established in foreign countries, but the preliminary education of medical students had not reached as high a standard in this as it had in foreign countries.

Dr. LEARTUS CONNOR of Detroit called attention to the origin of the medical laws, who originated them, and for what purpose. He said there were two parties involved: (1) the people, and (2) the doctors themselves. Doctors could not enact laws themselves, but they had to join with the people in accomplishing this. Doctors, however, had been the prime factors in establishing these laws, sometimes with a selfish purpose in view, he regretted to say. He thought that if doctors had looked first after the interests of the people rather than their own interests, there would have been no need for any medical laws. While this was a strong statement, it was absolutely true. Physicians should work for the good of the community first, and for themselves secondarily.

Dr. B. D. HARISON of Sault Sainte Marie, Mich., said he could not agree with the recommendation in the report that osteopaths should be admitted as members of State medical examining boards. He gave the following legal interpretation of qualifications numbers one and two in the report: "If an applicant for the reciprocal endorsement of a certificate of medical registration or license has acquired such certificate or license in another State, territory, district, or province of the United States in medical reciprocity with Michigan, under conditions and requirements equivalent at the date of issue to those with which he would have to comply subsequent to September 22, 1883, in order to have then obtained the legal right to practise medicine and surgery in Michigan, such certificate or license may be recognized and endorsed by this board as a sufficient qualification for reciprocity under section 3, subdivision 3, of act 191 of the Public Acts of 1903, provided such applicant shall further comply with the rules and regulations of this board relative to the recognition and exchange of certificates or licenses between States."

Dr. R. O. BEARD of Minneapolis, Minn., believed that if the standard of the medical profession was raised there would be less need for medical legislation.

Dr. JOHN M. DODSON of Chicago said that, urged by the medical profession, some institutions of general learning were now pursuing the plan of supplying courses in chemistry, physics, and general biology, and others in human anatomy, especially microscopical anatomy, bacteriology, and embryology.

**Report of the Committee to Tabulate the Value of the First Degree.**—This report was read by Dr. DONLY C. HAWLEY of Burlington, Vt. The committee found it necessary to make a prefatory study before attempting the definite work assigned to it. This study included two questions: (1) What is a college course intended to do? (2) What are the elements which, when compounded, make the physician? 1. A college was a factory where the value of the finished product depended upon the character of the raw material furnished. It also depended upon the process employed; but no process could cause a transmutation of metals. Unless the gold be in the ore, none could be found in the end products. 2. To obtain material upon which to base the answer to this question, a circular letter was sent to a large number of physicians, medical and other teachers, and college presidents. The replies received were studied by the committee and were also included in the report as an appendix. The questions were (1) What is the character to be desired of the neophyte in medicine? To what extent can it be developed by educational processes? And what class of studies is adapted to bring it about? (2) What mental discipline is essential that a student may profitably benefit by a medical course? (3) What facts should be in possession of the intending medical student before he enters upon his medical studies? Can the acquisition of these facts be used to train the character and the mind? The report discussed each of these topics in turn. It was admitted that sometimes the man with a limited training outstripped his fellow with greater scholastic advantage. There must be something underlying which educational processes could not supply. The boy or girl must belong to that type designated as "fact seeker" by President Hadley of Yale. He must also be self-reliant, able to arrive at fair conclusions on accurate observation, and to follow such conclusions with confidence. He must also have a bulldog tenacity, a love of seeking scientific facts apart from preconceived theories, and sympathy with mankind. These were foundations, and every trait which would make an honorable man and a cultured gentleman would be helpful. Having boys and girls of this type, what should be the mental discipline to produce the best result? The pupil should be taught to observe accurately and to interpret honestly the results of observation, to know how to study, to think logically, and train his memory to be of ready service. He should be educated first for the man, then for the physician. And, on the whole, the course in colleges leading to the A.B. degree seemed to be fitted for this better than any other course. Besides, the mind so

furnished should be in possession of certain facts to be used directly in his medical studies. These included a knowledge of elementary physics, that he might understand its application in physiology and elsewhere; such a knowledge of chemistry as to make it necessary to teach only medical chemistry in a medical course; and general biology that the student could undertake the study of life processes in man in an intelligent manner.

Prof. Losey of Northwestern University, Chicago, emphasized that part of the report that students preparing for medicine should be advised to elect or to select studies in their college course, so that they might have two or three years of work in chemistry, biology, etc., and that they be advised to take up such subjects as histology, embryology, and comparative anatomy. Some institutions were pursuing such a course at present.

Dr. Leartus Connor of Detroit said a four-year course of study in medicine would give a man a broader outlook; it would give him imagination to look forward to what he ought to become; to have a broad, sympathetic outlook for those with whom he had to do. The practice of medicine required a vigorous body, and a college course ought to give chance to know what sort of body a man had; whether he could endure the long strain of days and nights and of anxious thoughts about critical cases, etc.

Dr. Carl H. von Klein of Chicago emphasized the value of an academic training preliminary to entering upon the study of medicine. The man who was academically well trained, other things being equal, made a good physician.

Prof. H. B. Ward of the University of Nebraska said that those who had not followed carefully the development of modern college education were not aware of the extent to which even in small colleges the elective system had been introduced. Formerly, a college course meant more or less the same training; not only four years, but four years applied to similar lines. The modern college had made a departure from this. Even the most conservative had introduced different courses which went under different names, but which in many, if not in all, cases led to the same degree. He deplored the fact that there was not a series of recognized studies toward the professional line of medicine as there was in the mind of the college teacher with reference to theology, to law, or to some other vocation.

Prof. James G. Needham of Lake Forest University favored teaching general biology in colleges, leaving to the medical schools to teach it as it applied to the human body. He would favor the colleges teaching general embryology, vertebrate embryology, but would let the medical schools teach those phases of it that applied to the human being and to the practice of medicine. The same with reference to other subjects. General colleges or universities could teach these branches to greater advantage than they were now being taught in medical schools.

Dr. Burton D. Meyers of the University of Indiana said he had been studying seriously in connection with the medical department of the Indiana University the best means of developing and furnishing a preliminary education. The aim of those in authority was not to establish another medical school, but a medical department of the better kind, and they were ready to require four years of collegiate work if they were convinced that this was essential. A man who entered upon the practice of medicine ought to be able to use the English language correctly, to express himself clearly and concisely. He ought also to be able to read French and German.

The report was further discussed by Drs. Daniel T. Nelson, John M. Dodson, R. O. Beard, B. D. Harison, and Prof. Halsey.

**Report of the Committee on Teaching Hygiene in the Public Schools.**—This report was read by Dr. Helen C. Putnam of Providence, R. I., the other two members of the committee being Dr. Edward Jackson, Colorado, and Dr. Geo. G. Groff, Pennsylvania. Over seventy classes in domestic science in eighteen different cities were visited, and about as many in nature study, in elementary, high, normal and special public schools. Last year, in its report on the laws and on nearly one hundred text-books in physiology and hygiene, written for children since 1882, the committee selected the latest and best books for special examination, to learn the possibilities and aims of these books. For the same reasons, in reporting the teaching of hygiene through domestic science and science teaching, the best programs of work were outlined, with brief details of the differences between these and the larger number of less efficient programs. The actual practice of principles of hygiene in domestic science and in the actual observation of biologic details and physical phenomena in the teaching of the sciences—called nature study in elementary schools—were briefly compared with the method of memorizing from books and talks. The larger range of work covered in the former classes was also noted. The committee reserved its recommendations until it had reported on the other direct methods of teaching hygiene in the public schools.

**Altruism in the Medical Profession.**—Dr. Winfield S. Hall of Chicago took this as the title of his president's address. The higher the order of altruism, the fewer there were who attained to it. Voluntary sacrifice of life in order that other lives might be saved was the highest order of altruism. This height had been attained by a comparatively small number only; a number, however, that should include many unknown heroes who had gone to their deaths while ministering to the sick in plague-stricken places, leaving no record of their heroism. The speaker cited examples from the ranks of the medical profession, covering a period from the founding of the profession to the present time. Enduring fame in the medical profession could be won through altruism only. Organized for the purpose of advancing the standards of medical education, of advancing the boundaries of medical science, of elevating the profession, and of preventing disease, the work of the American Academy of Medicine had been altruistic from the time of its organization to the present. The field of its activities was ever-widening, and always along altruistic lines. If he were asked to make a general recommendation, it would be that the Academy accept as its field of endeavor the altruistic responsibilities and activities of the medical profession, definitely outlining a program of research to be prosecuted along various lines, as education, school hygiene, State medicine, ethics, etc. This research could be followed by carefully directed and persistent efforts to accomplish that which the research revealed to be advantageous to society.

**Recreation In Its Effects Upon the Nervous System.**—Dr. William James Herdman of Ann Arbor, Mich., stated that the practical methods by which suitable recreation was to be selected to meet the requirements of special classes or individuals would vary as taste, occupation, and opportunity varied. From the complexity of occupations in which people engaged there resulted the greatest variety of channels through which the store of nervous energy was depleted. Outdoor plays and games requiring some skill, such as boating, fishing, swimming, skating, horseback riding, gardening, tool work, and the like, were of much more recreative value than any of the artificial gymnastics which had no purpose nor incentive beyond the movement itself. For the brain worker the way was open to innumerable recreations, and the opportunity for choice and the possibility of varying their character, at will, would make the problem of healthful living an easy one if any man would but cultivate a sufficient variety of interests, so that when one channel of activity was for any reason closed to him, as a relief from necessary work, he had but to choose another. The practical result in this was seen when the statistics of health and longevity of the brain worker and of the muscle worker were compared. The researches of Dr. Beard and others had shown that brain workers not

only lived from fourteen to twenty years longer than muscle workers, but that their health was more uniformly good and their stature of larger average. When mankind was once emancipated from the conception that honest work was contemptible drudgery, and learned to recognize the pleasures and recompense it had in store when rightly apprehended, which meant that the work selected must be suited to individual capacities and tastes, and when greed and selfishness gave place to a spirit of mutual helpfulness, the problem of recreation would be solved.

**The Physiology of Recreation.**—Dr. Geo. W. McCaskey of Fort Wayne, Ind., said that the primary and predominant factor in practically all forms of recreation was the psychical one. Although the influences of the mind over the body were recognized in a general way, it was fully comprehended by few, if any. The sudden change from a state of extreme depression and misery, with perfectly distinct physical suffering, to one of buoyancy and exultation, with entire forgetfulness of self as a result of a change of emotion was a not unfamiliar experience in the lives of most people. As an illustration of the broad effects of mental impression in general, he mentioned the case of an attorney under his observation, whose digestion, after considerable improvement, remained more or less distressing in spite of all he could do for his relief, which included the treatment of a local stomach disease by suitable methods, careful regulation of diet, gymnastics, and a liberal amount of outdoor exercise. This gentleman would go to a little lake forty miles away, and the very first meal that he would eat there, long before there could be any possible effect of exercise, atmospheric change, etc., would be digested without the slightest disturbance or even consciousness on his part, and this would continue until his return to the city, when the old conditions would be immediately resumed. If the various forms of recreation were closely scrutinized, it would, he thought, be found that those diversions and amusements which produced the promptest and most brilliant effects upon both the mental and physical states of those who participated were precisely those in which the physical impression was the strongest. The first requisite in what might be termed successful recreation was a complete diversion from self, a complete submergence of self-consciousness, which inhibited that everlasting introspection of our physical selves which was the foundation of half the morbidity of the world. How this could best be done was a problem for the individual, and depended upon his age, sex, social status, intellectual development, and other factors which went to make up the complete ego. He next invited attention to the purely physical or mechanical aspects of many forms of recreation, in other words, the factor of muscular exercise, and said that the systematic introduction into our lives of such recreation as was suited to individual needs should be the rational aim of all, and a proper understanding of the physiological laws and facts which underlay the whole subject could not be otherwise than helpful. He concluded with the admonition of Virgil, that "rural recreations abroad, and books at home, are the innocent pleasures of a man who is early wise."

**Recreation As a Sociological Factor.**—Dr. Donly C. Hawley of Burlington, Vt., said that while work was necessary and ennobling, refreshment of the strength and spirits after toil was likewise a necessity, which found expression in the natural cravings of the social instinct and in the general desire for diversion and amusement. The social instinct demanded satisfaction, and would find it in recreation and amusement, which was either beneficial and uplifting, or injurious and degrading. Teachers should realize the importance of recreation and use the opportunities which their positions afforded in influencing the children under their care to seek recreation which recreates and amusements which would bring the most perfect joy.

**The Relation of Recreation to Education.**—Mr. R. K. Row, Superintendent of Schools of Berwyn, Ill., presented a brief statement of the recognized psychophysical theories of play, and then discussed the special educative functions of recreative activities. Out-of-door games, plays, and recreations were the best means of physical education. He referred to the forms of recreation which involved considerable intellectual activity, and said cooperative games promoted social education. They developed the qualities of leadership, self-reliance, self-control, and the spirit of cooperation in social groups. Recreation was a very large and vital factor in esthetic education. Recreative activities had also important ethical functions.

**Ceremonials and Festa in the Recreation of Larger Groups of Individuals.**—Dr. Bayard Holmes of Chicago said that the value of the pageant had been well recognized by every organization which had aimed to secure a control over public opinion and public life. The educational and social functions of the pageant could not be confined to any one class or age. It had a use for every class and for every member of society. For the youth, the occasion was one of unequal liberty and freedom from restraint. For the young adult it furnished the occasion for prenuptial amenities. For those in the prime of life abundant opportunity was given for the display of success in any and every activity of life. The social, the economic, and the political success could be ostentatiously exhibited without the odium of effrontery or vulgarity. Even the aged might receive the scanty satisfaction of an honorable decline. But the extension of the influence of the pageant and the communal festivity reached farther and cultivated and encouraged every joy-giving activity of life.

**Medical Features of the Papyrus Ebers.**—Dr. Carl H. von Klein of Chicago presented an exhaustive paper on this subject. The author described the papyrus, the style of writing, mentioned its age, the date of transcription, its contents, and gave a description of the diseases mentioned in it and their treatment. He likewise mentioned the transcription of the papyrus from hieratic to hieroglyphics, and from the latter into a Latin glossary. He called attention to the various medical papyri now in existence, and referred to the similarity of ancient Egyptian medicine to the Mosaic. He discussed post-Biblical medicine in its relation to the time of Hippocrates, following up with the Mishna and Homer, giving a complete history of prehistoric medicine from about five thousand years before the Christian era down to the time of Hippocrates, with a translation of the same into English by the author.

**Officers.**—The following officers were elected for the ensuing year: *President,* Dr. Donly C. Hawley of Burlington, Vt.; *Vice-Presidents,* Drs. Helen C. Putnam of Providence, R. I., G. W. McCaskey of Fort Wayne, Ind., Henry B. Favill of Chicago, and James T. Searcy of Tuskaloosa, Ala.; *Secretary-Treasurer,* Dr. Chas. McIntire of Easton, Pa.; *Assistant Secretary,* Dr. Samuel C. Stanton of Chicago. Boston, Mass., was selected as the place for holding the next annual meeting; time, June 2 and 4, 1906.

## NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS.

*Stated Meeting, Held October 26, 1905.*

Dr. Charles F. Adams in the Chair.

**Specimens of Uterine Fibroids.**— Dr. Augustin H. Goelet presented these specimens with the object of showing the necessity of removing the uterus in certain cases rather than attempt to retain it by doing a myomectomy. Since many authorities were at variance as to when to remove the uterus and when to save it when there were fibroids imbedded in its walls, and since the course adopted must be decided by the experience of the operator and the condition found in individual cases, made this a question which might come up from time to time as our experience ripened and we might be able to throw more light upon the subject. He believed that it was better to save the uterus whenever

it was possible without jeopardizing the health of the patient, if she was removed five or more years from the menopause. If a patient was presumably nearer than five years and the fibroids could be readily removed without mutilation and there seemed to be no smaller nodules in the walls, the uterus then should certainly not be removed. If, on the other hand, there were small nodules distributed throughout the walls of the uterus in a patient further than five years removed from the menopause it would be better surgery to remove the uterus, because future developments would necessitate a second operation. He would not hold to the last rule if the patient was under 35 years. In all cases the ovaries should be preserved and only the diseased portions removed and some healthy structure in one or both ovaries should be left. He cited the case of a patient from whose uterus he had removed nine fibroids, some of them encroaching so much on the interior of the uterus that it was opened into several times. That was six years ago and the patient was enjoying excellent health at the present time. Two cases were reported in detail, and specimens shown, illustrating his remarks. If patients could be made to understand that, in many instances, these tumors could be removed without removing the uterus, and that in any event one or both ovaries, or a portion of an ovary, might be preserved if the operation was not too long delayed, and if patients were assured that the risk was really not great and that they would regain their health, operation would be more often consented to and fewer women would suffer unnecessarily from these conditions.

**Specimens of Ectopic Gestation.**—Dr. S. M. Brickner presented five specimens of ectopic gestation which he said were of peculiar interest. The specimens were selected with reference to the remarks he expected to make later. 1. The woman from whom this specimen was removed entered the hospital immediately following a rupture of a tubal ectopic pregnancy. The interest centered largely in the fact that there was presented simultaneously an ovarian cyst. 2. This specimen was removed from a woman who entered the hospital with a diagnosis of tubal pregnancy, with a pulse of 80, and general condition very good. One hour after admission she began to show signs of internal hemorrhage and, without waiting for permission to operate, the condition being so alarming, she was operated upon. The site of the rupture was shown together with the remnants of the sac in the tube and a few blood clots. The fetus had escaped. The patient made a good recovery. 3. The history of this case was rather dramatic because of the anatomical features. This patient was admitted to the hospital as a private patient and because of the presence of infection in the institution operation was postponed for twenty-four hours. On the same evening he saw one of the ward patients and, as a matter of courtesy, he visited this patient and discovered that she was almost moribund, pulseless and in a condition of collapse. She was hastened to the operating room, an abdominal incision was made, the abdomen was found to be filled with blood as a result of a ruptured ectopic pregnancy, and the time consumed in all was twelve minutes. The patient had been ringing the bell for some time for the nurse who refused to respond, thinking she was simply nervous; had he not entered the room when he did no doubt she would have died. The specimen showed a rupture in the center of the tube. She recovered. 4. The patient from whom this specimen was removed was operated upon by Dr. Brettauer. It showed a particularly tortuous tube which was the site of an abortion, the aborted ovum being seen outside the fimbriated extremity. 5. This specimen showed because of a simultaneous intra- and extrauterine pregnancy. Abortion occurred apparently at two and a half or three months. Nothing whatever was found in the appendages when the patient was curretted. Three weeks after this was done the patient complained of pain in the right side with a continuation of the flow and a diagnosis of tubal pregnancy was made. At the time of operation the fetus was found lying in the abdominal cavity. The tube itself was the seat of a mole.

Dr. Egbert H. Grandin presented the following specimens: 1. The first was a double ectopic pregnancy, one of three that he had in his series of ectopic pregnancies. The ovum was shown on one side, approximately of six weeks' life. In the other tube abortion had just taken place. He left the ovary behind. The history was atypical. 2. This specimen was interesting in that it demonstrated the reparative efforts of Nature. When the patient entered the service she was in a condition of collapse. The abdomen was opened, the fetus removed; it was developed about to the twelfth week. The abdomen was filled with blood and clots extending as high as the ensiform. The patient made a good recovery. The tube and ovary left *in situ* on one side but, on the other, being of no use to the woman and having ruptured, it was removed. 3. This specimen was removed from a patient who gave history of repeated ectopic pregnancies, the diagnosis being made each time in the office; it was not a presumptive diagnosis. Sometime in 1902 he removed a ten-weeks' fetus in an unruptured tube; three years after, in 1905, he removed the left unruptured tube containing a fetus about six-weeks development. In this case both ovaries were left *in situ* and the patient menstruated. The tubes which were distended with blood, clots, epithelia, etc., if left behind would no doubt have proved a great source of discomfort to the patient and possibly have made her an invalid. Both were unruptured. 4. This was a specimen of right ectopic gestation with atypical history, one not at all in accord with the histories laid down in the text-books. She entered the hospital with a pulse of 160, temperature 101 and respirations 35. The diagnosis of a presumptive ectopic gestation was made and the abdomen opened. A right salpingo-oorphorectomy was performed which was followed by an uneventful convalescence. The same operation was performed on the left side at the same time. 5. This was another specimen of a right ectopic gestation with atypical history, the diagnosis being only presumptive. A right ectopic of six weeks was removed, the right ovary and tube being removed as well. 6. This was another specimen of an ectopic, the abdomen being filled with blood and clots as, in fact, all the cases had. All the cases recovered. Dr. Grandin said that his experience with a large number of cases of extrauterine pregnancy had led him to the following conclusions: (1) The symptomatology was rarely typical; (2) if he regretted one thing more than another it was in extrauterine pregnancies when the other side seemed to be not quite normal, not removing that tube. He said he could recall four cases at least of repeated ectopics. While the woman got well they felt that one was not doing their full duty at the first operation in not removing the tube apparently diseased, and saving them the risks of a second abdominal section. (3) He was satisfied that except in hematocele formation the only surgical way of operating was by the abdominal route.

Dr. Hermann J. Boldt presented a specimen of double tubal pregnancy which he removed from a patient, 35 years old, married 15 years, who had had two children, the last fourteen years ago. Four months ago she was sent for advice because of the presence of almost constant bleeding for a few weeks, and it was assumed by both the patient and the doctor that she was pregnant about four and a half or five months. The uterus was found to be somewhat enlarged and relaxed, boggy, and could be pushed forwards and was practically immobile. Behind the uterus was a mass, globular in shape, very sensitive to the touch, and about the size corresponding to a tumor three inches in diameter. In close connection and inseparable from the mass, and in direct connection with the uterus, was an elastic tumor having the size and shape of a gravid uterus about the fifth month of gestation, and was felt in the lower abdomen. It had not, however, the same definite outline as a pregnant uterus, and the uterus could be mapped out independently of the tumor, and was a little to the left of the median line and pushed well forward. The uterus and the tumor formed an intimately blended

mass. Feeling confident that the uterus did not contain a fetus, a sound was introduced and its depth was found to be three and a half inches. The patient had had a severe attack of pain some time previous, its site being in the lower abdomen and more towards the right iliac fossa. At present more pain was complained of in the left side. The patient was anemic. The diagnosis of secondary abdominal pregnancy was made, with the presumption that the primary rupture had occurred some time previous when she had her severe pain. On operation the omentum and intestines were found to be intimately adherent and there was a mass attached to a tumor which felt to be cystic in some parts, and solid in others. This tumor lay in the median line and extended to the right, and was attached to the right broad ligament and to the intestines. It was also adherent to the uterus, which was not increased in size to any marked extent. Behind the uterus, on the posterior surface of the fundus, was a hard tumor, which was recognized as probably a fetal head. The capsule of this tumor was accidentally opened and a thick creamy fluid escaped which first impressed him as being pus. There was no odor, and later it was found to be broken down brain tissue. All the skeleton bones were encapsulated in what seemed to be the skull, and apparently arranged on top of each other like cordwood. The large intestines were extensively injured during the separation of the adhesions, but were sutured without requiring resection. This fetus was the product of a left tubal gestation. Both ovaries were retained and attached to the cornuæ of the uterus, although both glands were enlarged and inflamed. The patient made a slow recovery. The semisolid tumor on the right side proved to be another extrauterine pregnancy about two and a half months' gestation. This was the second double ectopic gestation that he had had the opportunity to operate upon this year.

Dr. L. J. Ladinski presented a specimen which had been removed from a patient, 23 years old, who two days before admission to the hospital had been taken with violent abdominal pains and vomiting. There was no blood in the vomitus. The doctor who was called in consultation made a diagnosis of gastric ulcer while her own physician made a diagnosis of either "appendicitis, ectopic gestation, or pyosalpinx." Immediate operation was performed and a ruptured ectopic gestation found.

**Case of Toxemia of Early Pregnancy.**—Dr. Bandler reported the case of a woman, 42 years old, who had passed her menstrual period two weeks and two days. Four or five days prior to admission to the hospital she had pain in the abdomen, and on the day following began to vomit which continued until day of admission. A diagnosis of appendicitis was made. The house staff diagnosed ectopic gestation. There was a tremendous hematoma and more fluid blood than he had ever seen in similar cases; the blood was unclotted. When admitted the patient still vomited and was delirious. Nothing was noted on operation. The case was supposed to be one of toxemia occurring in early pregnancy.

**Etiology of Ectopic Gestation.**—Dr. S. M. Brickner said that the theory which held apparently the greatest number of supporters was that this resulted from some inflammatory action about the tube, *i.e.* a deep seated salpingitis or adhesions about the tube which interfered with the progress of the impregnated ovum to the uterus. Yet in one of the cases presented there were no signs of any inflammatory action. He felt confident that all of those present had encountered instances in which there was no inflammatory condition present and in which none could even be revealed by the pathological examination. German writers held that extreme torsion of the tube was a cause of ectopic gestation, but that was to be doubted. Perhaps the suggestion which took the greatest hold upon the scientific mind was that of Webster, in which he considered ectopic gestation as a reversion to lower type. The fact that some women had intrauterine pregnancy and then ectopic, or ectopic pregnancy and later intrauterine pregnancy, or repeated extrauterine pregnancies was significant, and seemed to interfere with the correctness of this theory as a cause alone. Webster's assertion was that any part of Müller's tract might become the seat of pregnancy; if it occurred in the tube he assumed reversion to a lower type. Of course that which would overthrow this theory would be the anatomical demonstration of a case of primary pregnancy on other than Müller's tissue, and such an unquestioned case had been reported. That alone was enough to make Webster's theory as the sole cause of tubal or ectopic pregnancy untenable. One year ago in Vienna Miholitsch made out a good case for accessory lumina in the tube as a cause, but he did not believe that could be cause alone on account of untold instances in which accessory lumina were not present. It was entirely possible that in some instances we had combined elements working to produce ectopic gestation. Thus a woman might have a salpingitis and also have accessory lumina. It was possible for these or any other two elements to be combined in the production of ectopic pregnancy. With regard to lesions in the tube itself, first there were to be considered neoplasms. Polyp of the tube had been supposed to be a cause of ectopic gestation because such a condition interfered with the passage of the ovum from the fimbriæ to the uterus. Dr. Vineberg had such an instance last summer. There were untold instances in which one found no deviation from the normal, no part apparently being involved in any neoplasm. With neoplasm of the ovary the same conditions might exist. Dr. Brinkner said that, summing up all that was known concerning the etiology of ectopic gestation, any factor, or combination of factors, which interfered with the proper migration of the ovum to the uterus must be regarded as a causative factor. That was tantamount to saying that we knew almost nothing about etiology.

**The Indications Requiring the Abdominal Operation.**—Dr. C. C. Barrows said there was general consensus of opinion on the part of all obstetricians that whenever the fetus was alive median laparotomy should be employed in cases of ectopic gestation. He believed that one might safely say that almost all cases of ectopic gestation that came to the hands of the operator were in that period of fetal life that ranged between the eighth and twelfth week of pregnancy, about 90 per cent. of them being tubal. A careful study of the best authorities showed that there was an enormous preponderance in favor of the abdominal method. He said he was free to confess that after some experience with both routes of approach he was quite satisfied that in his hands the prospects of the patient's recovery were far better when the abdominal route was chosen. His operative experience in ectopic gestation was based on 79 cases, not including several others of old so-called pelvic hematocele operated upon per vaginam. Of these two were operated on by the vaginal route and 77 by the median abdominal incision. In two of his cases he had the good fortune to open the abdomen almost immediately after rupture had taken place, when the arteries were seen spurting vigorously. When one opened the abdomen in cases of ruptured ectopic gestation he was impressed with what seemed to be the enormous quantity of blood in fluid form in the peritoneal cavity. Clots were to be found everywhere as well. There was softening and maceration of the structures within the cavity. The technique which he said he would adhere to was to open the abdomen by a median incision, large enough to admit the hand if necessary. The fingers were carried deep into the pelvis behind the broad ligament. The mass should be quickly brought out into the adbominal incision and the adnexa removed. Dry mopping of blood and removal of clots which could be detached without injury or excessive handling should be followed by closure of the abdomen without drainage. This was an abdominal and not a pelvic condition. There had been no deaths among his 79 cases, and convalescence had, as a rule, been satisfactory. In many of these cases he had noticed a decided rise in tem-

perature, beginning within a few hours after operation, and continuing for several days without other unusual symptoms.

**The Indications Requiring the Vaginal Operation.**—Dr. J. Riddle Goffe said that the conditions requiring vaginal section would be limited to old ectopic pregnancies in which one met with hematocele and, perhaps, decomposing fetus. Under such circumstances frequently infection had already occurred, but whether infected or not the indications demanded vaginal section. That of course limited the indications to those that existed in cases of pelvic abscess. Pelvic abscesses were better treated through the vagina than through the abdomen. In the two classes referred to by Dr. Barrows first where there was a living child the indications called for abdominal incision; secondly, where the woman was *in extremis* from an active hemorrhage the abdominal incision undoubtedly brought one more promptly in contact with the condition and enabled one to stop the hemorrhage with more celerity than if the vaginal route was selected. These two conditions then would require the abdominal incision, but all other conditions could be better treated through the vaginal incision, and he made this statement in spite of the fact that he knew it would bring down upon him much criticism. He said he was not present to apologize advocating the vaginal route of attack, but to aggressively assert its claims. He believed the vaginal to be the true route of attack, that it was safer, more logical, and more direct than the abdominal. Dr. Goffe had had experiences with both routes and, in his hands, the vaginal was more satisfactory than the abdominal incision. In dealing with ectopic gestation, so far as difficulty of procedure was concerned, it did not compare with operating for salpingitis with adhesions, and in dealing with the latter the original route was used. In a tubal pregnancy with no adhesions and no sepsis, the parts being as a rule, freely movable, the organs could be brought into sight in the vagina and the field of hemorrhage readily controlled. By vaginal section was not meant simply puncturing the cul-de-sac of Douglas. The work was done through the anterior vaginal fornix. In many instances the posterior vaginal incision was also used. Dr. Goffe then demonstrated his technique by means of charts and drawings. With his technique the operation by way of the vagina was a very simple and easy one. He said objections had been made to this method because of the likelihood of scar tissue formation and consequent difficult labors, and he reported instances to prove that this was not the case, and that labor following vaginal work was gone through with ease and without special discomfort. The objections raised that after vaginal section cicatricial tissue in the vagina interfered with delivery he said was nonsense.

**The Differential Diagnosis of Ectopic Pregnancy.**—Dr. Brooks H. Wells read this paper (see page 845).

Dr. H. N. Vineberg, referring to Dr. Bandler's specimen, did not believe that such an intoxication could occur at such an early period of extrauterine pregnancy, and that in all probability it was a case of peritonitis. About 75 per cent. of the cases of ectopic gestation coming to the hospital were diagnosed properly by the house staff, whilst outside the hospital seldom was a correct diagnosis made. One of the misleading features in making a differential diagnosis was the amenorrhea, because in a fair percentage of these cases there was none. Dr. Vineberg had had four or five cases that he remembered in which there was a ruptured extrauterine pregnancy 16 or 17 days after a perfectly normal menstruation. When a diagnosis of extrauterine pregnancy was made one should operate at once and by the abdominal route. In cases of hematocele a better recovery would follow an incision through the vagina. Sometimes in opening the abdomen the intestines would be found closely adherent, or matted together by adhesions, with the peritoneum highly injected, and in such cases the vaginal incision was to be preferred. Very often great difficulty was experienced in finding the tube that was the seat of rupture and of hemorrhage.

Dr. Herman J. Boldt asked Dr. Brickner his reasons for assuming the existence of an extra- and intrauterine pregnancy simultaneously.

Dr. Brickner replied that the patient had been curetted for an incomplete abortion and chorion was found on microscopical examination.

Dr. Boldt said that he had seen a number of instances of curretting for a supposed abortion when, as a matter of fact, there was an extrauterine pregnancy. So far as the etiology was concerned his own observation, covering about 150 cases of ectopic gestation, showed that in the majority of the cases there was some inflammatory condition of the Fallopian tube as an etiological factor, and this should be borne in mind. He had had instances of repeated ectopic gestation; at the time of first operation he had found the other tube, the one not involved by pregnancy, to be the seat of inflammation which suggested to him at the time that this other tube might become the seat of an ectopic pregnancy at some future time. And this had really occurred in several instances. Therefore, in doing an operation for ectopic gestation, if one saw the other tube the seat of inflammation he thought that the operator should not be adversely criticised if he also removed it, although he himself did not follow this course, believing that the salpingitis would become spontaneously cured in the course of time.

Dr. William S. Stone believed that Dr. Bandler's case was one of toxemia of pregnancy, and in affirmation of this he reported a case seen in the literature. Such an intoxication might occur with a hydatiform mole.

Dr. Joseph Brettauer believed that a choice of the vaginal or the abdominal route of attack in cases of ectopic gestation was a matter of preference and experience and that one was as easy to do as the other if one knew how. Many cases he had seen did not require any operation. By the time one operated in cases of ruptured ectopic gestation often it was found that no actual hemorrhage was present and that the ovum had been expressed from the tube and the patient on the way to recovery.

Dr. John O. Polak of Brooklyn said that there were many cases of primary rupture that were followed by secondary rupture; often the primary rupture was unrecognized. The hemorrhage in tubal abortions would stop of itself in about 75 per cent. of the cases, and the peritoneal cavity seemed to be able to care for its contents. Yet all who were doing abdominal sections knew what the results of such a condition were and the peritonitis which followed. The proximity of the colon bacilli and other bacteria should be remembered and the facility with which they gained entrance to blood clots and the resulting state of invalidism. He agreed with the principle laid down by Dr. Barrows, "when a diagnosis of ruptured ectopic gestation had been made, operate." Dr. Polak reported an interested case in which there coexisted an extra- and intrauterine pregnancy.

Dr. Bandler wondered that ectopic gestation did not occure more often, and said that the only way the ovum could pass through the tube was by means of the ciliated epithelium, and the cilated epithelium at the outer end of the tube must be normal in order to transfer the ovum to the uterus.

Dr. Gallant reported two cases in which a mistake in diagnosis was made. One was a hematocele and the other a cyst of the ovary, both being thought to be cases of ectopic gestation on both sides.

Dr. Wells believed that in every case of early tubal pregnancy a certain amount of bleeding occurred before the rupture. The opposite tube should not be removed unless there were evidences of inflammatory involvement. The percentage of recurrences were small. The abdominal route was to be preferred in every case of ectopic gestation, or even where there were strong presumptive evidences of such a condition.

Dr. Goffe said that if the patient was *in extremis* the abdominal route was to be preferred, because it was the

quicker. In the majority of the cases that came to operation hemorrhage had ceased and undoubtedly many patients recovered without operative interference. It was quite possible that as many patients suffered from ectopic gestation in whom the condition was never diagnosticated and recovered without operation as were subjected to operative procedure. With more experience in ectopic cases the more inclined was he to keep the patients in bed and under careful observation in the hospital, where prompt operation could be done if necessary.

### Philadelphia County Medical Society.

At a stated meeting held October 11 Dr. David L. Edsall presented a communication, entitled "The Physiology of Glycolysis." He traced the successive steps by which carbohydrates taken as food were transformed into the final products carbon dioxide and water. As a result of some failure in the metabolic processes, the transformation might not be carried beyond the stage of sugar formation, and the sugar circulated in the blood and was eliminated through the kidneys. The condition might be transitory or permanent, in accordance with a variety of factors. The lesion most commonly found associated with true diabetes mellitus was some disease of the pancreas affecting especially the islands of Langerhans. Such a connection had been observed clinically, as well as experimentally. The coma that not rarely terminated life in cases of diabetes mellitus was due to an accumulation of acids in the blood, diacetic and oxybutyric especially, and was to be attributed to a deficiency of carbohydrates in the food. It could be averted by the administration of carbohydrates or of generous amounts of alkali. Dr. L. Napoleon Boston read a paper entitled "Varieties of Glycosuria." He considered briefly the appearance of glucose in the urine in connection with emotional influences, excessive ingestion of carbohydrates, traumatism, especially involving the brain, cerebral lesions of one sort or another, intoxications whether by drugs or other agents, and pregnancy, and that occurring in early life. Dr. Aller G. Ellis read a paper entitled "The Relations Between Diabetes Insipidus and Diabetes Mellitus." He pointed out that while the two conditions might not be related genetically, still well-known symptoms were common to both, and in some cases of each the pathology was similar. He made a comparison of the two, with the object of determining whether any interrelation existed. The resemblances and the differences were clinical, or symptomatic, and pathological. Diabetes insipidus occurred in younger persons and was not so fatal as diabetes mellitus. The latter was the more common, the former being rare. Emaciation was pronounced in some cases of symptomatic diabetes insipidus, but usually the weight and general condition was much better than in cases of diabetes mellitus. Complications, such as eczema, furunculosis, pneumonia, pulmonary tuberculosis, not uncommon during the course of the latter, were almost unknown in the course of the former. Coma rarely or never attended diabetes insipidus. Polyuria and thirst were usually more marked in cases of diabetes insipidus. In the one condition the urine had a high specific gravity, in the other a low specific gravity. Glucose, acetone, diacetic acid, and oxybutyric acid occurred in the urine in the one condition and not in the other. Diabetes mellitus was a disorder of metabolism affecting the glycogenic or glycolytic function of the body, and through it the sugar-regulating mechanism. Diabetes insipidus, on the other hand, was a disorder of innervation resulting in an altered filtration or secretion on the part of the kidney. Occasionally the one condition had been known to be transformed into the other. Although such a transition would appear to be indicative of some connection between the two disorders, it might occur in the absence of a common underlying ground. Dr. James Tyson presented a communication entitled "The Management of Cases of Diabetes Mellitus." He emphasized the fact that the dietetic treatment was far more important than the medicinal treatment. It was necessary to determine the patient's power of assimilating carbohydrates, and this could best be done by administration of a suitable test diet, and then making a careful study of the urine. Then carbohydrates should be withdrawn from the food until the sugar in the urine grew less or disappeared entirely. From time to time all carbohydrates should be omitted for a brief period. The protracted omission of all carbohydrates was attended with the danger of acid intoxication and fatal coma. Only second in importance to the dietetic treatment was the hygienic management. Various forms of muscular exercise were to be commended, together with bathing and friction of the skin. Cheerful surroundings and mental occupation were also of importance. The only drug capable of effecting a reduction in the amount of sugar in the urine was opium in some form. Gum opium was probably the most efficient preparation. Codeine was also useful. The continuous use of arsenic exerted a favorable influence on the course of diabetes mellitus. The alkalies were serviceable, especially for the purpose of averting acid intoxication. The waters of various mineral springs induced good results, partly because of their laxative effects, partly because of their alkalinity.

### College of Physicians of Philadelphia; Section on General Medicine.

At a stated meeting held October 9 Dr. Joseph Sailer exhibited "A Patient with Obliterative Endocarditis." Dr. James C. Wilson read a paper entitled "Some Observations on the Diagnosis of Acute Pancreatitis," in the course of which he discussed the etiology, the pathology, the symptomatology, the differential diagnosis, and the treatment. Dr. Alfred Stengel reported "A Case of Stokes-Adams Disease." The patient presented the characteristic features of this disorder, namely, attacks attended with cyanosis and great slowness of heart action. Ordinarily in the attacks the pulse would fall to eighteen and twenty beats in the minute, while on one occasion no beat could be distinguished for more than two minutes. Cardiographic tracings showed that while the number of ventricular beats was diminished the number of auricular contractions continued as before. After death the heart was found greatly enlarged, and the only lesion discoverable was a small patch of atheroma on the interventricular wall, near the base of the anterior mitral leaflet, corresponding to the situation of the so-called bundle of His, disorder of which has been shown experimentally to be capable of giving rise to the kind of heart action observed in cases of Stokes-Adams disease. Dr. M. Howard Fussell read a paper entitled "The Position and Size of the Heart in Advanced Cases of Mitral Stenosis." He reported a case in which the anterior aspect of the heart consisted of the right auricle and ventricle, the right border being constituted by the right auricle and the left border by the right ventricle. Dr. J. Dutton Steele read a paper entitled "The Clinical Examination of the Feces." He pointed out the advantage of studying the intestinal discharges and the indications to be derived from detection of various undigested matters in the stools, such as fat, meat fiber, etc. The examination might, with advantage, be preceded by a test meal of suitable composition. Dr. Joseph Sailer presented a communication entitled "Tuberculosis of the Liver," referring to several cases of this disorder that had come under his observation. The distinctive symptoms are pain in the right hypochondrium and enlargement of the liver, with irregular elevation of temperature. The affection is most invariably associated with tubercidosis of other viscera.

**Disease Caused by Stored Game.**—The New York and New England Association of Railway Surgeons, at the annual meeting recently held, adopted resolutions against the practice of game dealers of storing game and poultry without drawing, dressing, or otherwise preparing it. The resolutions affirm that this is the cause of most of the cases of exogenous toxicosis, or toxinfection.

### Pathological Society of Philadelphia.

At a stated meeting held September 28 Dr. V. Nisbit exhibited "Sections from Washings from the Stomach." In one instance the histological appearances confirmed the diagnosis of carcinoma, and the accuracy of this was demonstrated after death. In another a bit of tissue was caught in the mouth of the stomach-tube, and the microscopic appearances were indicative of malignant disease. Shreds of tissue may be found in the vomited matters or in the fluid removed on lavage or finally obtained by means of special apparatus. Dr. Giffin of Baltimore exhibited a section of malignant tissue found in the gastric contents of a patient in the Johns Hopkins Hospital. In only two other cases was there a record of a similar observation among nearly two hundred cases of neoplasm of the stomach. Dr. Allen J. Smith demonstrated "Specimens from a Case Presenting Multiple Tumors." The patient exhibited during life symptoms indicative of mediastinal growth, but post-mortem examination disclosed the presence of epithelioma of the larynx, adenoma of the thyroid gland, and cavernous angioma and spindle-cell sarcoma of the liver. Dr. Alfred Stengel presented "Specimens of Cirrhosis of the Liver." The sections were prepared from the livers of two men who had been addicted to alcoholic excess, and who, during life, presented at first enlargement and subsequently diminution in the size of the liver. After death characteristic atrophic cirrhosis of the liver was found, and the marked increase of the interstitial connective tissue was apparent in sections. Dr. Stengel exhibited also "Specimens of Chronic Fibrous Myocarditis." In one case the patient exhibited no physical signs of disease of the heart, although subsequently it was recalled that at times he became livid and manifested other indications of cardiac weakness. Death ensued during recovery from an operation for appendicitis, and post-mortem examination disclosed an extraordinary attenuation of the walls of the heart, especially of those of the auricles. On histological examination marked fibroid change was found in the myocardium. In another case presenting during life the Adams-Stokes syndrome, with paroxysms of lividity, dyspnea, and marked slowing of the pulse, a small area of endocarditis was discovered near the attachment of the anterior mitral leaflet extending into and involving the muscular bundle of His, and thus giving rise to so-called heart-block. The pulse often descended to eighteen in the minute, and on one occasion it fell to 16, although the auricles were found to be contracting with greater frequency. Dr. Courtland Y. White presented "A Specimen of Pyopneumothorax" in which the pleura was thickened in extraordinary degree and the lung was compressed into a small area in the posterior mediastinum. The heart was displaced to the right, and the right lung was in fairly good condition. There was a history indicative of multiple perforation of the lung.

### Chicago Medical Society.

At a regular meeting of this society, held October 4, 1905, Dr. Max Reichmann reported a case of "Tumor of the Brain, Diagnosed by Roentgenogram," and exhibited the patient. Dr. Sanger Brown, in the discussion, said that he had never seen a skiagram in which the convolutions were so plainly shown. His experience had led him to believe that skiagraphs were misleading in brain tumors. Dr. Charles P. Donelson was much interested in the case, and referred to the difficulty of localizing disease or tumors of the brain. He believed that the *x*-ray had opened a new era in this class of diseases. Dr. Julius Grinker referred to the value of the x-ray in the diagnosis of tumors of the brain. He thought that Dr. Reichmann laid too much stress on the *x*-ray in diagnosing these growths. He was of the opinion that in the very cases in which we needed the *x*-ray, as an aid in diagnosis, it failed to be of any assistance. Dr. L. Harrison Mettler agreed with Dr. Grinker. His experience in the use of skiagrams in the diagnosis of intracranial neoplasms, though limited, had been disappointing. He thought too much reliance should not be placed on the *x*-ray in these cases, but upon those well-known, established clinical findings of intracranial growths of all kinds. Skiagrams were simply confirmatory. Dr. Reichmann, in closing, said that it was possible to skiagraph the convolutions of the brain and bring them out clearly, and that in the case presented there was positive evidence of the presence of brain tumor. Dr. Harold N. Moyer presented a case of "Incipient Acromegaly," in a woman, 23 years of age, in whom the cardinal symptoms of this disease were present. He suggested the removal of the pituitary gland, if such an operation were possible, and thought there ought to be some advance in surgery of late years along this line. It seemed to him that surgery offered the only chance, and referred to a case reported some time ago where an operation had been attempted, but he did not know how well the surgeon had succeeded. Dr. Henry Gradle said that hemianopsia might be divided into those cases which were clearly due to acromegaly and those which were not. There was a large proportion of cases of hemianopsia positively not due to acromegaly. Dr. Hugh T. Patrick said that every tumor of the pituitary body did not mean acromegaly, by any means. Some of these tumors were benign, and he had had at least one case in which total amblyopia supervened, but otherwise the individual was well and strong, and, of course, that would bear upon the question of surgical intervention. He was of the opinion that the removal of the enlarged pituitary gland would be something of an undertaking, even for the most experienced surgeon. Dr. Julius Grinker spoke of the separation of the teeth as a diagnostic point of value. Dr. Moyer, in closing, said that if he had not been confident the case was one of incipient acromegaly, he would not have presented the patient. Dr. Hugh T. Patrick showed a colored woman, 41 years of age, who had the typical symptoms of tabes. Tabes in a colored patient, he said, was quite rare, this being the sixth case he had seen, and of those it was the only typical one. Regarding treatment, Dr. Patrick advised the rest cure, with nutritious food, when he thought the symptoms would be greatly improved. Dr. Patrick also showed a patient with palsy caused by pressure on the arm during sleep.

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**The Relation of Pleurisy to Tuberculosis.**—Silvio von Ruck collates the opinion on this subject from the writings of a large number of authors. From this mass of material he makes the following practical deductions: (1) The pleural cavities are readily accessible to bacterial invasion. (2) The great majority of pleurisies with effusion which occur in otherwise healthy individuals are due to infection with tubercle bacillus. This is proved by autopsy findings, by methods of exact diagnosis, and by the subsequent clinical histories of the majority of persons who have been the subjects of such attacks. (3) There is ample evidence to indicate that the so-called idiopathic, dry pleurisies are likewise usually tuberculous. (4) The subjective symptoms of inflammation of the pleural apices often simulate those of myalgia or rheumatism. (5) In every case of pleurisy, or of persistent pain in the chest or shoulder, which cannot be satisfactorily ascribed to other causes, tuberculosis should be suspected and a careful physical examination should be instituted to determine, if possible, the existence of a tuberculous process in the lungs, or elsewhere. (6) Even if physical examination in such cases proves negative, the patient should be regarded as tuberculous until the contrary is proved, and should at least be kept under prolonged observation and re-examined from time to time. (7) The tuberculin test may be relied upon to confirm or exclude the tuberculous nature of pleurisy in case of doubt. (8) The application of these principles will always lead to an earlier recognition of tuberculous disease of the lungs, especially, and to the institution of treatment at a period which will, in many cases, secure to the patient most important advantages in his prospects for recovery—*New York Medical Journal.*

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 18, 1905:

| | Cases | Deaths |
|---|---|---|
| Measles | 253 | 6 |
| Diphtheria and Croup | 286 | 17 |
| Scarlet Fever | 132 | 4 |
| Smallpox | .... | .. |
| Chickenpox | 137 | ..... |
| Tuberculosis | 419 | 174 |
| Typhoid Fever | 84 | 16 |
| Cerebrospinal Meningitis | 10 | 9 |
| Typhus Fever | .... | .... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | ... |
| Totals | 1,321 | 226 |

**Uterine Fibroma and Carcinomata.**—G. Piquand believes that the coexistence of fibroma and carcinoma of the uterus is not rare. He has collected three hundred and sixty cases. An epithelioma may develop in a fibromyoma; there may be coexistence of a fibroma and carcinoma of the body, or of a fibroma and carcinoma of the cervix. The development of an epithelioma in a fibromyoma is exceptional; nevertheless, it is possible, the writer having collected forty-four cases. Generally in these cases the epithelioma is secondary, the fibroma being invaded by a neighboring cancer, almost always by a cancer of the uterine mucosa, rarely by a cancer of a neighboring organ, especially of the ovary. In extremely rare cases neoplastic bits may migrate to a fibroma by means of the lymphatics from a distant carcinoma. The development of a primary epithelioma in a fibromyoma of the uterus has been observed. Such a condition is denied by many authorities, but the writer has collected twenty-four cases, a number of which appear to be absolutely indisputable. The coexistence of fibroma and carcinoma of the body of the uterus is quite frequent. The writer has collected one hundred and seventy-nine such cases. The appearance of carcinoma of the body consecutive to a fibroma has been observed especially in nulliparous women between fifty and sixty years of age. The relations between fibroma and carcinoma of the cervix are less clear. Nevertheless, it is certain that carcinoma of the cervix has been observed more often in patients with fibromata than in other women. The writer has collected one hundred and thirty-six cases of the coexistence of fibroma and carcinoma of the cervix. Fibroma appears to predispose to carcinoma by causing disturbances in nutrition and alteration in the mucosa of the cervix. Total abdominal hysterectomy constitutes the only advisable intervention in the case of fibroma complicated by carcinoma. This operation is attended by a high mortality and is often followed by rapid recurrence. The writer believes that the frequency with which uterine fibroma is complicated by carcinoma offers a most powerful argument in favor of immediate operation in the case of all fibromata even when these tumors are not very troublesome and when the patients are approaching the menopause.—*Annales de Gynécologie et d'Obstetrique.*

**Typhoid Fever Limited.**—Alexander G. Brown believes that to understand the problem of the limitation of typhoid fever, it must be known by what route the typhoid bacilli leave the body and by what means they gain access to the body. The microorganism is most often found in the fecal discharge and urine. The stools offer the most fertile source of infection in typhoid fever. It is acceded that the digestive tract is the channel of entrance in the vast majority of cases. Of the carriers of the germs, water is preeminent in importance. Milk is also another mode of infection. Other sources are articles of food, such as butter, tea, vegetables, oysters, and clams. It has also been shown that flies, after coming in contact with typhoid infected feces, may carry the germs and infect food. The writer believes that the public should be educated as to the nature and processes and dangers of the disease. Strict laws should be made and should be observed in all cases of typhoid fever. These laws should require the report of all cases of typhoid by the physician in attendance. All cases should be closely scrutinized by the City, County, or State Board of Health. In the Health Department general measures for the appropriate regulation of sewage regulations should be instituted. The water supply should be carefully supervised; it should be kept pure. Individual prophylaxis is of the greatest importance. Scrupulous cleanliness of the patient dead. The hands of the nurse and physician should be used, and disinfection of stools should take place as soon as they are voided. Sputum should also be disinfected. Great care should be taken in disposing of the typhoid dead. The hands of the nurse and physician should be surgically cleansed on entering and retiring from the room. In closing, the writer mentions preventive inoculation, which has been lately introduced.—*Virginia Medical Semi-Monthly.*

**Some Remarks on the Clinical Aspect of Cavite Fever.**—Remus Charles Persons says that this affection, which he observed in the Philippines, was generally called an acclimatizing fever by the laity, and its nature was regarded differently by various medical officers. Most newcomers were attacked within the first few days. In many cases this fever recurred at intervals of a few weeks. The attack, which was generally sudden, seemed to have no connection with the previous health of the patient. Headache, pain of a rheumatic character in the deep muscles of the back, and soreness of the muscles of the arms and legs with severe involvement of the joints, sometimes preceded the attack, but always accompanied it. As a rule there was nausea, and anorexia was invariably present. Acuteness of hearing was very irritating, and pain about the eyes was characteristic. The bodily functions were always interfered with. An erythematous eruption on the skin was sometimes present and sometimes absent; itching was severe in certain cases. The usual rate of the pulse was about one hundred and twenty, and rarely exceeded this. The temperature varied, sometimes rising as high as 104.5°. Respiration quickened with the increase in pulse rate. A few patients were delirious. Great depression accompanied a severe attack. The duration was from three days to a fortnight. Prognosis was favorable. The writer does not regard this fever as contagious, although all had it, but all were exposed to the same influences. The cause of this disease has not been scientifically demonstrated. Many cases of this illness resembled remittent fever, many dengue, and many thermic fever or calentura. There was always a morning remission of the fever. The surface conditions of the soil in and about Cavité were good, with the exception of the disposal of excreta and refuse. After the place had been thoroughly cleaned by the troops, the fever continued just as before. The writer thinks that the probabilities point to the fact that this disease is a modified form of dengue rather than malaria, its symptoms being accentuated or suppressed according to unusual circumstances. Quinine did not seem to have a specific effect except when the remittent character was marked, then when combined with Dover's powder it seemed very effective. In general, treatment was symptomatic. The coal-tar preparations were soon abandoned on account of their depressing effect. Baths, freely used, were of the greatest value. Unless ice and alcohol were available for frequent sponge baths, the tub alone was used, and the sea water preferred. As a rule the tub and a good soaking were necessary to obtain the desired results. When the patient was strong enough to endure it, the salt-water shower was found to be effective and more pleasant, but the tub was more advantageous for general use.—*Journal of the Association of Military Surgeons of the United States.*

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 23.
Whole No. 1830.

NEW YORK, DECEMBER 2, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### THE SYSTEM OF AMERICAN HOSPITAL ECONOMY.*

By ARPAD G. GERSTER, M.D.,

NEW YORK.

SURGEON TO MT. SINAI HOSPITAL.

MR. PRESIDENT, LADIES, AND GENTLEMEN: When I was honored by the request to address the fellows of the Academy of Medicine and their guests, the president suggested the choice of a subject, untechnical, that would, while essentially medical, yet appeal to the interest of the public at large.

The immediate cause of the particular selection of the subject we shall deal with to-night was a meeting held last spring in the building of the Charity Organization Society, called to consider, and to remedy, if possible, the constantly recurring deficit in the budget of some, I might almost say most, of our large metropolitan hospitals. Most of those that discussed the matter were prone to devote their attention to the question of raising larger funds to defray increasing expenses, a question of considerable magnitude, if we remember that the deficits of some of our hospitals have reached the annual sums of eighty and ninety thousand dollars. Be this as it may, the fact remains that these and other hospitals lack adequate funds for maintenance. Dr. Brannan, the president of the board of management of our city hospitals, at whose immediate instance I had the pleasure of attending that meeting, struck in the discussion the most important note by stating, that funds would probably be adequate enough if the management of the food and linen, the medical and surgical supplies, were less wasteful and more economical. From his remarks it may be concluded that, whatever the reason may be, collecting larger funds for maintenance is a matter of increasing difficulty; hence it is incumbent upon the management of these institutions to see whether the funds actually at their disposition could not be made to reach further than they do at present.

It was curious to see how coldly Dr. Brannan's suggestions were received by those who were frankly enthusiastic to impose further burdens on the benevolent. Consider, that with a few exceptions, the money contributed to the maintenance of our hospitals is drawn from the pockets, not of the generality of the public, but of a comparatively few, well-known philanthropists. It seems to be unfair to burden still more those who already bear heavy burdens; this unfairness becomes still more conspicuous, if we recall the following facts:

The general public, or more particularly that vast portion of the community we designate as the well-to-do middle class, those who in modern American society represent the thews and sinews of the nation, may seldom or never require the immediate personal succor of our public hospitals, hence, in a large way consider themselves exempt from the duty of supporting them. It is very easy to show that this narrow view is erroneous for many reasons, the principal one of which is this, that the hospitals are not merely a convenience to dispose of a sick servant or needy relative, but that they form an important hygienic bulwark against infection and disease, a well-guarded and effective barrier against the importation of contagion of all forms into the intimate bosom of these millions of well-to-do and respectable families. For the sick individual, the personal curative function of the hospital is the most urgent one; on the other hand, its protective service is of the utmost moment to the general taxpayer. Hence we see that on the continent of Europe, hospitals maintained by private benevolence are few and small, and that the expenses of maintaining the large institutions are all defrayed by general taxation.

It was said before, that Dr. Brannan's words found little friendly response at the meeting mentioned at the beginning of this paper. And yet, in the judgment of all experts, he struck the very keynote of the question. Experts as well as amateurs unanimously admit that the management of our hospitals is extremely costly, quadrupling and sextupling the daily per capita cost of housing, clothing, feeding, and curing one patient, compared with what is found to be adequate abroad. To illustrate the differences obtaining here and abroad, I have collected the items of a list of hospitals, and wish to express my thanks to Dr. S. S. Goldwater, superintendent of Mt .Sinai Hospital, who has kindly aided me in obtaining the following figures.

The first thing that strikes the investigator is the circumstance that very divergent methods of computation obtain in our hospitals, the systematic uniformity of the calculation of cost rigidly observed abroad being entirely absent. Items strictly pertaining to maintenance are dropped at will in this or that institution, the selection of items dropped also lacking uniformity. Hence, on the whole, the figures referring to American institutions are not entirely reliable, especially if we remember the natural tendency to depress the figures of daily maintenance.

*New York City.*

| | | |
|---|---|---|
| Bellevue Hospital ..... | 1904 | $1.30 |
| German Hospital ..... | 1904 | 1.83 |
| Mount Sinai Hospital ..... | 1891 | 1.52 |
| | 1893 | 1.65 |
| | 1905 | 2.00 |
| Roosevelt Hospital ..... | 1901 | 2.01 |
| | 1903 | 2.34 |
| Presbyterian Hospital ..... | 1901 | 2.34 |
| | 1903 | 2.50 |
| St. Luke's Hospital,* including private patients. | 1904 | 235 |

*A member of the board of trustees informs me that this figure is erroneous, the correct one being $1.97. The discrepancy is probably explainable by the different methods of computation above alluded to.

*Address delivered at the anniversary meeting of the New York Academy of Medicine, November 2, 1905.

| | | |
|---|---|---|
| *Other Cities.* | | |
| University of Pennsylvania Hospital | 1901 | $1.90 net. |
| | total | 2.12 |
| Massachusetts General Hospital | 1901 | 2.17 |
| | 1903 | 2.35 |
| | 1904 | 2.42 |
| Boston City Hospital | 1901 | 1.92 |
| | 1904 | 1.55 |
| Lakeside Hospital, Cleveland, O., excluding dispensary and pathological plant | | 2.20 |
| Kings County Hospital, Brooklyn | 1903 | 0.95 |
| | 1904 | 0.92 |
| St. Luke's Hospital, Bethlehem, Pa. | 1904 | 1.85 |
| City and County Hospital, St. Paul, Minn. | 1903 | 0.73 |

The figures of two of these hospitals deserve special attention. One is the City and County Hospital of St. Paul, Minn., with 73 cents, and the Kings County Hospital, Brooklyn, with 92 cents per day. Both are managed by paid medical superintendents. A third hospital, St. Luke's, at Bethlehem, Pa., is also in charge of a paid medical superintendent, who at the same time has the professional care of the patients, mainly surgical. Its cost, $1.85 per day, covers every form of expenditure, including the training school for nurses and dispensary. A farm is also included in the plant, and materially helps to swell the charges. Its produce costs double the amount it would cost if bought in the open market, but it is maintained by the fancy of some of the trustees, against the advice of the superintendent.

| | |
|---|---|
| *London, England.* | |
| St. George's Hospital | $1.55 |
| Royal Free Hospital | 1.05 |
| London Hospital | 1.55 |
| St. Thomas Hospital | 1.50 |
| University College Hospital | 1.85 |
| Guy's Hospital | 1.55 |
| *Paris, France.* | |
| Lariboisière Hospital | 0.50 |
| Civil Hospital | 0.67 |

Of Germany it may be said that the new hospital at Nuremberg, the most lavishly built, appointed, and managed, maintains its patients per day for 70 cents; Eppendorf at Hamburg for 30 cents, the average of all the larger hospitals being 35 cents.

Admitting in all fairness the great difference existing between the buying capacity of money here and abroad, even then the difference is most remarkable and deserves incisive study. What is the cause of this curious difference? Is it necessary in the presence of increasing financial embarrassment to accept this difference as the inevitable decree of inscrutable Providence, is it audacious and irreverent, closely to examine the methods which make the curing of the American hospital patients so disportionately costly; or, on the other hand, is this business, grown from diminutive beginnings into vast proportions, involving here in New York alone the annual expenditure of millions of dollars, is this stupendous work a form of necessary business, that demands, like any other business of its magnitude, the most careful and painstaking looking after, not of amateurs, but of real experts in the most serious meaning of the word?

Admitting the second alternative, if for no more elevated reason than that of the vast sums annually expended, we conclude that this divergence must be explained, aside from the difference in the buying capacity of money, by the difference existing between the fundamental principles that govern hospital management with us and those that prevail abroad. This difference is concisely expressed by saying, that while abroad the hospitals are governed by a comparatively few paid experts, who devote the best part of their time and energy to this specific work, with us the same work is attempted, and imperfectly done, by a vast number of lay and professional free lances, loosely banded together in gratuitous and voluntary effort. The laxity and shifting character of this organization implies the negation of that strictness of professional and business management, without which no undertaking of some magnitude can be successfully conducted.

As a matter of fact, cases of extravagant waste will occur even in Germany; but the general feeling is averse to it, and provision is made for its speedy detection and suppression. With us, the idea of economy is extremely unpopular, being too readily associated with parsimony, and no fixed apparatus exists to detect waste and to stop it promptly.

The gist of the matter is the postulate that it is not sufficient for the benevolent to spend money on hospitals, but that it is their duty likewise to see that their money should be economically spent.

Before entering upon the merits of the matter, it is necessary for me expressly to state that I do not in the least wish to discourage private benevolence expended on the maintenance of hospitals. On the contrary, I consider it the glory of our country, that it can boast of such a large number of important curative institutions as we possess, exclusively maintained by private means. The justification of this avowal lies in the fact that, in view of the increasing difficulty of providing necessary funds, some discouraged persons have insisted, that all hospitals ought to relinquish their private character and should be kept up by taxation. Much as there is to be said in favor of the plan of throwing the burden of all hospital maintenance on the taxpayer, yet by adopting it we would lose more than we would gain. The principle of independent self-help, characteristic of Anglo-Saxon pride and polity, would be exchanged for a questionable dependence on government. Furthermore, it may be said that such a sacrifice is unnecessary, as our institutions have sufficient plasticity to permit of adaptation to our conditions of what is found commendable abroad.

First of all, let us then mark this fundamental difference, that while our system is based on the principle of self-help, organized by enterprising citizens possessing a great deal of general business ability, but no expert knowledge, devoting to this work only a limited portion of their time in weekly or monthly meetings; that while this system palpably exhibits in all its details a certain laxity, and the easy-going, unbusinesslike tendencies of all amateur management, the system abroad is the outgrowth of long experience, is entirely in the hands of salaried experts who are held to the strictest financial and professional accountability, and whose main interest, whose bread and butter, so to say, depends upon satisfactory efficiency.

The limit of time does not permit us fully to enter upon the consideration of this vast subject in all its bearings. The object being rather to evoke and stimulate interest in than to give a complete exposition of this matter, I shall content myself with drawing for you a parallel sketch of the workings of the two systems.

I have studied the question of hospital government in four cities, Hamburg, Berlin, Vienna, and Budapest, involving the management of institutions that contain in the aggregate about sixteen thousand beds. As regards their supreme direction, it lies invariably with the government, in State institutions directly, in municipal institutions indirectly. Even private institutions must submit to state supervision, if for no other reason than their freedom from taxation. This involves no petty meddling with details, but consists rather in the fashioning of the higher policies, and in the strictest supervision of general expenditure. It serves as a check on extravagance in all directions, as by the frequent reports it receives from everywhere it is in a position to make comparisons, to notice unusual excess in this or that direction, to ascertain its cause, and to suggest, or, if necessary, to enforce, retrenchment. Its instruments are in state institutions, the proper bureau of the ministry, in city hospitals, a small board of lay and professional members, called either "curatorium" or "deputation," usually a committee of ten to twelve men of the common council, to whom the directors proper of each subordinated institution are held strictly responsible. "Director" means there the man who has immediate and full charge of any one institution. This supreme board of government, "curatorium," or deputation is holding monthly meetings, at which the presence of the hospital directors in an advisory capacity is obligatory. One of its members is deputed in rotation to maintain continuous contact with the director or dirigents of the hospital by means of biweekly, if necessary daily, visits to the institution.

In the form of the immediate direction of the business of the hospitals we see certain variations, which, however, do not materially influence its general character.

In Vienna, the Allgemeines Krankenhaus with over 2,000 beds, and the Rudolf Hospital with 600 beds, are each governed by a medical director, with an annual salary of from 12,000 to 15,000 crowns, quarters in the hospital, free lighting and heating, eight weeks' annual vacation, and the right to a pension. To them are subordinated all the medical and lay officers and the employees of their institutions. They are aided in the management of the domestic detail by a lay inspector and a well-organized corps of clerical and technical employees.

Budapest's six hospitals, with an aggregate of 2,500 beds, are all under the management of one medical director, whose annual salary is 11,400 crowns, the other conditions of his appointment being similar to those of Vienna.

Of Hamburg's two hospitals, the one at Eppendorf, with 1,400 beds, is managed by one medical director, aided by two subordinated lay inspectors, one for the clerical, the other for the technical department. His salary is 30,000 marks. The St. George Hospital, at Hamburg, 1,000 beds, is under a medical and a lay director, who are coordinated.

The hospitals of Berlin show a somewhat different organization. Here the management rests, in the new Virchow Hospital of 2,000 beds, with a board consisting of two medical directors, one of whom is the chief of a medical, the other of a surgical division. The third member of this board is also a medical man, but one who never did practice, whose special branch is hospital hygiene and management, and who is a man of recognized business ability. He is called the "economic director," and has an initial salary of 11,000 marks, which will be, in due course of time, augmented to 15,000 marks per annum. The salary of the two other medical directors, who, aside from the labors of management, have also the care each of a large division of the service, is 6,000 marks. They are permitted to do a consulting practice, and as regards vacation and pension, are similarly provided for as the Viennese and Budapest men. Friedrichshain of Berlin is organized in a similar manner. *Bethanien,* the hospital of the Protestant nursing order of deaconesses, with 400 beds, is managed by the two chiefs of the two departments, medical and surgical, in conjunction with the sister superior, who is the business manager. Urban, and the Charité have two directors each, one lay and one medical, in a similar manner to that of St. George's at Hamburg. All the military hospitals and insane asylums are governed by one medical head. The salaries vary from 6,000 to 12,000 marks, according to the size of the hospital. Thus we see that everywhere the medical element predominates; that, considering the value of money in Germany and Austria-Hungary, all these officers are very well paid. It is reasonable to assume that their pay must be well earned.

As hinted at before, to them are subordinated all the medical and lay officers, and to them belongs the supreme control of every branch of the service,—not, however, in an arbitrary manner. Monthly meetings of all the medical chiefs of division are obligatory, at which the important policies of the institutions are discussed, in which the medical directors participate, though they are under no obligation to accept unconditionally its suggestions. The institution of hospital superintendent, in the American acceptation of the term, does not exist abroad.

Now we shall take up that part of the hospital work which forms its "punctum saliens," its heart as it were, and upon the intelligent performance of which depends more than on anything else, both the welfare of the patients, and the proper and wise use of the material, food, liquors, linen, clothing, medicines, dressings, and surgical apparatus, the heating and lighting, the ventilation, drainage, the maintenance of cleanliness, of decency, and repose appropriate to a hospital:—I mean the ward work, done by the medical and surgical chiefs, or according to our nomenclature, by the visiting staff, together with their assistants.

The first thing that attracts attention is the large size of each service, which rarely comprises less than 200 and often includes 350 beds. Schede's department of surgery at Hamburg contained over 400 beds. The second thing that favorably impresses the visitor is the undivided unity, responsibility, and permanency of each service, both in its chief and his salaried assistants. The duties of the chief are manifold and onerous. He holds morning rounds in person every day, Sundays and holidays not excepted. During his vacation of from six to eight weeks, he is substituted by his first assistant, usually a person of maturer character, who is fully conversant with the exigencies of the service, and must be, in every sense, competent. The chief, however, remains responsible for the conduct of his service even during an absence. At morning rounds he must pay personal attention to every patient under his care, must personally examine him, dictate the history, state the leading facts to the assistants, and himself order the remedies and diet from day to day, have them inscribed into the medicinal and diet list as they come up, which he must sign in person every day *after,* never before they are fully made out. He is absolute master in his service, and is responsible for its proper cleanliness, ventilation, lighting, and heating, and bedding, clothing, apparatus, or dressing materials cannot be procured without his written order. All the materials thus received are properly

booked under the supervision of the first assistant by one of the orderlies, and monthly reports must be sent in to the directory on everything that has been received, that is being and was used, and what remains in stock. The distribution tmong the assistants, and a vigilant and continuous personal control of their work is another one of his duties, the complement of which is a specific report to the director on their usefulness and fitness.

After the visit comes the daily operative activity of the surgeons, and the necessary laboratory work of the internists. Weekly examination of the quality of the food, of the water closets, drains, etc., are prescribed. The constant supervision of the assistants, aside from its immediately practical utility, has a high educational value also, inasmuch as each hospital, besides its regularly salaried assistants, admits and appoints a liberal number of graduates under the title of *volunteers*. They are unpaid assistants, who join the service for the sake of learning, and who, under the direction of their older colleagues, perform all the duties of an assistant during the term of from one to two years. Finally, whenever there are medical schools, the law makes it obligatory for the undergraduates to attend, at a designated division of a hospital during a term of weeks, where a certain number of patients are assigned to each of them, and for whom, under proper supervision and control, they perform the services of a younger assistant. To extend this privilege is obligatory on all hospitals, and its enormous importance and utility to the general public cannot be emphasized too strongly. This is a point hitherto vainly urged by medical educators on American hospital managers, a point which has recently been energetically dwelt upon by Osler in his parting speeches. The daily personal contact of the chief, with all his assistants and students at the bedside, is a wonderful stimulus to all concerned. The one who derives the greatest benefit from this continuous and mutual critique is the patient.

Add to this that each hospital expects all its medical servants to be progressive and alert to every improvement of their art; that original research is encouraged, aided, and rewarded in a most liberal manner; that monthly business and annual scientific reports must be rendered, and the latter prepared for publication, that this work demands the undivided attention of the chief during from three to six hours daily, and you will become convinced that the high salaries of the medical chiefs are honestly and well earned. The return for the outlay is expressed by these terms: that the individual patient receives the possible maximum of daily and personal expert care of the highest order, and, further, that the interests of proper economy are continuously and scrupulously guarded. This explains the low cost of the maintenance of these institutions as compared with ours, notwithstanding the fact that all the employees, medical and lay, receive liberal, or at least adequate compensation.

Little has to be said of the assistants, as their status is very much the same all over Germany and Austro-Hungary. According to the acuteness of the service, there is generally provided one paid assistant for from 35 to 50 patients. Accordingly a service of 200 beds would have from four to five assistants. Their pay varies from one thousand to twelve hundred marks per annum, together with free quarters and board and a vacation of four weeks. Their term of service is indefinite, and they are not permitted to practise. They are appointed by the chief of the service with the approval of the medical directors, and can be dismissed by their chief. Usually they are picked out of the number of the volunteers, general merit and utility determining the choice. The oldest and most reliable one of them is the first assistant, and serves, when needed, in the capacity of substitute for his chief. On an average, the length of service of an assistant is three years. Ambitious men of means have served as long as ten years, that is, until they were appointed to a vacant chiefship.

Now let us compare and see how things work in our hospitals.

Before drawing this parallel, the question may occur to the curious student of human institutions, How is it possible that we, progressive Americans, have not hitherto grasped the advantages of this system? The explanation is historical. History shows that Europe has passed, several centuries ago, the stage of organic development in which we still find our hospitals; it shows, further, that the laws of evolution will inevitably lead us to the acceptance, with local modifications, of the principles here illustrated.

To study the history of hospital benevolence and organization abroad, we must turn back to the middle ages. We shall thus see that, with due allowance for changed external conditions, the process of internal development in their hospitals bears a strange and striking resemblance to that of our own institutions as they exist to-day.

There, too, institutions founded and maintained by voluntary effort were the first ones to appear, and medical attendance and nursing were gratuitous, having a more or less ecclesiastical character. For obvious reasons there, as well as here, the difficulty lay not so much in getting gratuitous medical service, as in securing unpaid nursing. This difficulty was so great and prohibitive, that we do not see large hospitals, in the modern sense of the word, appear, until this question of nursing was properly solved in the organization of the Order of Franciscan Sisters of Charity through Saint Francis of Sales, in 1610, by Madame de Chantal of Dijon in France. For a long time medical attendance at those hospitals remained really unpaid; that is, was considered only the subsidiary and secondary function of the "physics" or health officers of the city, or town, or province, or that of the professors of the medical faculties of universities. While these houses were small, the waste and abuses inseparable from such a régime did not attract sufficient attention to lead to reforms. As soon, however, as they assumed important proportions, it became evident that the happy-go-lucky ways of ordinary 'charity" could not further be trusted with the conduct of their increasing business. At the end of the seventeenth and the beginning of the eighteenth centuries the first large hospitals are seen to arise, with salaried medical officers paid to do hospital work, who also appear more and more frequently in the rôle of hospital managers. The remnants of this primitive form of hospital organization still survived, here and there, in small country hospitals of Europe, my own native town exhibiting such an example up to the year 1874 or 1875. To-day on the continent of Europe I believe it to be practically extinct.

The dogged conservatism of England has preserved this medieval phenomenon almost intact to this day, but its maintenance there, too, is becoming a matter of increasing difficulty.

We here in America have received this ancient form of hospital management from England, and in the primitive conditions of our colonial period this form, which had become obsolescent abroad, was the very thing we needed. It found here the rich pabulum of a newly broken soil, the rough-and-ready, resourceful spirit of a pioneer community, where general expediency was the determining factor, and where economic precision, perfection, and complete-

ness of results were not known and could not reasonably be expected. The conditions of existence in newly settled parts of our country are necessarily primitive, hence offer in many respects, curious parallels to, and resemblance with, the status of pioneer communities in medieval Europe. It is but natural that this form of hospital system, evanescent in settled conditions such as Europe now presents, should have had a late and remarkable revival in the United States. Hundreds, perhaps thousands, of flourishing institutions of this type have sprung up all through the union, and, where the conditions are and remain primitive, are doing excellent work. The drawbacks of this system, however, cannot but appear, and become glaring, where a primitive status passes over into a more highly specialized and comcomplicately organized form of communal life. Nowhere else on this continent has such a change become more apparent than just here in New York.

Let us now see how the work of our own hospitals is conducted. The city hospitals are governed by a board, nominated by, and responsible to, the Mayor. In the German and Mt. Sinai hospitals the basis of organization is a paying and voting membership, that, should abuse occur, may potentially any day demand strict account of its managers. As a matter of fact, however, all the business of the annual meetings is cut and dried beforehand, according to the will of the majority of the board.

The other hospitals are governed by boards that fill their own vacancies, and are thus practically responsible to nobody but themselves. In spite of the fact that all of them enjoy exemption from taxation, none tolerates supervision by the State. In all of them we miss an adequate representation of the medical element, a circumstance that is unnatural and vicious, and is the cause of many blunders. Some of them have carried their disdain of medical cooperation in their councils to an incredible extent. So, for instance, a large hospital had been planned and built, at great cost, on one of the most prominent sites of this city, and not once had the opinions of the medical men connected with that institution been asked for by their board of directors. As a matter of course, the building may serve as an example of how a modern hospital ought not to be built. This lack of mutual cooperation of the lay and medical elements is the rule, rather than the exception with us, and constitutes a great weakness of the system.

I take great pleasure in contrasting with this hidebound attitude the enlightened and wise policy observed by the trustees of Mt. Sinai Hospital, with which I have the honor to be connected. From the very first beginning of the undertaking of erecting their new hospital, a carefully planned and well organized form of cooperation was established between the medical officers, the architects, and the trustees. All fundamentals, such as the allotment of space, the location and shape of each building, the lighting, heating, and ventilation, were only disposed of after thorough discussion by lay and professional officers. The requirements of each of the medical, surgical, and special services were likewise agreed upon in common, the greatest consideration and liberality towards the professional standpoint being the invariable attitude of the trustees. The quality of the establishment is the highest form of testimony to their wisdom.

In many instances the real executive officer of the board is a poorly-paid lay superintendent, taken fortuitously from any walk of life, and lacking that amount of general and specific knowledge, and that suppleness and tact, that compel respect from above and give authority below. Deplorable conflicts between lay superintendents and medical men are therefore too numerous, and unfortunately deteriorate the common work to a very great extent. Commendable exceptions to this are to be noted in a few institutions where the superintendent is a medical man, and where domestic peace is the prevailing rule. The leading fact to be noted, therefore, in most of our hospitals is that the medical men, those who do the most essential work of the institutions, have no voice whatever in their government.

Let us now see how the work is done in the wards. The services of the visiting men and of the house-staff—excepting in some instances those of the pathologist—are gratuitous, and being a free gift, cannot be controlled with that strictness that is possible only under a contract with clearly defined duties counterbalanced by adequate pay. The managers are eager to secure the services of the most prominent men, that is men of an independent position. In return therefor they must accept what these prominent men are willing to give, the amount of actual services rendered diminishing in inverse ratio with the weight and caliber of the medical incumbent. A strict regulation of the visiting hours, a control of the amount of attention given to each individual patient by the visiting men are utterly impossible, the result being that the visiting men are virtually the consultants only of the house-staff, to whose immature knowledge and care is relegated the immediate and most important part of the ward-work. The visiting man rarely, if ever, pays the slightest attention to the making out of the diet-lists, the control of alcoholics, of costly medicines, dressing materials, apparatus, or surgical instruments, hence the utmost waste may go on, and often does go on, unnoticed, intermittently or permanently, and without effective remedy. The house-staff are there to learn medicine and surgery, not to learn to be economical, and to enforce continuously and successfully the desired degree of economy is a labor of such magnitude, involving so much loss of time, that nobody as yet has had sufficient hardihood to demand this additional service of the unpaid visiting men.

This lack of businesslike order and method is augmented to an incredible degree by the circumstance that many hospitals still tolerate an alternating service of the visiting men,—that is, that every three, four, or six months, one or more of the visiting men step out and are replaced by another set of men. Thus the system introduced by one is changed or totally abrogated by his successor. Comparatively small hospitals, containing not more than 200 or 300 beds, must therefore appoint a disproportionately large staff of visiting men, between whom the service is parceled out in weekly or monthly doles. Laudable exceptions to this are found at Mt. Sinai and Roosevelt. Add to this finally the perpetual change in the house-staff, every six months bringing in a new house-surgeon and physician, a new set of nurses, and you can only wonder that chaos and waste are no greater than they actually are.

But large as the waste is, much larger and graver is the detriment to the service proper by this universal unrest and lack of system,—a detriment that is most injurious to the patient. Surely the patient who trustfully enters our palatial hospitals is entitled to expect the very best that the century affords in medical and surgical achievement. Professional talent and good will we certainly have in great abundance but the system is such, that the patient cannot and does not get so much of the daily personal attention of the illustrious man, whose name attracts him to this or that institution, as he would get under similar circumstances in a well organized and salaried service.

It is only fair to state, and I fulfil a pleasant duty to my colleagues by saying, that most of them do the utmost that fairness can expect, many of them frequently sacrificing lucrative opportunities to their hospital work. But even so, the work they do is inadequate, because too much of what is the chief's work must inevitably be entrusted to an inexperienced, however zealous and clever, house-staff. Our house-staff bears, in these days of heroic and extremely active surgery, a burden of responsibility altogether too great for its young shoulders, and it is a great wonder that fatal blunders and mistakes are not of daily occurrence.

If they do occur, the overworked and inexperienced men of the house-staff cannot be justly held responsible; the visiting men cannot be held responsible either, for the acts of assistants over whom they have only a shadowy and brief authority. The real responsibility rests mainly on those men in the boards of directors who do not wake up to the necessities of the changed times and conditions.

It may seem harsh to throw most of the responsibility for existing mischief upon these men, who certainly have not created the prevailing system, but only have found and accepted it, and who, moreover, undeniably spend much money, time, and labor in forwarding the cause of hospital charity. But on closer inspection of the facts bearing upon the case it will become plain that this conclusion, though harsh, is at the same time just. First of all, it must be said that those who jealously reserve all power to themselves, must also be ready to bear all the responsibility; consequently they must not wince at just criticism when the system upheld by them proves to be faulty. And if the system is a faulty one, then it is their duty to recognize the fact, and to bestir themselves towards the right way. As they possess exclusive power, we must look to them, and to them alone, for relief.

It would be easy for any one of us old hospital men to go on for hours illustrating by actual occurrences the absurdities growing out of our decrepit hospital system. Let me give you one or two of the numerous examples that illustrate waste. It was ordered by a medical man closely connected with the government of the city hospitals, that for a month a tabulated account of all the materials used in all the divisions of that hospital be made out by the superintendent. The tables were made, and showed that enormous quantities of ethyl alcohol were being used in one of the medical divisions. Inquiry made to the visiting physician of that service brought to light the fact that he, the head of the service, absolutely ignored the leakage going on, day by day, no one knows how long. He referred the inquirer to his house-physician, and there the explanation was found. During a severe epidemic of typhoid fever, when almost every patient afflicted with the disease received several daily baths, to each bath a quart or more of alcohol was added as a matter of routine. Now this visiting man habitually orders in his private practice alcohol baths, and unconsciously repeated his habitual order at the hospital, where a conscientious house-physician carried it out to the letter. Of course the waste was instantly stopped.

My own house-surgeon once undertook to improve on the diet formulary. He considered the food served to the patients at breakfast and supper inadequate,—erroneously, because it was abundant, though monotonous,—and out of the fullness of his sovereign power ordered every man and woman to have an egg for breakfast and supper. This meant, for a service of 60 beds, 10 dozen eggs per day more than was necessary, 70 dozen per week, 280 dozen per month, and 3,650 dozen eggs per year. This, too, was stopped. The waste in costly dressing materials is incredible, and, as I have personally convinced myself, that on account of the constant changing of the house-staff, the only way to stop it would be to stand by and superintend the application of every dressing, a task which to expect of the unpaid visiting man would be unreasonable and absurd, and it would involve the daily expenditure of several hours of time.

To characterize these conditions, I may say that in its organization the American hospital is comparable to a water system, having one collecting and storing reservoir at one end, midway a certain number of distributing pipes, and at the other end a multitude of outlets of large and small caliber. The big reservoir is tight and usually well guarded by a magnificent body of expert financiers and business men, such as compose our boards of directors. Serious waste begins in the distributing pipes, which are mostly under the care of a medically inexpert superintendent. The thousand and one outlets at the other end have to-day no other guardians than the house-staff, composed of zealous young men recently graduated, possessing little practical experience in matters professional, none whatever in the economies of hospital, or, for that matter, any form of management. They are the ones to whose immediate and practically uncontrollable care and discretion is entrusted the distribution of everything the hospital authorities provide and pay for, and knowing the facts, no one can expect anything but careless waste. One of the greatest paradoxes of businesslike and practical American life is this absurdity.

The natural and only effective guardians of these thousand and one outlets, now standing wide open day and night, can and must be the men on the visiting staff, the chiefs of the services. But even these cannot accomplish anything unless their service is continuous and permanent, their responsibility strict and unbroken, and the great expenditure of time and labor exacted by their arduous task fairly compensated.

What the numerically magnificent visiting staffs of to-day cannot accomplish, two or three paid men would easily perform for each hospital; they would richly earn their pay by halving the total expense, and the patient, the governors, the medical men, and the public would all fare better.

That this plan is practicable with us is demonstrated by the flourishing condition of St. Luke's hospital, maintained at Bethlehem, Pa., by the industrial interests of the Lehigh Valley. It is governed in all its branches by one efficient medical director, who is well paid and gives the greatest satisfaction to his board of directors, to his patients, and to the general public.

The question is a very complex one, as every one knows who is familiar with the conduct of a modern hospital. It is fair to assume that all of those who are engaged in hospital work, lay as well as the professional, brings to it the utmost good will and the best intentions. But the incubus of a false system blinds many as to the true and unwelcome facts that are the cause of increasing difficulty, while those who see and wish to remedy them are utterly discouraged by the magnitude of the problem and by the fear of conflicting with personal interests. And yet, provided that the true diagnosis of the evil be correctly made, a gradual and non-revolutionary transition to a saner and better state ought to be found. It is vain to expect lasting relief from a material augmentation of income; the only rational way must be found by retrenchment. The magnitude of the task to him who shall have the requisite courage to attack this problem by the avenue of retrenchment can be realized by him only who knows how the very breath of

private and public life in these United States is unfriendly to the idea of economy. The Catilinarian method of subsistence heretofore in vogue—*"sui profusus, alieni appetens"*—is becoming more and more impracticable; appeals for more in order to dissipate more, are met by indifference and negation; the signs of a crisis are steadily gathering. Who will have the genius, force, and endurance successfully to meet the crisis by the application of critical remedies?

Incrimination and recrimination bandied about between the laity and profession will do more harm than good. The charge that medical men have no business knowledge and tact, that their management of hospitals is extravagant and impractical, is brilliantly refuted by the examples seen abroad. On the other hand, the precarious state of our hospitals may serve as a striking proof of the fact that the extreme predominance in hospital management of lay views, to the exclusion of a properly appreciated and respectfully considered medical participation, must lead, sooner or later, to certain bankruptcy.

Opposition to reform in the direction outlined by this paper must be expected from all sides. Medical men who complain that the hospitals are not converted into a free and general stamping-ground for every one having a doctor's diploma, will naturally be disgusted by further restricting the number of those who will have charge of hospital facilities. They must be shown, however, that the hospitals do not exist mainly for the indiscriminate benefit of the medical profession, but are here, first, for the benefit of the patients, and, secondly, for that of the community.

Restriction of the number of those who attend at our hospitals is the *conditio sine qua non* of economical reform, and is, moreover, urgently required to effect a betterment of the care for the individual welfare of every patient, a betterment which the prevailing system permits not.

Intelligent good-will and concerted action on the part of the hospitals must some day lead us out of the night of our discontent.

Before closing, let me thank you for the patience shown in listening to my remarks. Their purpose is not to attack anyone. It is rather a sincere attempt to uncover the cause of a grave and admitted malady, and to suggest a practicable remedy. It is the system only which is condemned.

That the remedy, "retrenchment," is unwelcome and uncomfortable, I admit; it implies the application of surgical measures, ever unpopular to and dreaded by those who need them most. Where else do you see a way of salvation? Soliciting and begging for more will avail not; the well grounded presumption of faulty management and waste must be removed from the minds of those who can give.

But I repeat, and do it confidently, that you do not need any outside help. I honestly believe that existing means are sufficient to bring about the reform needed.

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## ESSENTIAL AND PAROXYSMAL TACHYCARDIA.*

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THE following observations on tachycardia are supplementary to those which were published by the speaker some two and a half years ago in the MEDICAL RECORD, February 7, 1903, and embrace a review of the cases then noted, as well as additional facts concerning this very interesting condition.

We all understand how diverse the conditions are which may and frequently do produce rapid heart. In the living organism, with its interdependent relations, its complexity of structure, and intimate interaction of functional manifestations, it is difficult to conceive that when disease is established in one tissue or organ, however localized, it can continue without producing some perversion, both of structure and function in adjacent and associated parts. A morbid condition, in short, occurring in any region becomes thereby a disturbing factor in the environment of the surrounding area in which it tends to determine a secondary complication. The nature and severity of the latter will depend in great part upon the nature and extent of the primary disease, as well as on the relationship, structural and functional, that may exist between the original seat of the disease and the part secondarily involved. Thus it is a matter of common experience to meet with disturbances of the circulatory function, associated with, and attributable to a disordered digestion, where we find not only rapid heart, but cardiac irregularity up to complete intermittence, and even pains about the region of the heart often closely simulating angina. Surgeons, too, have reported that heart hurry frequently follows both minor and major surgical operations. Thus, Spencer Watson has reported a case of nasal polypi in which the pulse-rate was 120 per minute, the tachycardia being persistent. After the nostrils had been completely freed from obstruction, the cardiac trouble ceased. Excision of larynx has been followed by tachycardia. It has been suggested that this sequence ensued upon the division in the course of the operation of an abnormal cardiac branch of the superior laryngeal nerve, with functions similar to those of Cyon's depressor nerve. Dr. Toti, however, relates a case in which the patient developed intense tachycardia—160 to 180 beats per minute—thirty hours after the operation for the total excision of the larynx. He continued in that state for twenty-four hours and ultimately died from paralysis. If in this case the tachycardia was the result of the division of the nerve, it should have appeared immediately after the operation instead of being delayed thirty hours.

Numerous other examples of this phenomenon might be adduced to show the wide range of affections, both functional and organic, which develop, as it were, through intermediary causes, this sensitiveness upon the part of the heart.

But it is not with these illustrations, however interesting they may be, that we have to deal to-night, but with conditions closely allied with the nervous mechanism of the cardiac musculature, or depending upon functional causes whose area of influence extends over cardiac territory. First, then, let us be clear as to what we mean by tachycardia.

It may be classed under two heads, namely, Essential and Paroxysmal, and this classification may be subdivided into true and false. The true tachycardia, according to the speaker, finds its best illustration in permanent disease of the cardiac musculature, the false may be produced by causes far removed from the heart. There are certain definite peculiarities which distinguish true tachycardia from the evanescent "heart hurry" so frequently produced by the most trivial causes. (1) The attack is sudden in its onset, reaching its height almost immediately. (2) The patient may or may not be entirely unconscious of the great degree of palpitation. (3) There is generally a definite period covered by the attack. (4) The reversion to the normal condition is as sudden as the onset, the vestiges of the storm through which the patient has passed rapidly disappearing.

*Read at a meeting of the Section on Medicine of the New York Academy of Medicine, October 17, 1905.

There are a large number of people, and it may be safely said this number is increasing *pari passu* with the stress and strife of the twentieth century civilization, who are morbidly conscious of their heart's action, indeed of the functions of their cardiovascular system generally, or in particular parts. They feel flutterings at the heart, throbbings, flushings, pallors of the surface, disturbances of particular organs, noises in the vessels about the head, and apart from and in the intervals of these more definite sensations, they have a sense of the heart beating, and appreciate sometimes an intermission or a faintness in its action.

It is amongst the class of so-called "neurotics" that functional disorders of the heart so largely abound, a neurosis being defined as a functional, as distinguished from an organic disturbance in a nerve center, and the disturbance is generally manifested as a hyperesthesia.

Now some authors classify tachycardia as a pure neurosis, and for the sake of argument, let us admit that it is, but there are yet some unexplainable phenomena accompanying the acute development of the attack which would appear to remove it from the characterization of a pure neurosis. The attacks may persist for years with slight or prolonged intermissions. In some few cases they may follow the slightest subjective disturbance, in others they occur only when great mental agitation upsets the equilibrium of the system. In some patients there is perfect unconsciousness of the "heart hurry," while others complain bitterly of the ensuing distress. In the most typical cases the heart hurry has been observed to begin and to finish quite abruptly, as happened in a case of the speaker. Many people, especially women, suffer from persistent hurry of the heart, coming quite within the range of the lower degree of tachycardia, and it may be added in this connection that there is nothing to distinguish simple tachycardia from that which is the constant symptom of exophthalmic goiter, the rhythm and quality of the pulse being precisely the same. It is also to be remarked that there are cases which must be regarded as of a transitional kind, in which with no enlargement of the thyroid and with no more than a slight beadiness of the eyes, there are present the characteristic hurry of the circulation, cardiac murmurs, etc.; in other cases again, these circulatory phenomena precede the thyroid enlargement.

An abnormal excitation of the heart's contractions occurs as a very frequent, perhaps the most frequent, sequel of influenza. The tachycardia may be persistent for long periods, or it may be intermittent and accompanied by the other symptoms of palpitation. In some cases it occurs with or immediately after the initial fever, in others it manifests itself some weeks or even months after the original invasion.

We notice in the heart itself, during an attack, a decided accentuation of the cardiac sounds, and the presence of murmurs which rapidly disappear with the culmination of the disturbance. The action of the heart may be regular or arrhythmia may be present during the seizure. The cardiac dullness is measurably increased, acute dilatation rapidly supervening upon the beginning of the attack, and as quickly disappearing upon recovery. In cases of persistently rapid heart, the majority experience little or no discomfort. This is, however, quite in accord with our experience of essential tachycardia in general, for a person whose heart is beating 130 to the minute or more may be going about his usual avocation and claim he is quite well. The vasomotor tone of the arteries seems unaltered, the quickened action causes an increase of the tension within the artery, but the volume is reduced, the pulse is narrow, the arterial wall is not thickened. In the paroxysmal attacks dependent upon gastric disturbances, which frequently occur at night, we may find flatulence, nausea, gastralgia, and diarrhea, with short quick breathing, and a sense of failing heart. The heart hurry in this class of cases subsides when the stomach recovers from its disorder, though frequently there is more than one tract supplied by the pneumogastric involved, and in some cases one area disproportionately to the others. They are often accompanied by headache or interchanged with attacks of migraine, and may be indicative of one of the protean manifestations of a gouty diathesis. At any rate it may be safely said that dyspepsia stands in no defined relation with the degree of tachycardia.

This is clearly evidenced in the case of Mrs. M., 63 years of age, who for the past 25 years has had at intervals of two to three weeks attacks of tachycardia, in which the pulse-rate was said by the attending physician to be over 150. These attacks came on invariably between midnight and 2 A. M., and at first were attributed to indigestion, as they were accompanied by flatulence and great gastric distress, but without vomiting. Restrictions of diet and the usual remedies failed to relieve her, and after a time the attacks were unaccompanied by any indications of gastric disturbances. An unusually heavy round of social duties invariably precipitated an attack. After undergoing this heart hurry at more or less lengthened intervals for ten years, at the age of forty-nine there was an absolute intermission of one year without any change of environment or circumstances, her mode of life being practically the same. During the past three years tachycardia has returned, the attacks appearing about once in two weeks. She came under my observation about two months ago, complaining of pain in the right heel, with marked exacerbation on pressure. Under the administration of a saturated solution of potassium iodide, 15 drops 3 times daily, both the attacks and the heel-pain appear to have diminished. There is absolutely no cardiac disease discoverable in this case.

Tachycardia as to time may be classified as "short" and "long." The first accompanied with vertigo, epigastric distress, and at times a sense of cardiac expansion. The symptoms are mainly subjective in character. The pulse-rate may ascend to 200; in fact be practically unaccountable; it is not a gradual ascension, as if some slight interference with the inhibitory power of the heart was taking place, but rises immediately, while the resumption of the normal heart-beat may take place more slowly, the subjective symptoms, however, quickly disappearing. The "long" attack may cover a period of days, to the great distress of the patient, who may suffer seriously from the aggravated symptoms of cardiac failure, as dyspnea, cyanosis, and a feeling of impending death. Percussion demonstrates the presence of considerable cardiac dilatation, though the latter sign is more frequently manifested when the degree of tachycardia is slight. In a small minority of cases a permanent enfeeblement of the myocardium ensues, and then the dilatation may be lasting. Out of eleven cases (Bouveret) four ended fatally during the prolonged attack. In the remissions the patients suffer very slightly, though the fear of an impending seizure is constantly before them. The occupation of an individual does not appear to be a predisposing factor in the causation. The weak and the strong, the feeble and the robust, those who are engaged in mental occupation as well as those engaged in the more arduous labors of the shop and the factory are liable to suffer from this complaint. It is found more commonly between the ages of twenty and forty, and at-

tacks about equally both sexes. That it is also seen in those of advanced years, the following case will illustrate:

M. B., a woman of 70 years of age, came to me complaining of "heart disease"; she was of medium height, and of excellent physique for her years. Her family and personal history was negative except as to the conditions of her heart. She always had been active and energetic in her household, and was able to accomplish much except, as she expressed it, when her "heart beat fast," then she became confused, weak, dyspneic, and finally so exhausted that she was compelled to remain in bed for a day before feeling sufficiently able to resume her domestic duties. Not all attacks were of this aggravated character. At intervals of ten days or so she had suffered from slight attacks, which resulted in her retirement for an hour; assuming the recumbent position appeared to shorten the attack, or the fact may have been purely coincidental. She fully realized when the seizure was coming on by a feeling of numbness in the cardiac region—the calm preceding the storm, and then with almost cyclonic force her heart rapidly cleared itself, as it were, from its moorings, and began to palpitate with inordinate vigor. The attacks of dyspnea had no special connection with the tachycardia, as frequently she had to rest upon the street, but they were aggravated when the palpitation had lasted for a number of minutes. In some seizures, the attacks ceased almost as suddenly as they began, leaving her prostrated, in others they were prolonged for a number of hours. The pulse was 80, feeble, intermittent, and irregular. There was marked sclerosis present. While auscultating the cardiac region I suddenly heard the heart rebound, and then after a short interval, the pulsations increased. The patient asked to be seated. Her pulse count was 150, so far as could be estimated, a condition of delirium cordis preventing accuracy. Her eyes were staring, her face cyanosed, the peculiarly purplish condition of the lips demanding attention, while the perspiration was clearly seen on her forehead. Even before the administration of a stimulant, I felt the pulse stop and then, after a few seconds, resume its normal rate, the cyanotic hue at the same time disappearing. She was able to leave within an hour, though the prostration subsequent to the attack appeared extreme.

In this woman's heart a condition presumably of fatty or fibroid degeneration existed. The attack appeared to be of an anginoid character, though the closest investigation failed to show any sense of constriction or of pain. The clinical signs would appear to demonstrate fatty degeneration, though I am fully aware that the clinical diagnosis of that condition is not always borne out in necropsy.

Another case may be cited of a patient 40 years of age, with an acute febrile disease, due no doubt to influenzal infection. The heart became extremely dilated, the pulse-rate went up to 200, and there was great dyspnea. The physical signs showed that the extreme dilatation receded day by day until the 13th day of observation, when it was apparently normal. The rate of the pulse dropped from 200 day by day until on the sixth day it was 80, and afterwards 72. In this case an alcoholic neuritis was reinforced by an influenzal infection.

A woman whom I had frequent opportunities of seeing over a period of some weeks furnished some interesting details as to the probable cause of the tachycardia. She was 40 years of age, the mother of eleven children, and had never experienced any illness except that incidental to child-bearing. She was capable of doing, as she declared, a "good day's work," and had been interrupted in the pursuit of her duties only by attacks of palpitation. These seizures had supervened upon an accident occurring when she was eighteen years of age. In crossing a field she had fallen into an unused well, from which she was rescued with difficulty, some minutes afterward, in an unconscious condition. Physically she had not been injured, but the shock was of such magnitude as to produce an ineffaceable impression upon her nervous system. The attacks of tachycardia were very infrequent at first, occurring about once in three months, and independently of menstruation, pregnancy, or childbirth. They were also limited as to time, lasting but a few minutes and accompanied by a slight feeling of prostration, which rapidly disappeared. Without any definitely assignable cause, the attacks had lately increased, both as to severity and length. The patient attributed this to the systemic changes consequent upon the climateric, which may or may not have been the case. I saw her in two or three of these seizures, and though they were not so severe as in the first case mentioned, I believe the condition presented was entirely different in its nature.

The patient's normal pulse was 86, small, but of good arterial expression. There was neither intermittency nor irregularity. The apex beat was normally situated, and the systolic power of the left heart entirely efficient. In the first attack her pulse, from being normal, ascended immediately to 230, as nearly as we could estimate. Auscultation revealed a soft systolic bruit at the apex, and immediately confined to that situation, due undoubtedly to the acute dilatation present. The visible and palpable area of impulse was slightly increased and displaced to the left. There was no dyspnea, and but a slight suspicion of cyanosis. She complained of the palpitation and weakness, but otherwise was able to answer questions intelligently. The attack lasted about five minutes, the patient rapidly recovering and the pulse-rate resuming its normal character without any subjective symptoms.

Now these two cases represent to my mind two entirely different types of tachycardia, the first being produced possibly by myocardial degeneration, the second by profound shock to the nervous system. And though paroxysmal tachycardia is not associated with any clinically demonstrable disease of the heart, in three of the six cases which have come to post mortem myocardial disease was in evidence. If we consider that in these analogous disturbances of cardiac rhythm—tremor cordis and delirium cordis—there is practically always some form of myocardial disease present, we may admit that West's opinion, that the lesion of tachycardia is in the myocardium, is not without some force, as the failure to demonstrate some fault in the nerve supply of the heart does not prove that such does not exist. The great frequency of myocardial disease and the great infrequency of tachycardia show the latter not to be dependent upon the former alone. Nevertheless, myocardial changes in those cases, particularly occurring in persons of advanced years, may be a necessary, if not a principal factor in the production of tachycardia, at least so far as modifying the inherent automatic, and coordinate action of the myocardium is concerned.

We may, therefore, place the pathology of tachycardia in the region of theoretical speculation. Sufficient data have not as yet been furnished to establish it firmly on a scientific basis, but the limited amount of material at hand would show that tachycardia originates, not in one, but in several diverse changes.

The *treatment* of tachycardia has been unsatisfactory, as is to be expected where so many diverse conditions may produce similar symptoms. On general principles, I presume, more than with the

hope of accomplishing any definite good, digitalis has been administered. Where there is much dilatation, and yet sufficient potential capability upon the part of the myocardium to respond to the stimulating effects of the drug, something effective might be done between attacks. But digitalis cannot restore disintegrated cellular tissue, and the structural degeneration of the myocardium generally, in those cases in which tachycardia is found associated with myocarditis, advances to such a prohibitory extent that we can expect little from the most important drug in cardiac therapeutics.

In the case of which I had an opportunity of administering continuous treatment, and in which digitalis appeared to be of no avail, the fluid extract of convallaria majalis, in five-drop doses, four times a day, appeared to be somewhat effective, the patient claiming that it had the effect (1) of shortening the attack; (2) of lengthening the intermissions, and (3) of not producing the sense of constriction which followed the administration of digitalis. In a third case, which may be described as coming within the lower range of tachycardia, and in which there was marked arterial tension, with decided neurasthenic tendencies, I gave the bromide and iodide of potassium in combination, the first for its well-known sedative effect, and the iodide for its remarkably efficient action in dilating the peripheral arterioles, reducing the tension, and rendering the work of the heart less arduous.

In conclusion it may be stated that the treatment of tachycardia is that of the condition from which it arises, or with which it is associated; but we must remember (1) that essential tachycardia is not accompanied with indigestion; (2) that paroxysmal tachycardia and the forms of tachycardia accompanied by signs, no matter how slight, of Basedow's disease, are very frequently associated with dyspepsia; (3) that extreme cardiac arhythmia frequently occurs without any indication of stomach disease, and (4) that tachycardia in its various grades is, however, often but a symptom, a prominent expression of a neuropathic state which requires to be approached for treatment from many sides.

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## THE SUBCATABOLIC MECHANISM INVOLVED IN THE ETIOLOGY OF COMMON COLDS.

AN ANALYTICAL SURVEY, BASED LARGELY UPON RECENT CONTRIBUTIONS BY THE WRITER IN THE FIELD OF MEDICAL BIOLOGY AND CHEMICAL PATHOGENESIS.

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The following discussion of colds was inspired by a symposium on the same subject delivered before one of our New York State Medical Organizations about three years ago, in which I was greatly surprised to note that not one of the readers of those papers intimated the suspicion that any relationship whatever existed between the state of the distribution of the blood and the subject treated.

Four years ago, and in nearly every paper I have since written, I have emphasized the physiological significance and the pathological importance of serious deflections of the blood from the seats of oxidation, the capillaries of the periphery, to the splanchnic vessels, yet they have attracted but passing notice, never receiving the attention of many other passages of comparative minor import.

The present paper, by virtue of a detailed analysis of the pathology of colds, of the homologous nature of etiological factors and therapeutic agents, combined with a comprehensive application of the governing law of cause and effect, it is hoped will succeed in commanding the attention that its importance deserves.

Some idea of the importance of the recognition of the state of blood distribution may be conceived by recalling that the visceral venous stasis of general cardiac debilities, shock and collapse, are but exaggerations of conditions caused by blood deflections by cold. Even sedentation, with less pronounced perversions of circulation, is attended with serious pathogenic sequences, as is well known.

"Taking cold" is of such common occurrence, and its consequences are so varied and profound that the fundamental basis of the condition should be well understood and therapy founded upon it. Many a pneumonia could be aborted in its early stages, and many other diseases arising from this condition, thwarted by prompt measures of restoration of circulatory equilibrium.

"Taking cold" is a contributing or exciting factor, co-operating with all other factors of catabolic stasis, and subgrouped under suboxygenation, subalkalinity, and subcatalysis, classifications of the factors of oxidation and autolysis. As a contributing or exciting factor of etiology, taking cold or "a cold" plays important rôles in diseases, particularly that group known as "diathetic," but undoubtedly all diseases are unfavorably influenced by it.

Prefatory to what is to follow in the analysis of the mechanism of common colds, it should be stated that true colds are due to the unequal exposure of some part of the body to cold. The degree of temperature is subordinate to the state of inequality produced. In fact a cold may be produced by the extrinsic effect of either cold or heat, if sufficiently pronounced or abrupt to insure a localized action of definite heterogeneity from the balance of the economy. As an illustration, a cold plunge bath is not conducive to colds, even cold weather is not so productive of colds as changeable warm weather, and dry cold weather is not so conducive to colds as wet warm weather. The "green Christmas" with its humid and wet, changeable weather, has well earned its relationship with "a full graveyard."

However slight, a draft of air striking a localized part of the body is sufficient to produce a cold when its temperature is divergent from that of the balance of the body. When the body is very warm, especially if perspiring, a draft of very comfortable sensation produces a cold.

It is evident that some equilibrium of the body is disturbed, and this factor is divulged and explained by a discovery of the writer, hereinafter to be analyzed in the present relation.

It has been determined by the researches of Hill,[1] and others, that under the influence of superficial chill, the predominance of the blood is deflected from the peripheral vessels of the skin and muscles to the deeper (splanchnic) vessels, which possesses a very significant relation to the present subject. Complementary to this is the writer's[3] discovery that heat induces expansion and cold contraction, or, in other words, cold heightens, and heat lowers the specific gravity of protoplasm in general, not excepting that of the parenchyma. It is the writer's observation that the molecular weight or density of our parenchyma and all living protoplasm is increased by cold and decreased by heat. Cold is productive of high density, compactness, and tonicity, while heat induces low density, looseness of texture, flaccidity, expansion, dilatation, elongation, and atony. This is not a nervous effect, but a direct responsive reaction

of protoplasm, *per se*, as is attested by the fact that it is as marked in nerveless unicellular and multicellular organisms as in those of the highest types of nervous organizations.

A significant effect of heat upon the parenchyma of complex animal economies is observed in the dilatation of the blood vessels of involved tissues, and conversely is their contraction by the action of cold. This is particularly notable in the involuntary (unstriated) muscles and in cutaneous structures, which are not so directly contracted by and through nervous impulse as are the voluntary muscles. The condition produced by heat is one of a proportionate degree of flaccidity, atony, and what nerve men term "innervation." There is flushing, but sluggishness of circulation, and but a step removed from cyanosis. All such conditions of parenchyma are paralleled by dilated blood-vessels proportionate to the tissue rarefaction produced; the extreme condition being known as *vascularity* and *vascularization*, in general pathology.

The counterparts of heat and cold, in the production of the two conditions above described, are observed; of the former, in all factors of tissue suboxidation, viz., acidity, suboxygenation, subcatalysis, subautolysis, and more remote conditions so culminating, as irritation, fatigue, loss of sleep, worry, anxiety, etc. Conversely, conditions conducive to oxidation and catabolism promote the reverse condition, namely, density, contraction, tonicity, etc.

We have seen, however, that concurrent with the relaxation of heat and its equivalent factors, we have to deal with a state of hyperexcitability which is largely due to the accumulation of metabolic products, the oxidation of which is now in a state of stagnation and exaggerated irritation, thus produced by a degree of stimulation or irritation which would normally be deficient for the same responsive effect. For example, it is a common observation that anyone in a state of relaxation from heat, fatigue, etc., is particularly prone to take cold, and is inordinately sensitive to the slightest variation in temperature, and to drafts which do not otherwise even create discomfort.

Now let us analyze the common occurrence of "taking cold." We shall see that primarily a condition of disequilibrium is produced. A subject, during a period of normal heat balance, stands for a time in water, mud, or on damp, cold ground, the water facilitating the conduction of the lower temperature to the feet; a state of contraction of the tissues of the lower extremities is attained, the blood is ejected from the peripheral vascular areas to the more roomy reservoirs of the splanchnic veins, which readily dilate to receive it, with the result that a pernicious splanchic venous stasis is produced, concurrent with a capillary and arterial blood deficiency in the extremities and with an inevitable suboxidation of the dependent tissues in the extremities.

I have described in a previous paper,[3g] a definite and orderly biologic-retrogressive series of physical manifestations through which tissues pass, as they are progressively deprived of the factors of physiological oxidation (catabolism) which may be summed up as follows: (1) increase of irritability; (2) transient contraction (pain), tetany; (3) imperfect (breaking) contraction (tonic, succeeded by clonic contraction); (4) relaxation, flaccidity, rarefaction, expansion and elongation, loss of ability to restrain the transudation, first of water then of the blood (catarrhal and hemorrhagic); (5) disorganization; (6) colloidation; (7) disintegration.

The first stage, of hyperesthesia is observed in subcatabolized nasal mucous membranes, by sneezing; in the larynx by coughing, scraping, hawking, etc., followed by more or less painful tension or real pain. Flaccid, gelatiniform rarefaction, characterized in membranes and tonsils by spongy expansion and in the uvula (soft palate) by atonic elongation, is a common manifestation; watery mucous, mucopurulent, and finally purulent transudations and transitions, hemorrhagic expressions being more rare. Atrophy of parenchyma and interstitial thickening represent the late and chronic features. These are governed by the following law: This law I have described in an earlier paper,[3e] namely, the order in which the tissues succumb to subcatabolism: *Those tissues which require the highest, greatest catalysis, first succumb when the catalytic processes are retarded or arrested, and those tissues which are most difficult of digestion first succumb when the autolytic process is derelict.* Thus the epitheliums first succumb to oxidate deficiency, and autolysis is first observed deficient in fibrous tissue. The contrary of this law is as stable as the original, *i.e.* familiar examples of subcatalysis in these cases are observed in the highly organized and metabolically active structures of the eye and ear, which early and markedly exhibit the phases of the subcatabolic retrograde series, even to hemorrhagic expression, principally in the choroid and retina; and to painful catarrhal and purulent affections of the middle ear.

Modern observers are observing and recording, as never before, the intimate relations of eye and ear disease to those fundamental and predisposing conditions of subcatabolic origin, which are generally recognized as the diathetic group, and which so frequently find expression in eye, ear, and glanular disease, when the subcatabolism is locally magnified in the aggregate supraclavicular regions, by the complication and cooperation of chill. The softest, the most flaccid tissues, physiologically, first succumb to the several stages of subcatabolism. The parenchyma is first to indurate and succeed to the catarrhal, hemorrhagic and atrophic stages, while the interstitial is the one which thickens and hypertrophies from the same cause.

Let us take for illustration, a so-called cold in the head, not uncommonly contracted by a draft during the night, when the balance of the body is under cover, and often during warm or changing moderate weather. A contraction of the peripheral vessels, as above described, is first attained, the blood is largely determined to the splanchnic veins. The tissues of the head experience a suboxygenation, and as a consequence the mucous membranes of the upper air passages, or the lymphoid tissue of the tonsils or palate become indurated or increase in flaccidity, according to the areas involved, the interstitial thickening being observed when the original induration fails to disappear, thus it is observed that the original parenchymatous induration is superseded by a permanent fibrous hypertrophy.

The gum indurations and hemorrhages of scurvy, infantile scurvy, purpura, diabetes, etc., mercurial and other poisonings, are illustrative of the general subcatabolic sequences in soft tissues.

Paralleling the action occurring in parenchymatous tissues with that in the protoplasm of rudimentary organisms, we seem justified in identifying two catarrhal stages in the biological retrograde series of manifestations above mentioned, one at an acute stage of cell inspissation, during the climax of the stage of contraction, and the second when inability to restrain water transudation is attained, thus marking acute and chronic "catarrhal" conditions. Hydrothorax represents such a condition in the serous membranes. Edemas and general dropsy are representative of such conditions, locally and in general always resulting from some one or more factors of

subcatabolism, above named. Cardiac and renal cases not excepted.

Prolonged effects of colds are due to the perpetuation of the subcatabolism by the fact that both the tissue reduction of the suboxidation and the resulting maldistribution of the blood are slow of recovery.

The maldistribution of the blood has, from time immemorial, been treated by hot or cold air and water baths, cold and hot packs, massage, etc., all of which act more or less directly to that end. The most modern and best mode of therapy correcting this condition is undoubtedly the hypodermic administration of such general condensing and contracting agents as ergot (Livingston's method[2]) and preparations of the suprarenal glands, both of which act directly as protoplasmic constricting agents, and in therapeutic doses are selective for expanded tissues, owing to their hypersensitiveness, and through it, to their precocious response to environmental influences; in the same manner that such tissues exhibit a predisposition for cold, above mentioned.

Syndromes, with manifestations identical with those caused by unequal temperature exposures, are quite as frequently produced in certain individuals by other factors of subcatabolism, as acidities of foods and beverages, gastric and intestinal fermentation, etc., localized suboxygenation, and suboxidations, which from one or another intrinsic or extrinsic accident of life's activities, are productive of unequal sequences upon the body tissues, and hence upon the distribution of the blood.

Most practitioners are familiar with the manifestations of colds which are not traceable to "exposure," but very readily so to an acid stomach, a "heartburn," great flatulence, burning (acid) stools, or what not. Membranes indurate and exhibit manifestations similar to colds, when plugged or deprived of air by deformities, etc.

Tissues relaxed and rarified by subcatabolism or by any of its etiological factors, become correspondingly vitally depleted and disposed to bacterial infection. Thus medical observers note that, for example, the (lymphoid) tonsils are first and most infected, as they first and most succumb to factors of subcatabolism.

Tissues vary in their collagenous content, and thus as their cells, in most advanced subcatabolism, attain to disorganization and disintegration, we observe correspondingly greater collagenous exudations from mucous membranes, and more purely colloid protoplasm from lymphoid tissues. Bacterial infections appear to be most marked in lymphoid tissues.

Bacteriologists have recently determined in an extensive series of observations, that the pneumococcus is present in liberal quantities and in the active or virulent form, in the mouths of healthy and normal individuals, yet there is no pneumonia, even in a prodromal stage.* This only explains the sources of infection when pulmonary subcatabolism obtains. Healthy persons are almost constantly inhaling and exhaling tuberculous and other pathogenic organisms, yet they make ingress in subcatabolic areas only.

The multiplicity and the cooperation of several different factors of colds have been responsible for rendering the etiology obscure and difficult of analysis, and this brings us to the rôle of diathesis, dyscrasia, idiosyncrasy, and susceptibility[3g] in the pathogenesis of this syndrome. Moreover it suggests the several diathetic conditions, as aggravated by colds, acting in the rôle of exciting causes.

Areas suffering catabolic stasis being prone to infection, colds thus lead to pneumonia, phthisis, etc., secondary to laryngitis, pharyngitis, bronchitis, etc. An individual with a so-called scrofulous, catarrhal, or similar diathesis, is said to be predisposed to colds. The truth is they are etiological factors of catabolic stasis, and the superinduction of one upon the other, augments the original effect by the added effect of their cooperation. Gastrointestinal autointoxications, acidities, fatigue, mental and physical, from work, worry, anxiety, grief; oxidase (catalytic) debilities, incident to sexual excesses and vices, and the critical periods of sexual life, as puberty, menstruation, pregnancy, lactation, the menopause and sexual obsolescence of organs; all forms of suboxygenation, incident to vitiated air, respiratory defects, cardiac and circulatory deficiencies and obstructions, play their parts as antecedent collaborators of colds and their ultimate effects.

We have seen that the essential faults of colds have been more or less successfully treated in the past, but with only a vague idea of the real nature of the pathology of the condition, and less so of the etiology.

The maldistribution of the blood has been powerfully affected and restoration of equilibrium more or less accomplished by subjecting the entire body to even temperatures of hot or cold water, mud or air baths, and areas suffering most from anemia have been benefited by localized hyperemias accomplished by local irritation (the so-called counterirritation).

Oxidation has been accelerated by oxygen inhalations, alkalinity has been increased by the internal administration of alkalies, and most frequently of all that popular catalytic agent, quinine, has been utlized, but all of them largely empirically, and based upon the clinical observations of benefit derived. Comprehensive prophylaxis against sources of acidity and other factors of suboxidation was unthought of, and, in fact, changes of temperature, only have received any degree of consideration in the rôle of etiology.

*The recent demonstrations of the common existence of the pneumococcus in the mouths of healthy persons, under the auspices of the New York City Department of Health, is only confirmatory of previous observations. (See Roger, "Introduction to the Study of Medicine," N. Y., 1901, p. 134.)

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501 WEST ONE HUNDRED AND TWENTIETH STREET.

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**A Prehistorical Vesical Concretion.**—Elliot Schmidt has discovered in a prehistorical sarcophagus a vesical concretion. It lay between the two iliac bones of an adolescent sixteen years old. The age of the tomb has been estimated at 7,000 years or more. Examination of the vesical concretion showed that it consisted exclusively of uric acid, with an envelope composed of phosphates.—*Revue Française de Médecine et de Chirurgie*

# THE TEST-FECES; THEIR VALUE IN THE RECOGNITION OF INTESTINAL DISTURBANCES TAKING THEIR ORIGIN IN OTHER PARTS OF THE DIGESTIVE TRACT.*

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Before entering into the particulars of the subject I wish to state that its comprehension is materially facilitated by consulting my article "The Determination of Intestinal Functions by a Test-regimen" in the Medical Record of July 8, 1905.

"Test-feces" are the intestinal contents, irrespective of amount and consistency, which are discharged between thirty and forty-eight hours after ingestion of known quantities of the food habitually consumed by an individual. As we need a readily adaptable standard of comparison, it is obvious that we are compelled to disregard to a certain degree the individual demands, and that, practically, we must be satisfied with "test feces" which are the result of a test-regimen representing quantity and quality of foodstuffs habitually utilized and well borne by a majority of the populace. Consequently the amount of total calories for each kilogram of bodyweight during the twenty-four hours, when at rest, should be thirty. Of these, 35 per cent. should be generated by carbohydrates, 45 per cent. by fats, and 20 per cent. by proteids. The amount of liquid for each kilogram of bodyweight should be 35 c.c. A detailed test-regimen from which test-feces of a person weighing seventy kilograms may be obtained, will be found in the above-mentioned article.

The test-feces are to be submitted to a physicochemical, a macroscopical, and a microscopical examination for the particulars of which I again refer to my former communication.

Not every disturbance of intestinal function takes its origin in the intestines nor has its seat therein. The impairment of intestinal activity, indeed, is often the consequence of the inefficiency of digestive organs other than the intestines. The organ mostly at fault in calling forth intestinal disturbance is the stomach, but the liver and the pancreas are also frequently at the bottom of intestinal difficulty. The test-feces may disclose—with more or less certainty—the location of the primary disorder. The importance of the recognition of the original disorder will be appreciated when the therapy of a pertaining instance is taken into consideration. A rational treatment, of course, is to be aimed at the original disorder and not at a secondary phenomenon.

*Intestinal Disorders of Gastric Origin.*—That many of the transitory and milder intestinal disturbances arise on the basis of a gastric affection is a fact almost too well known to merit discussion again at this late day. We know that duodenal catarrh is never an independent affection, that certain forms of diarrhea are the direct result of gastric motor insufficiency, that obstipation is often the outcome of, or at least concurrent with, hyperacidity, that free alvine discharges may be set up in conditions of diminished gastric secretion, and that intestinal indigestion and hyperputrefaction are not infrequently dependent on a non-patent pyloric orifice.

In the most discrepant intestinal disorders of gastric origin Schmidt always found in the feces, after administration of a test-regimen, microscopically distinguishable débris of connective tissue. He maintains that this débris, as found in the feces, is a reliable index of the inefficiency of gastric function, and that a gastric affection stands at the foundation of all instances of intestinal disturbance in which the feces exhibit undigested particles of connective tissue.

For reasons of greater practicability and to avoid the deficiencies of Schmidt's test-regimen, I have been employing in my practice for almost a year a modification of the latter, as outlined in my previous article. This test-regimen, which conforms more to the American usages, contains in twenty-four hours two hundred grams of meat in the form of very rare beefsteak, while that devised by Schmidt exhibits, for the same period, but 125 grams of beef, almost entirely raw, but chopped. The test-feces obtained from my test-regimen, more normal for our purposes than Schmidt's so-called "normal-feces," invariably showed by the microscope small amounts of connective tissue particles. This was the case in all test-feces submitted to microscopical examination, even if they came from individuals who were entirely free from gastric disturbance.

While the presence of fragments of connective tissue in small amounts in the test-feces is probably without clinical significance, that of large amounts of débris of this character undoubtedly is significant. There is no gastric impairment in which the property of connective tissue digestion remains unimpaired. Why this should be the case is directly explainable by two eventualities only, namely, in hypochlorhydria and in non-patent pylorus. No reason can be assigned for the appearance of such considerable amounts of débris in the presence of hyperchlorhydria, atony, gastrectasia, and other pathological conditions of the stomach.

Contrary to Schmidt, I have never observed test-feces containing pathological amounts of undigested connective tissue, which were entirely normal in all other respects. Such feces are hardly ever well formed, but are mostly mushy and lumpy and possess an offensive odor. Their color seems always somewhat lighter than when the gastrointestinal tract is in a normal condition. However, as Schmidt has already observed, the effects of stomach disease upon the bowels are not uniform. The intestinal affection may prove to be a slight functional disturbance, or may appear as a complicated catarrhal process. The specific pathological condition of the intestines depends upon the nature of the gastric affection, its duration, the habitual nourishment, the irritability of the intestinal tract, etc. According to the extent and duration of the secondary, the intestinal, affection, other pathological elements may be found admixed with the fecal masses. The exhibition therein of large amounts of connective tissue fragments, however, invariably points to the gastrogenous causation of the intestinal disturbance, no matter how completely the phenomena due to the latter may overshadow all subjective gastric symptoms.

*Intestinal Disorders of Hepatic Origin.*—Disturbances of intestinal function are much more rarely the consequence of hepatic than of gastric disease. Almost all hepatogenous intestinal affections are caused by disordered biliary secretion.

We may conclude that biliary obstruction stands at the bottom of the intestinal disorder when the test-feces (1) are excreted in very large quantities; (2) when they present a grayish-white color; (3) when the sublimate test is negative; (4) when considerable masses of the ingested fat reappear; (5) when very large amounts of fatty acid flakes can be demonstrated; and (6) when there are no pathological amounts of other food débris present.

There is no such multiplicity of intestinal affections of hepatic as of gastric origin. There are but few pathological states of the intestines which may be caused by hepatic and biliary insufficiency. The principal one among such affections is probably catarrhal

* Read at the meeting of the New York State Medical Association on October 18, 1905.

enteritis, the acute as well as the chronic form. Enteritis called forth by hepatic disease may be so slight that a catarrhal inflammation cannot be demonstrated. The various localized forms of enteritis, as duodenitis, jejunitis, ileitis, and colitis, cannot be diagnosed from the test-feces alone. The more or less irritating free fatty acids, occurring in considerable amounts in the stools of biliary obstruction, may be the direct cause of the enteritic condition.

*Intestinal Disorders of Pancreatic Origin.*—When the pancreas is completely disintegrated—which is not a frequent occurrence in man—it is easy enough to recognize this fact and to associate therewith any subsequent intestinal disorder. In the great majority of instances of pancreatic disease, the glandular structure is not sufficiently impaired to give rise to any recognizable intestinal disturbance. The same may even be the case when the pancreatic duct does not permit passage of the glandular secretion. For these reasons, partial pancreatic destruction and secretory difficulties do not interest us on this occasion.

When total degeneration of the pancreas has ensued, enteritis with more or less pronounced catarrhal inflammation, supervenes as a rule. The absorptive qualities of the intestines are also usually interfered with. As a consequence of the latter, the individual loses in body-weight and becomes gradually emaciated. Atrophic conditions of some parts of the intestines may be a tertiary phenomenon.

Of course, attention to pancreatic destruction may be drawn by the glycosuria which frequently follows in its wake; this phenomenon, however, stands outside of our present consideration.

The test-feces, in the face of pancreatic degeneration, contain similar amounts of fat, as those in biliary obstruction. They differ, however, from the latter (1) by not being excreted in such large amounts; (2) by exhibiting normal quantities of biliary pigments; (3) by containing large quantities of muscle débris which are macroscopically recognizable; (4) by frequently presenting its fatty contents in the form of globules of neutral fat, when examined under the microscope; (5) by the occasional exhibition of putrefactive changes. Sahli's as well as Schmidt's methods for the recognition of partial pancreatic insufficiency are, the former too uncertain, the latter too impracticable, to be of any real merit. For the present, it is well for us to know that the examination of the test-feces, as performed by me, does not reveal any incipient or but slightly advanced pancreatic disease.

50 East Seventy-sixth Street.

## MEDICAL EDUCATION.

By E. CASTELLI, M.D., L.M. (of Dublin),
NEW YORK.

When we leave the medical school with a diploma and enter the practice of our profession, we generally think that all we have to contend with in our career are the scientific difficulties and the commercial competition. It is a great mistake, for the principal difficulties are to be found in ourselves. Are we always fitted for the profession we have selected? Many times we are not. Generally, the student selects medicine as he would any other profession, without much consideration of the mission he is about to undertake. The law of every country seems to pay no attention to the fact that the rôle of a physician in society is a vitally important one— that he is a tremendous factor for good—with possibilities for more harm than we care to acknowledge, and, in consequence, the equipment of the physician should be better controlled.

To be worthy of the name, the physician must have special intellectual, physical, and moral qualities. The lack of any one of these is a menace to society. Let us pass in review the different and necessary requisites:

*Age.*—He must be a man when he enters his professional career. Is it not almost ridiculous to see a mere lad of twenty-two years, at the bedside of a nervous woman whose condition has been brought on by usual and necessary functions of life, or to see him attempting to minister to a man of the world, of family, of age, and experience, whose physical condition should not only be properly diagnosed, but the subtlely powerful influence of a dominant mind and personality brought to bear on the case? What can this boy on the threshold of his profession, whose only life has been the college life, whose only knowledge has been gained from books—what can he do for the patient that needs moral support and assistance as well as drugs? What do we know at twenty-two of the world of business, of its worries, of family responsibility, of moral duties, of the multitudinous complexities and perplexities of harassing life? Necessarily very little. A man of twenty-two cannot have lived much, while a man of thirty might, if he is intelligent. It is the knowledge of life that increases our sense of observation, and the suffering that rounds out, develops, and deepens our spirit of intuition. So our fuller intelligence, intuition, and character are the results of age, and the requisites of a physician whose mission is to deal with the psychological as well as physical needs of mankind.

We must not forget that the nerves preside over all our functions, that any shock to the nervous system produces derangement, while to assist it produces repair. We must not forget that suggestion is the principal factor of equilibrium of the nervous system, and the dominant element of repair in case of illness. Need we, then, be surprised that the Christian scientists have some successes? What is their point? It is simply to restore the equilibrium of the nervous system, and free it from the fears and worries of illness. While they are absolutely ignorant as far as pure medical science is concerned, we must confess they have appropriated the main psychological point of our profession. Our experience, intelligence, personality, may all be a potently suggestive power, and assist the patient in restoring the lost equilibrium; our medical skill must do the rest. Pretending to cure a patient by relying only on the action of the drug, is an absurdity. Let us be frank; let us tell the truth; it is time we brought into the medical education the moral element; it is time not only to ask, but demand of the profession to elevate its standard. Christian science, and all the "pathies," are but manifestations of our deficiency in one of the principal elements of our mission; they are the proof of our lack of knowledge, and if we do not change our methods and improve, we perish. We are struggling against a resistless tide. Mankind to-day thinks more, knows more, needs more, is more. The struggle of life is more complicated and the nervous system consequently is under a heavier strain. But mankind appeals for help and finds often only the dry physical scientist prescribing without helping, because we seem to forget the supremacy of the nervous system in all our functions. We must first reestablish nervous equilibrium and then prescribe. Our power of absorption and assimilation is a direct emanation of the nervous system, so our first duty in dealing with a certain class of patients is to know the mental conditions that have in part created, in part been created, by the physical ones. The

patient who realizes that he is understood, and so has faith in his doctor, has accomplished the first step toward recovery. The patient of to-day is often a nervous wreck, and his physical condition is the direct result of the lost equilibrium of the nervous system. We see, to-day, patients continually changing physicians, seeking something they do not find—relief. We all know of people who, having been treated by dozens of physicians, finally found what they sought, after having consulted a Christian scientist! It is a humiliating confession for our profession, but it is the truth; and while we may be proud of the scientific progress we have made, we must look still further for the professional requirements in which we are deficient. Look back on the physician of long ago; he was not only a scientist, but a man of culture, of worldly experience, of high psychological attainments. To-day, we are merely scientists: we derive our education from medical books alone. For that reason we are deficient, and society is slowly but surely proving it to us. It is time that we comprehended fully that we must be better equipped for our profession. The problem is a serious one and must be solved.

*Sex.*—To this argument there is only one question to ask: Is woman fitted for the profession of medicine? First of all she cannot have the worldly experience of a man; her sympathetic nature is a product of feminine weakness, but not of character; her worldly knowledge is generally gained from hearsay, and not experience. If married, and with children, she is absorbed because maternity intensifies her reason for existence, and as a natural and inevitable consequence everyone and all things become a secondary consideration the day on which she becomes a mother. The natural tendency of the woman is to lead a life of dedication to someone, husband or family, but not to humanity at large. When unmarried and deprived socially of needed experience, she may devote herself to humanity at large, as a result of this impelling craving she has for affection and dedication, but once married, the entire world is represented by her husband and children. The woman becomes a philanthropist only under three circumstances: When married to a philanthropist—because of her devotion to her husband's ideas, when she has lost that which she loved, and when she has failed to secure that which she desired. Stanford University would not exist to-day, if a mother had not been deprived of her child; the university is a monument erected to the memory of a lost one. A man's philanthropy, that of Carnegie, for example, has a broader significance, viz., the thought of humanity at large.

Take into consideration all the immense number of women doing philanthropic work, follow them in their career, and you will see the majority of them giving up this universal benevolence the day on which a husband and family are given them. It is not an indication of weakness or inconsistency of the woman's nature, but the incontrovertable proof of the wise consistency of nature to her laws.

Why should we consider a woman other than she is, or different from that which nature, by her physical conformation evidently intended her to be? Why should we try to thwart nature by making of the woman an exotic production? What would we say if asked to take her place in the economy of nature and the world? Manliness in a woman inspires as much contempt and ridicule, as womanliness in a man! But, aside from all considerations, one important factor of woman's nature that makes her unfitted for great achievements in the medical world, no matter how intelligent she may be, is her physical condition. A woman is systematically infirm during seven days of the month, that is to say, during nearly one-fourth of her life she is normally ill, and in consequence unfitted not only for our profession, but for any other in which clearness of judgment and suggestive power have as a foundation a physical equilibrium. The woman during seven days of the month is mentally and physically in a depressed condition. I have lived long in English hospitals where the number of women medical students is very large, and I have lived in a British lying-in hospital, where nine women physicians—six British and three Canadians—were in attendance. I always observed that a certain amount of carelessness, more or less marked, in the performance of their duties, a certain amount of nervousness and indecision before the solution of a diagnostic problem, occurred in the period that other signs declared to be the usual monthly crisis.

All women take their burden as a necessity, they endure more than their physical strength admits, simply because self-sacrifice is the woman's conception of duty. But, when these women that have endured so much, enter married life, they bring with them the marks of the past physical and mental strain that inevitably reflects itself on children and health. We physicians, generally, do not study the social condition of the woman's past life, and do not put it in rapport with the present one, when she comes to us as a nervous and physical wreck, and when she brings us weak and debilitated children. If we should carefully study these circumstances, we would find that strong children and physically prosperous families have as substrata, mothers that have lead normal home life.

In saying this, I have not the slightest intention of even implying that professional women are not useful, even though accomplishing their duty under unfavorable circumstances. There are probably few physicians having such a high conception of the profession as our women colleagues. I meet them every day and everywhere; at the bedside of the sufferer, at the clinical laboratory, at the social gathering, and at the scientific one, and I necessarily admire them; but this does not destroy the fact that if they achieve distinction in the profession, it is only at a mental and physical price, which it is a pity any woman should be compelled to pay. The spirit of abnegation and the will power of the woman when imbued with the conception of her duty, are such that she will suffer or die rather than fail to accomplish her conception of it. I admire these qualities in the woman; they are the born attributes of the sex, the qualities that Napoleon thought to be indispensable patrimony for the education of a great nation. "Give me the mothers," he said, "we need them to make good citizens and a great nation."

Napoleon, apart from any other consideration, was certainly one of the greatest connoisseurs of human nature; he knew that self-sacrifice, abnegation, conception of duty, were the natural qualities of the woman, and she only could instill them in children. Women can make nations stronger than men; it is not a paradox, it is an axiom. I think all men can acknowledge that the good in them came from their mothers. So let us render unto Caesar that which is Caesar's; let us protect society by dissuading from the suicide of her best element. A woman in the profession is a martyr from the day she enters it as a student, to the day in which she abandons it. She is forced every day of her life to compromise in the struggle between her natural tendencies and her assumed duty. While I acknowledge that she can do and does good in her profession, I think she does much harm by depriving

society of her natural help, and by making herself physically and psychologically deficient.

*Physical Qualities.*—The Latin motto, *mens sana in corpore sano,* expresses better than anything else that normal physical conditions are the substrata of harmony between animal and intellectual life. A sound organism is a necessary requirement in our profession, not only as a factor of equilibrium of all our systemic functions, but as an example to our patients. By sound organism I mean an organism kept sound by the fact of leading a rational life. In dealing with our bodies we are compelled to acknowledge that illness is the result of broken equilibrium in the rapport between the different functions of our body; an excessive or defective power of absorption, an excessive or defective power of elimination of the product of waste, an overstrain or sluggishness in the function of the nervous system, etc., are the real causes of illness. So, in order to benefit humanity, in order to be consistent with the things we say, we must make our own atmosphere an atmosphere of physical rationalism. Example leads the masses; as we expect an officer to be of example to his soldiers, a general to his officers, a pastor to his congregation, so we must expect a physician to be the example of physical rationalism to his patients, and to all those knowing him. I witnessed an amusing incident a few years ago, while attending one of the Paris clinics. A young peasant from the suburbs came to Paris to see Professor D——, *chef de clinique* in one of the best-known hospitals in France. He had been ill during the last six months with gastric troubles, and his country doctor had advised his going to Paris to consult Professor D——. He came one morning to the clinic, and presented to me the card of introduction from his doctor and asked me when and where he could see the professor. I told him that the professor was just finishing his tour in the wards, and would return to the hospital consulting room in a few moments. While I was speaking, the professor appeared at the end of the hall and walked towards us. "There is the professor," I told the peasant. "Go in the waiting-room and wait for him; when your turn comes you will see him." The peasant looked toward the end of the hall with the open-eyed curiosity of country people when waiting a great event. The professor passed, bowed, spoke a few words to me, and went towards the consultation room. The peasant said: "Is that the professor?" "Yes," was my answer. "Then," said the peasant, "there is no use in my seeing him; he is a sicker man than I am, and if he is such a good doctor, he would cure himself; he can't do me any good." The professor was a thin, pale, emaciated man, and to the ignorant peasant it seemed irrational that a man so famous as a health restorer, could not be in better health himself.

We are nothing but interpreters of nature; we are the connecting link between the struggling world and nature; when the organism is in opposition to the laws of nature, it loses the equilibrium of its physical functions. The physician is called to re-establish the lost equilibrium. What is there to do in case of illness but assist the natural processes of repair? For twelve years I have not taken medicine, not because I am unusually strong, or because I do not believe in drugs, but simply because, knowing myself, I keep my physical functions in their rational routine. I am sure the day will come in which the physician will be called as teacher in the schools, and asked to teach the rules of physical rationalism to students. That period will be the commercial crisis of the profession, as those manifested in other branches of human activity when new ideas or new discoveries make superfluous the old ideas and old methods. But it will be only a momentary crisis. When the machine substituted hand labor, thousands of laborers were left starving, but when the machine became a part of our commercial life, it gave occupation to millions of laborers. Our profession, old as it is, has not yet reached this crisis. While it has scientifically made progress, socially it has not done so. Social evolution has come into the field of religion, of social economy, of politics; why not in the profession of medicine?

We must admit that a better education in the rules of hygiene and physical rationalism would diminish sickness, and the unthinking might say it would restrict the field of usefulness of the physician. On the contrary, we shall then be far more necessary; we shall be called only when ordinary medical knowledge has not been sufficient to prevent sickness; only in those cases in which many of us today are compelled to ask for consultation, for the advise of those whom we consider the best. Some time we shall all be compelled to be the best, because elementary knowledge of medicine will be the patrimony of all.

*Intellectual Qualities.*—As a natural consequence of the requirement of medical evolution, the physician must be an intelligent and cultured man. Intellectuality appeals to mankind as physical strength appeals to animals. Culture is the right arm of the physician. We can suggest and help, not only because we have solid scientific foundation, but also because of other things we know. Culture means knowledge of mankind, and knowledge of mankind means power.

*Moral Qualities.*—These do not require discussion. We should have the highest moral conceptions. To have great and good moral qualities is an achievement of high evolution and perfection, and for that reason we must consider an inferior moral standard as a condition of incomplete development, and consequently as a condition susceptible of improvement. Only in this way can the physician be that which he should be—the most tolerant of men, a man whose faith in mankind never wavers, who never permits his poise to be disturbed by the unworthy things of life or its disappointments, a man who believes in doing good and does it. To be extremely tolerant is an indispensable requisite of our mission, a requisite that can only be attained by high moral education. We see every day too many things susceptible of the criticism of the so-called moralist, but we should not criticise. We must know that we are immoral when we follow our instinctive natural tendencies, and consequently immorality is nothing else but lack of control of our instinctive tendencies; in other words, immorality means weakness, and as such must be considered and forgiven.

Having explained my ideas on medical education I may ask myself if this ideal type of physician is possible to create. I acknowledge that it is not easy, but I know, also, that something could and should be done to improve our class, our profession.

The solution of the problem is involved in the great one of the selection and education of the medical student, a problem that only physician and legislator together can solve.

201 West Seventy-fourth Street.

**Malta Fever in South Africa.**—P. D. Strachan believes that it is not generally known outside of South Africa that there is a disease apparently identical with Malta fever endemic in certain parts of the country. He has studied seventy-two cases presenting the clinical features of this disease.—*British Medical Journal.*

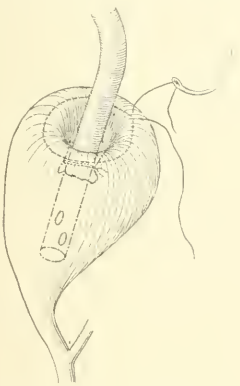
## VALVULAR CLOSING OF THE GALL-BLADDER AFTER OPERATION.

By H. E. ROCKEY, M.D.,

PORTLAND, OREGON.

PROLONGED leaking of the bile after either cholecystotomy, for calculi or drainage for inflammation, is one of the annoying features of gall-bladder operations. This was unduly so when the gall-bladder was fastened to the skin, thus making a complete epithelial lined canal, which not infrequently left a fistula that required a plastic operation to close it. The gauze collar of Murphy did much to obviate this, but it had its disagreeable features, and we gladly abandoned it for the purse-string suture of Mayo, which was a most decided step in advance.

I have now to offer a method which not only shortens the period of leaking, but in many cases prevents it altogether. It consists in a second purse-string of catgut placed beyond the first, thus invaginating the gall-bladder around the drainage tube and forming a valve. The first purse-string, which should be of No. 2 catgut, is inserted with a curved needle completely around the border of the incision. The drainage tube is now introduced to a depth of about two inches and the sutures firmly tied, taking care to turn in the



edge so that the peritoneal surface comes in contact with the tube. The second purse-string, which is to form the valve, is introduced by short stitches, which must not pierce the mucous coat, at a distance of from one-half to one inch beyond the first row. In a large gall-bladder a long valve may be made. If the gall-bladder is short, a half-inch valve around a tube that is not too large will often secure immediate closure. After this circular suture has been inserted, the tube is pushed inward a little as the suture is firmly drawn around the tube and tied. This forms a valve, acting on the same principle as do those of rubber in the interior of pneumatic bulbs. If properly constructed, the action is as positive. On the removal of the drainage tube, the intraabdominal pressure acting through the wall of the gall-bladder secures its immediate closure. After the valve suture is tied, the gall-bladder is attached to the peritoneum by a few stitches of fine catgut and the abdominal wall is firmly closed, superficial drainage being made by bringing the ends of the sutures of catgut from the fascia out alongside of the tube.

The drainage tube should be fastened to the skin by anchor stitches of silkworm gut, to prevent the tension on the purse-strings and consequent puckering of the valve. This is best done by passing a silkworm gut stitch at either side of the tube and tying a small loop above the first knot. A similar tie and loop with silkworm gut is made around the tube about one inch from the skin. A safety pin is then passed through the three loops, thus holding the tubes firmly in place. This simple device of loops and pins is a most important addition to drainage tubes, not only in the gall-bladder, but in the urinary bladder as well. A firm dressing is applied and a bottle is suspended from the bandage over the tube. The only attention that this will require for a week or ten days, is to empty the bottle often enough to prevent its running over. If it is properly adjusted the patient will seldom spill it, and the dressing will remain clean.

In about ten days the tube may be removed. In most cases the valve closes immediately and there is no leaking. In others there is a little leakage for a few days, but even in these, the ordinary period is much shortened. A strap of adhesive plaster may be drawn across the opening in the skin. The cutaneous sutures, which may be of either silk or silkworm gut, should remain for a few days longer. Union in vertical incisions requires longer time than in transverse incisions, and there is some tendency to separation if they are removed too soon. When the gall-bladder is much thickened, and especially if it is hard and contracted, this plan of closing cannot be used, but a gall-bladder thickened and soft from recent inflammation will, if capacious, make a good valve. The drainage tube should not be too large, otherwise the valve will not close immediately. A tube the size of a No. 30 F. sound is large enough. I sometimes use a No. 14 E. catheter. The additional purse-string for the gall-bladder valve requires but a moment of time, which is well compensated by the speedy and clean recovery that follows.

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**The Triad of Hutchinson.**—C. F. Marshall draws attention to three of the chief signs of hereditary syphilis—interstitial ceratitis, malformations of the teeth, and deafness—which were especially studied by Hutchinson. This authority was the first to show the frequent coincidence of these symptoms, and also their causal relationship with hereditary syphilis. Interstitial ceratitis has also been named parenchymatous, in order to distinguish it from the superficial forms. It usually affects both eyes, but seldom both at the same time. The disease is of slow evolution. The whole duration may be from six to eighteen months. This affection is most common between the eighth and fifteenth years, though it is said to occur even in utero. Difference of opinion exists as to whether it is caused exclusively by hereditary syphilis, or whether it may also occur in the acquired form. The general treatment is that for syphilis in general. Syphilitic deafness is most common in hereditary syphilis at the same period when ceratitis usually occurs. This affection is usually bilateral. It is commonly associated with subjective noises in the ear, such as buzzing and hissing, and also with vertigo. Its pathology is not determined. It is usually rebellious to treatment. Hereditary syphilis is the most common cause of deaf-mutism. Various lesions of the teeth affecting both the first and second dentitions are caused by hereditary syphilis. This disease affects the teeth in two ways—by retarded evolution and by arrested development and malformation. Various types of dental erosions are noted, several varieties of which may occur in the same subject. Caries often attacks syphilitic teeth at an early age. White furrows are sometimes observed on these teeth. Irregular implantation of the teeth and malformation of the jaws are common in the subjects of hereditary syphilis, the most usual type of the latter being prognathism of the lower jaw. This prevents the inclusion of the lower teeth within the upper, and causes prominence of the chin. Like other signs of hereditary syphilis, dental erosions generally affect the first child more often than the later ones.—*Treatment.*

# MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

THOMAS L. STEDMAN, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, December 2, 1905.


## THE HEALTH COMMISSIONERSHIP OF NEW YORK CITY.

ACCORDING to newspaper gossip, Mayor McClellan does not intend to reappoint Dr. Darlington as Health Commissioner of the city. We do not know why the Mayor does not wish to reappoint the Commissioner, and we do not even know that Dr. Darlington is not to be retained, but the mere rumor of his removal will serve as a text for some reflections on the evil of the present system of political appointments to the Health Board.

There are few positions of greater responsibility than that of health officer of a large city. In his hands is literally the power of life and death. The world shudders in reading of the Russian massacres, yet an incompetent or a corrupt Health Commissioner in New York may be almost directly the cause of as many deaths in this city in a single summer. The duties of Health Commissioner in this city call for the possession of talents of no mean order. The incumbent must be of unimpeachable honesty to resist the many and great temptations to "graft," of inflexible will to oppose the assaults of political leaders seeking preferment for their followers, possessed of executive ability of a high order to control the bureaus of his department and get out of each and every one of his subordinates all the good work of which they are capable, endowed with sober judgment combined with alertness, to enable him to act quickly and rightly in an emergency, and, last, but not least, he must be a sanitarian, a man of medical training, familiar with all the problems of public health, and able to sit in judgment on the acts of any of the specialists working in his department. Such is the ideal Health Commissioner for New York or any other large city. The ideal, like all ideals, is probably not attainable once in a century, but that it could be approached more nearly than it has usually been in the past is not to be denied. It is preposterous that a position calling for the possession by the one who fills it of such an aggregation of unusual qualities should be in the category of rewards for political services. Yet that is what it has been, with a few notable exceptions, ever since the office was created. We need not go back more than a lustrum to find an example of the evils of such a system, but we would have to go back many lustra to find an example of a truly ideal appointment to this all-important position.

The appointment of the present Commissioner two years ago was bad, and the fact that he has done far better than anyone believed at the time he would or could do is no disproof of this statement. His predecessor had been an efficient officer, and had had the experience of two years to fit him for the duties of his position. But he was dropped incontinently, and a new and inexperienced man, a practising physician, untrained in sanitary science, was put in his place. The new man proved himself to have honesty of purpose and executive ability, and has agreeably disappointed the medical profession of the city by the way he has conducted his department. During the two years of his incumbency he has gained experience, and is now, we doubt not, a much better sanitarian, theoretically and practically, than he was when he entered upon his duties. But now, according to the political gossips, he is to be dropped—perhaps to make way for some more active worker in the "cause"—but even if the new man is as good as Dr. Darlington was in the beginning, the whole process of learning at the expense of the health of the city will have to be gone over again.

We are not in Mr. McClellan's confidence, and he may have in mind the appointment of some man nearly approaching the ideal, to whom to entrust the health of this city—there are such in the country, and in this city—but unless he improves very markedly on the average of his appointments of two years ago, he will wrong the city. The MEDICAL RECORD holds no brief for Dr. Darlington and does not endorse all he has done as Commissioner during his term; but the administration of his department has been growing steadily better as he has gained experience, and unless the Mayor also has learned from experience and has grown in political righteousness, we fear a change in the Commissionership will not be to the advantage of the city. The Health Department of New York is exceptionally favored in having unusually competent heads of bureaus, who have been retained under successive commissioners of varying degrees of efficiency, but they have been retained, during some administrations at least, only because the Commissioners did not dare outrage public opinion to the extent of dismissing them. That is the only reason why we have not suffered more than we have in consequence of the present political system of appointments, but there is no guarantee that some bumptious appointee may not, some bright day, turn them all out and get a set of incompetent political heelers in their place.

The system is rotten, however innocuous may have been its workings in the recent past. We hope the Mayor will do what he can to mitigate its evils by continuing the now experienced Commissioner in office, unless perchance he succeeds in finding a better man for the place. But, whoever may be the appointee, the fact remains that the present system is bad; for the health of this great community should not be at the mercy of a mayor elected by a political party and with political debts to pay.

## LOBAR PNEUMONIA AS A SECONDARY DISEASE.

PNEUMONIA has increased to such an extent during recent years that the situation has come to be viewed with alarm, not only by the medical profession, but also by the municipal authorities. Public commissions have attacked the problem from various standpoints, but if we are to judge by the preliminary report of the New York City commission as an example, very little practical knowledge has been con-

tributed by this means which will aid in either the prophylaxis or the cure of the disease, and we suggested not long since that the general practitioner who treated many cases successfully might be consulted with advantage in this matter.

It is claimed by many that pneumonia is a self-limited disease, neither to be aborted nor cut short by any therapeutic means at our command, yet several methods of treatment have been attended with sufficiently satisfactory results to warrant the belief that something can be done to cure, or at least to modify the disease. Most of the remedies employed are symptomatic, and very few are directed against the pneumonic process itself, if we except the antipneumonic serum, the efficacy of which is still *sub judice*. It is quite evident that intelligent treatment of any disease must necessarily depend on a recognition of the etiological factors which underlie the latter, and in the case of pneumonia we are by no means certain that we have found the true cause. The pneumococcus of Friedlander has been accepted, in part at least, as the pathogenic factor, although it has been found in the buccal cavity and other portions of the respiratory tract in perfectly healthy individuals, and it apparently becomes endowed with a special virulence only when there is present a lowered power of resistance or a stimulus is supplied by some other organism. It has also been noted that the classical symptoms of pneumonia are accompanied by other conditions, and among these especial significance has been ascribed by M. W. Brinkmann, in an article in the *Journal of Advanced Therapeutics*, to distention of the stomach and intestines, with or without enlargement of the liver and spleen. The arguments brought forward to account for the clinical phenomena and the pathological processes which characterize the disease are marked by ingenuity and simplicity, but although they are suggestive in a certain sense, they will scarcely be accepted as sufficiently convincing to explain all the aspects of the pneumonic symptom complex. Respiratory difficulty is an early and prominent symptom of pneumonia, which is accounted for by Brinkmann by a reduction in the capacity of the chest cavity due to the upward displacement of the diaphragm by pressure from below. This necessitates an increase in the number of respirations in order to compensate for the lessened degree of lung expansion. When the capacity of the lung is finally reduced to such an extent that the necessary amount of residual air is encroached upon, the pneumatic support for the organ is removed to the same extent and the pressure is likewise diminished on the delicate capillaries which surround the pulmonary vesicles. The minute blood-vessels then become distended and their walls grow very thin, so that an exudation of serum and leucocytes results, which continues until the cavity is sufficiently plugged to afford a support for the walls of the vesicles and their surrounding capillary network. Brinkmann interprets this as a conservative process which prevents tears of the vesicles, hemorrhages, and a possible collapse of the lung, and also serves to account for the other symptoms of pulmonary inflammation, so-called, viz., the pain and circulatory difficulties.

The pulmonary condition being thus assumed to be entirely a mechanical one, the treatment should be directed towards the relief of the upward pressure on the diaphragm, so that the physiological expansion of the lung may be restored. Brinkmann holds that by this means not only is the fever reduced and the general condition of the patient improved, but he claims to have observed an absorption of the pulmonary exudate within two or three days after the alimentry canal has been brought to a normal state. An abundance of fresh air and the avoidance of nitrogenous foods are the *sine qua non* of his method of treatment, after the bowels have been cleared satisfactorily.

The insistence upon fresh air, unloading the bowels, and the avoidance of taxing the digestive system are points of undoubted value in the management of a case of pneumonia, but the success following the institution of such treatment is no argument in support of the theory we have just noted, the condition being of course found with many other acute infectious diseases, accompanied by a rise of temperature and more or less gastrointestinal disturbance, the relief of which always exerts a beneficial effect on the patient. The error in this, as in many other instances, has been to mistake the effect for the cause, and we still await a solution of the pneumonia problem which is capable of closer scrutiny.

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## The Effects of Certain Bacteria and Their Toxins on the Heart Muscle.

Attention was directed by a number of writers during the early part of the last century to the possibility of a pathological process involving the myocardium during the course of an infectious disease. These observations were limited, however, to macroscopic findings, and it was not until Virchow's researches in this field were published that we learned that the true cause of the cardiac weakness in typhoid fever, for example, could be found only in the parenchymatous changes which take place in the tissues of this organ. The condition of the heart in diphtheria was next studied, and from the observations made since then we now know that a variety of pathological processes may develop during or after an infectious disease, which are characterized by alterations in the muscular substance, including fatty or albuminoid degeneration of the fibers, atrophy of the latter, or a change in the form and shape of their nucei or of the interstitial connective tissue. A few years ago Tallquist studied the effects of streptococci and their toxins on the heart, and more recently M. Björksten ("Arbeiten aus dem Pathologischen Institute der Universität Helsingfors," vol. 1, Nos. 1 and 2) has carried on a similar investigation, dealing with the effects produced by a variety of other bacteria. For this purpose rabbits were employed, and the bacteria were injected directly, or filtrates of bouillon cultures were employed. The species included *B. coli communis, B. typhi abdominalis, Pneumococcus,* and *Staphylococcus pyogenes aureus.* As a general thing the subsequent examination of the hearts of the experimental animals disclosed isolated patches of degeneration in the muscular tissues, either waxy, hyaline, or parenchymatous, and usually limited to single fibers. The most noteworthy fact was the apparently uncertain and irregular character of these changes. The longer the animal survived the invasion of the disease, the more marked became the interstitial changes and the less prominent the degenerative changes. The injection of the living bacteria into the animals was also found to be more productive of extensive alterations in the cardiac tissues than that of the filtrate of

bouillon cultures. A fact of considerable interest is that after infection with all the species used except the staphylococcus, but few changes were to be observed in the immediate vicinity of the bacteria themselves where they had settled in the tissues. The staphylococci were usually the centers of small abscesses. The direct involvement of the heart in degenerative processes during the course of infectious diseases does not appear to be as extensive as we have often been led to believe, and the symptoms referable to this organ, as well as the lesions noted, must be referred to another source.

### Depletion by Means of Saline Purgatives.

Saline purgatives are used to lower the blood pressure and thus prevent the rupture of a blood vessel, and consequent apoplexy, or to prevent further extravasation in a case in which the vessel has already burst. Lauder Brunton says that the regular use of aperients is especially necessary in gouty persons with contracted kidney and high blood pressure. How far their utility is to be ascribed, however, to their direct effect in lowering the blood pressure, and how far to the removal of waste products which might raise the pressure, it is impossible to say. The utility of purgatives after apoplexy has occurred may be doubtful, and though usually administered, they probably do no good if the arterial tension is abnormally high; purgatives, especially the salines, lower it, as the sphygmographic tracings show. When a considerable quantity of serum is withdrawn from the intestinal vessels, the blood pressure is necessarily diminished elsewhere. Free transudation from the blood-vessels of the intestinal canal lessens the amount of work which the kidneys have to do, and, if these organs are hyperemic, removes the congestion. Saline cathartics are, therefore, important remedies in the treatment of renal and cardiac dropsy. Free purgation also influences the condition by reflex action. The lessened hyperemia of the kidneys, the diminution of the blood pressure, and the reflex stimulation of these organs, resulting from the action of the purgative, are frequently followed by greatly increased activity of the renal function. Saline purgatives probably have their greatest use, however, in the treatment of gouty individuals. Their action has recently been made the subject of investigation by MacCallum, who concludes that the purgative is caused by an increase in peristalsis and by increased secretion of fluid into the intestine, both of which can be directly observed. The investigator is also of the opinion that even when these salts are introduced into the intestine, they must be absorbed into the blood before they can produce their purgative effect, and that they affect the intestine by increasing the irritability of the nerves and muscles, as Loeb has suggested. Their action in producing less solid feces is not due to the prevention of the absorption of fluids from the intestine, but to the production of an increased secretion of fluid into the intestine.

### Open Wounds as a Factor in Scarlatinal Infection.

The danger of scarlatinal infection through an open wound has been quite universally recognized. In many instances, however, the cases reported as surgical scarlatina are probably erythemas due to vasomotor disturbances or to the absorption of toxic material from wound secretions. The genuine cases must be separated into those in which the infection is simply coincidental, usually taking place before the wound is made, and those in which there is a true inoculation, where the wound serves as a portal of entry for the infectious material. A number of undoubted cases of the latter type are on record, among the most recent of which are two reported by Charles Herrman in the *Archives of Pediatrics*, October, 1905. One little patient remained free from the disease although he was constantly among the other members of the family who were ill with scarlet fever, until he received an extensive burn of the arm. The latter was neglected, and not even covered by a protective dressing, and in thirty-six hours after the injury the child developed a scarlatina which ran an ordinary course. The wound was covered with a dirty exudate, but healed as soon as the rash disappeared. The throat symptoms were not marked, and the submaxillary glands were not enlarged. In the second case the path of infection was through a vaccination wound which had been similarly neglected, and in this child the same exceptions to the usual symptoms were noted. The period of incubation in both of these cases failed to correspond with that usually assumed as characteristic of the disease, but there is no doubt that it depends very largely not only on the virulence of the contagious material and the susceptibility of the particular individual, but more especially on the place and mode of entrance of the specific contagium. It is evident from this and similar case reports that the shorter and more direct the route, the more rapidly the virus enters the circulation and the shorter the period of incubation. It also seems that although an invalid may be immune to infection in the ordinary way, he can readily contract the disease by direct inoculation through an open wound.

## News of the Week.

**Medical Examiners of New York State.**—At a conference held in Albany between representatives of the State medical boards and State medical societies, for the purpose of discussing the advisability of substituting a single State medical board for the three now existing, it was decided to retain for the present the plan of having three boards of three different schools. In the matter of the combined baccalaureate and professional course of seven instead of eight years leading to the degree of M.D., the progress made during the past year was approved, and the conference appointed a committee to prepare a syllabus acceptable to the medical colleges of the State, and which should be the foundation of an elective course, to be introduced into the junior and senior years of the colleges.

**The Edward N. Gibbs Memorial Prize.**—The New York Academy of Medicine announces that the sum of One Thousand Dollars will be awarded to the author of the best essay in competition for the above-mentioned prize. The subject of the essay shall be, "The Etiology, Pathology and Treatment of the Diseases of the Kidney." Essays must be presented on or before January 1, 1907. Each essay must be in English, typewritten, designated by a motto or device, and accompanied by a sealed envelope, bearing the same motto or device, which shall contain the name and address of the author. No envelope will be opened, except that which accompanied the successful essay. The Academy reserves the right, according to the direction of the donors, not to award the prize if no essay shall be deemed worthy of it. The Academy will return the unsuccessful essays, if claimed by their respective authors, or by authorized agents, within six months. An essay must show originality in order to obtain the prize. The competition is open to the members of the regular medical profession of the

United States. The original of the successful essay shall be the property of the Academy, and, according to the deed of gift, will be published in its transactions. The essays must be transmitted to the Committee of the Trustees of the New York Academy of Medicine on the Edward N. Gibbs Memorial Prize, 17 West 43d Street.

**Tuberculosis Sanatorium for Long Island.**—The trustees of the Long Island Open Air Sanatorium, to be erected near Medford, L. I., have issued an appeal for funds. The sanatorium will be for the open-air treatment of consumptives, and, as it will receive no help from the city, people interested in the cure of tuberculosis are asked to contribute. The sanatorium will be for the use of patients from Brooklyn and Long Island. The estimated cost of the land, building, and equipment is $50,000.

**A Course in Sanitary Engineering at Trinity.**—The faculty of Trinity College will offer next autumn a new course in sanitary engineering; it will be a branch of the general course in science now offered. The course is designed for students who desire to unite with the fundamental engineering branches a knowledge of those phases of chemistry and biology which relate to the problems of public health. The fundamental requirements of the course are four years of chemistry, three of biology, and two of civil engineering.

**Football Fatalities.**—A newspaper estimate of the serious accidents to players occurring during the present football season, places the deaths at nineteen, and the seriously injured at one hundred and thirty-seven. Ten of those killed were immature boys of seventeen years or less, but three of the victims were seasoned collegiate players. Body blows, producing internal injuries, were responsible for four deaths, concussion of the brain claimed six victims, injuries to the spine resulted fatally in three cases, blood poisoning carried off two players, and other injuries caused four deaths. Among the injuries that have not resulted fatally are: Broken collar bones and shoulders, 19; broken legs, 31; broken arms, 9; fractures of some portion of head, 19; broken ribs, 3; spinal injuries, 3; concussion of brain, 3. It is supposed that if complete records from all parts of the country could be obtained that the total number of casualities of more or less serious character, would be greater than 1,000.

**The Tuberculosis Exposition** was opened in the west wing of the American Museum of Natural History, Seventy-seventh street and Central Park West, on Monday evening of this week. Health Commissioner Darlington delivered the opening address, and was followed by Morris K. Jesup of this city, and Talcott Williams of Philadelphia. The idea of the exposition is to show, by means of models, photographs, charts, and diagrams, the methods which are being adopted in this country and Europe to prevent and cure consumption. There are models of sanatoriums which are in use in the different States, as far west as Colorado, and in Canada. Chicago has exhibited models of her hospital buildings. Pennsylvania also has a fine exhibition, and New York State shows a model of the tuberculosis sanatorium at Raybrook. The manner of caring for the tuberculous in tents on Blackwell's Island is shown, and there is also a model tenement house, in miniature, alongside of which is a model of one of the dark rooms, which the new law is trying to do away with. The exhibition, which is free, will remain open until December 9.

**Mismanaged Public Baths.**—In its recently issued annual report, the New York Society for Improving the Condition of the Poor asserts that the management of the public baths in this borough is grossly insufficient. The baths are closed at 8 instead of 10 o'clock in the evening, the water supply is deficient in some, valuable space is not utilized in others; one has remained uncompleted for months, although it could easily be finished in a week; the payroll and repair accounts for all baths are unnecessarily high; men are carried on the payrolls for months and months before the opening of new baths; nearly one hundred attendants are paid for services at the floating baths for weeks after these baths are no longer used; and from twenty-nine to thirty-nine men were paid last winter, ostensibly to sit around and watch fifteen floating baths, stored in one place.

**The Jewish Fair,** for the raising of funds for the Jewish Hospital of Brooklyn, was opened in the Forty-seventh Regiment Armory on Monday evening of this week, by Governor Higgins.

**A Marine Laboratory for San Diego.**—Through the persistent efforts of Prof. Ritter of the department of zoology in the University of California, San Diego, Cal., will soon have one of the most complete marine laboratories in the West. The San Diego Marine Biological Association, composed of many of the wealthiest and most influential men of that city, will endow the new institution with a sum sufficient to produce an income of $10,000 a year, besides building a large laboratory, museum, and aquarium, with a full equipment of apparatus. The system of work will be of like character to that of certain important astronomical stations, and a regular staff of experts will be employed.

**A Dogless Town.**—Owing to the death from hydrophobia of a little girl in Hackettstown, N. J., the town authorities decided to exterminate all the dogs in the place. The dog that caused the child's death, it was learned, had bitten about fifty other canines, so that no less radical measures seemed safe. In two days seventy animals were killed, and it was expected that the remaining thirty or more would be promptly discovered and sacrificed.

**A Physician Rewarded.**—Dr. Heber Jones, president of the Memphis Board of Health, has been presented with a purse of $10,000, subscribed by a large number of citizens, in appreciation of his successful efforts in maintaining a prohibitive quarantine during the recent yellow fever epidemic. Dr. Jones was compelled to give up his practice temporarily, owing to the exacting nature of his duties.

**Tax on Nostrums.**—The Commissioner of Internal Revenue on November 24 issued a circular, defining the duties of druggists and manufacturers, relative to patent medicines containing large amounts of alcohol. This circular, which is addressed to all collectors of internal revenue, is supplementary to the order issued on September 12 last, when the Commissioner ruled that all dealers selling patent medicines which contain spirituous liquor as a chief ingredient must pay the federal tax, as retail liquor dealers. It was also held that the manufacturers were liable to the payment of the special government tax. The order of September 12 was to become effective on December 1 of this year, but protests were received from a number of manufacturers and dealers, declaring that they had on

hand large stocks of the so-called medicines, that they acquired them in good faith, and that the imposition of the government tax would cause them to suffer great loss. Accordingly, Commissioner Yerkes has directed that the rule be not applied to manufacturers until January 1, 1906, and not to druggists and other dealers until April 1, 1906. For several weeks the International Revenue Bureau has been analyzing many patent medicines believed to contain alcohol or spirituous liquor as their chief ingredient. The analyses have not been completed in all cases, but a partial list of the medicines which fall within the terms of the Commissioner's order has been made public by the Bureau, and the articles on the tabood list can no longer be handled without the payment of the special tax.

**Increased German Taxes.**—In order to meet the ever-increasing expenditure for the army and navy, the German government proposes to levy heavy additional taxes on beer, tobacco, cigarettes, and cigarette paper

**Ewald Festschrift.**—In addition to its regular issue the *Berliner klinische Wochenschrift* on October 30 published in its usual form a Festschrift, dedicated to Prof. C. A. Ewald, the senior editor of the journal, in honor of his sixtieth birthday. It contains over forty scientific contributions from friends and former pupils, among whom are Professors von Leyden, Senator, and Eulenburg, and Drs. J. C. Hemmeter, Max Einhorn, Salkowski, Jürgensen, Posner, von Hansemann, and W. C. McCarty.

**Opposition to a Sanatorium.**—The local Board of Supervisors has been petitioned by forty taxpayers and property owners of Newburg, Washingtonville, Mountainville, New Windsor, and Blooming Grove, Orange county, to reconsider its action of last summer in giving permission to the city of New York to build a sanatorium for consumptives at Otisville. The petitioners fear that the dairy interests of the region would be injured by the presence of the institution in Orange County.

**Election of Hospital Staff.**—The medical staff of Blessing Hospital, Quincy, Illinois, at a recent meeting, elected Dr. Kirk Shawgo, physician in charge; Dr. Wm. S. Knapheide, surgeon in charge; Dr. John H. Rice, gynecologist in charge; Dr. Melinda C. K. German, obstetrician; Dr. Clarence A. Wells, anesthetist; Dr. Frederick M. Pendleton, oculist and aurist, and Dr. George E. Rosenthal, pathologist.

**A New Tuberculosis Camp** is to be established near Blue Island (Illinois) for the benefit of Chicagoans suffering with this disease. Mrs. Edward L. Gaylord has donated 160 acres of land to make the institution one of the most modern of its kind in this country. She will also provide a fund for the maintenance of the camp. The preliminary equipment of the institution will cost about $5,000.

**Verdict for Druggist.**—The Philadelphia cutrate druggist who was suing collectively several associations of druggists, on the ground that they were rendering it difficult for him to get stock, was awarded $20,738 damages on November 26. The suit was brought for $100,000.

**Antivaccination in Kansas City.**—The authorities of Kansas City, Mo., have declared against compulsory vaccination, and by repealing the former ordinance have rendered the measure obligatory only when the disease is epidemic.

**Texas State Homeopathic Medical Association.**—At the annual meeting of this society, held at Dallas, the following officers were elected: *President*, Dr. Walter C. Herzil of San Antonio; *Vice-Presidents*, Drs. V. C. Bowers of Greenville, and Walter L. Mitchell of Galveston; *Secretary*, Dr. J. F. Bass of Austin; *Treasurer*, Dr. Lloyd B. Pollock of Fort Worth.

**Pee-Dee Medical Association.**—At the annual meeting of this association, held in Florence, S. C., on November 1 the Society of the Sixth Councillor District was absorbed by the older organization. The following officers were elected: *President*, Dr. J. L. Napier of Blenheim; *Vice-Presidents*, Drs. James Evans of Florence, J. S. Dusenberry of Conway, Lawson of Darlington, and Henslee of Dillon; *Secretary and Treasurer*, Dr. Benjamin G. Gregg, of Florence.

**Hospital Bequest.**—St. Luke's Hospital receives a bequest of $3,000 to endow a bed in the children's ward, by the will of Miss Alice Hamilton, who died on September 15.

**Return of Dr. Koch.**—On October 21 Dr. Robert Koch returned to Germany, after having spent almost a year in travel in the tropics, for purposes of scientific observation.

**Medical Study in Germany.**—According to recently published statistics, the number of medical students has been steadily decreasing in Germany. In the year 1902-1903, the total number of aspirants for medical degrees in all of the German universities was 6,232, which was the lowest figure noted in about twenty years. The maximum was reached in 1887-1888, when 8,513 medical students were enrolled. In 1890-1891 the number of medical students to 1,000 students in all departments was 296; in 1902-1903 the proportion was only 178. In 1892-1893 more students chose medicine than any other profession, but ten years later both philosophy and law were more popular.

**Yellow Fever in Havana.**—Yellow fever seems to be spreading very slowly in Havana. On November 28 twenty-seven cases in all had been reported since the beginning of the epidemic.

**A Tragic Ambulance Accident.**—Dr. Clarence Bartow, a Roosevelt Hospital interne, was killed at Fifth Avenue and Twenty-sixth street, at 1 o'clock on the morning of November 26, by a collision between an ambulance, of which he was in charge, and a large sight-seeing automobile. Dr. Bartow was on his way back to the hospital with an urgent case and the two vehicles came together with tremendous force. The concussion hurled Dr. Bartow to the ground, and his skull was crushed against the asphalt. He was taken to Bellevue Hospital in a cab, but died on the way. Dr. Bartow was twenty-seven years old and graduated from the College of Physicians and Surgeons with the class of 1905. He had been at Roosevelt Hospital only since July 1 The driver of the ambulance escaped without injury.

**Death of Prof. v. Kolliker.**—On November 2 Prof. R. A. v. Kölliker, the nestor of German anatomists, renowned both as an histologist and as a zoologist, died at Wurzburg, at the age of eighty-seven years.

**Sir John Scott Burdon-Sanderson,** regius professor of medicine at Oxford University from 1895 to 1904 died on November 24, at London.

**The Late Dr. A. P. Dudley.**—At a meeting of the New York Obstetrical Society, held October 10, 1905, the president appointed a committee to

draw up a suitable testimonial in memory of their late associate, Dr. Augustus Palmer Dudley, who died July 5, 1905.

"This committee wishes to express the great sense of loss felt by the entire society upon the announcement of his demise, inasmuch as Dr. Dudley was always a congenial companion, of loyal nature and with a high ideal of friendship. His natural abilities contributed not a little to enliven the scientific discussions of our society, and his contributions to the literature of our specialties were always read with gratification and profit. His appointment to several hospitals and to professorships in two medical colleges attest a skill of high order as a surgeon and marked proficiency as a teacher.

"The committee recommends that a copy of this testimonial be spread upon the minutes of the society, and that other copies be sent to the medical journals, and to Dr. Dudley's family, with the expression of deep sympathy from the members of this society for their sad bereavement."

(Signed) Bache McE. Emmett, George H. Mallett, James N. West, *Committee.*

**Obituary Notes.**—Dr. Julius A. Ruge of St. Louis, Mo., died on November 14, at the age of sixty-nine years. His death was due to heart disease. Dr. Ruge was born in Denmark, and came with his parents to this country when he was three years old. He studied medicine under his father, Dr. Charles J. Ruge, and later graduated from the Humboldt Medical College in St. Louis, about 1860. In the fall of 1862 he was commissioned assistant surgeon of the 31st Missouri volunteers, infantry, and served in this capacity until after the fall of Vicksburg in 1863.

Dr. Henry Hobart Maynard of Los Angeles, Cal., died of uremia on November 4 at the age of seventy years. Dr. Maynard was born in Ohio and was graduated from Rush Medical College of Chicago. He had practised in Los Angeles for twenty years, and for fifteen years he was a member of the United States Board of Examining Physicians for Pensions.

Dr. F. H. Hopkins of South Boston, Mass., died at Antrim, N. H., on November 17. He was a graduate of Harvard Medical School in the class of 1903, and had since practised in the peninsular district.

Dr. W. A. McCord of Lewisburg, Tenn., died on November 14, at the age of forty-seven years, after a long illness, due to gastric disease.

Dr. James Montogomery Holloway, one of the most prominent and oldest physicians of Louisville, Ky., died on November 13, at the age of seventy-two years. Dr. Holloway was born in Lexington, Ky., and was graduated from Centre College, at Danville, Ky., being a member of the class of 1855, notable for the number of distinguished men graduating in it. He then matriculated in the University of Louisiana, now Tulane University, being made interne at Touro Infirmary, when he received his degree. After that he studied under Dr. Warren Stone, of the Charity Hospital, of New Orleans, a noted surgeon of that time. At the outbreak of the war he entered the Confederate service as a private, but was almost immediately made a surgeon, with the rank of major. In this capacity he served with distinction in the field for a year, after which time he was placed in control of the Richmond hospital service, where he remained until the close of the war. He then settled in Louisville, where he became very prominent and occupied numerous chairs in the local medical schools. In 1882 he was elected president of the Tri-State Medical Association.

Dr. John I. French of Winchester, Mass., died on November 18, at the age of forty-five years, after a long illness following an attack of grip. He was graduated from the Tufts Medical School and settled in Winchester eight years ago.

Dr. J. P. Aiken, formerly residing at Woodland, Cal., and for several years physician to the soldiers' home at Yountville, died, at the age of sixty-four years, on October 26, at Makawao, on the island of Maui, Hawaii, where he had lived during the last ten years.

Dr. Amouretta M. Beecher, a cousin of Henry Ward Beecher and Harriet Beecher Stowe, died on October 9, aged eighty-six, after a brief illness, at Santa Barbara, Cal. She was born in Connecticut, received a medical education, and became prominent as an educator; for four years, she was at the head of the Hartford School for Girls. Her later life was devoted to charity, with especial reference to the good of her sex.

Dr. Emma D. L. Burd of Yonkers, N. Y., died on November 22 in her sixty-second year. Dr. Burd was born in Brooklyn and was graduated from the University of the State of New York when forty-seven years of age. Her father and grandfather were physicians, and she took up the study of medicine at an advanced age, merely as a hobby.

## Correspondence.

### OUR LONDON LETTER.

(From Our Special Correspondent.)

KING'S BIRTHDAY HONORS—ARMY SANITATION AND FEVERS—INTRATHORACIC DERMOIDS—RECOVERIES FROM INJURIES TO CERVICAL VERTEBRÆ—LUPUS AND RODENT ULCER AND *X*-RAYS—GASTROENTEROSTOMY—DUODENAL ULCERS—NOTIFICATION OF TUBERCULOSIS—WOMEN'S HOSPITAL—ROYAL SOCIETY—OBITUARY.

London, Nov. 10, 1905.

The King's birthday being yesterday, a list of honors appeared, as customary, and contains some names of medical men. Dr. Barr of Liverpool and Mr. A. Chance, president of the Dublin College of Surgeons, received knighthood. Dr. Cargill of the N. Nigeria protectorate is made a companion of St. Michael and St. George, as also Dr. Thompson, for sanitary services under the colonial and foreign offices, and Dr. Armand Ruffer, president of the Egyptian sanitary board. Sir F. Semon gets a step in the Victorian order. Professor McFadyean, principal of the Royal Veterinary College, is a medical graduate and receives a knighthood.

It is not a long list. Allied to it I may add, though not a medical man, Professor Darwin, president of the British Association, who is made K.C.B.

On Thursday, at the Royal United Service Institution, Dr. Leigh Canney delivered a lecture on the scheme he proposed four years ago for the suppression of fever in armies in the field. He entitled his lecture "The Toleration of Enteric Fever by the Army," and in vigorous terms blamed the want of progress in sanitary organization and the prevention of fevers in the Indian and South African armies. He set forth the grounds on which he held that these diseases were preventable in civil and military life. In the late Russo-Japanese war there was, he said, a striking demonstration of the success of the plan he advocated.

The conditions of immunity, he held, were (1) a trained water section, 2 per cent. of strength, non-combatant; (2) a trained sanitary pioneer section of 2 per cent. combatant; (3) expert sanitary officers; (4) training and education of all officers in sanitary matters; (5) responsibility of non-medical officers for executive sanitary work; (6) responsibility of the same for the incidence of enteric, dysentery, and cholera in their units; (7) training of men in the advantages; (8) transport of water sections to be used for no other purpose and to be largely independent of all other transport—reserve fuel to take precedence, when required, of everything except one day's ammunition; (9) establishment of a tradition that it is dishonorable and a crime to use any fluids for drinking purposes which are not approved and allowed.

Dr. Canney admitted the existence of other causes, but regarded them as only subsidiary, and declared that if the liquid avenues of the bacillus were effectually closed there would never be more than a few sporadic cases.

On this point there are many who would enter a demurrer and would say that the admission of sporadic cases being possible under his system shows that there must be other "avenues" than water. Still, if the most frequented avenue were closed, no one seems to doubt that thousands of lives would be spared. There seems, too, reason to fear that Dr. Canney is right in the warning that the lesson of the Boer war has not been learned, and that if it were necessary for our troops to march over the same ground the same disasters would recur. If so, the blame would rest on the politicians—not on the army medical service.

The Clinical Society, on the 27th ult., had an interesting exhibition of cases and specimens, some of which I may name. There was one of intrathoracic dermoid in a woman of 26 who had had a cough for 8 or 9 years and said hair had come up hundreds of times. The sputum was free from tubercle bacilli. Mr. Spencer referred to a specimen in the Westminster Hospital museum and said these tumors usually grew near the thymus—a region of physiological rests. Mr. Godlee said they usually communicated with a bronchus, and if drained did not heal, but remained moist. Mr. Shaw spoke of two having been cured, one by removal and one by drainage. Seven such cases have been surgically treated.

A series of cases of recovery from severe injury to the neck without spinal symptoms, excited considerable interest. In two skiagrams had been shown at a previous meeting, viz., fracture of pedicles of the axis, and one of fifth cervical vertebra. Rotary dislocation of the axis, lateral fracture with dislocation, subluxation of the atlantoaxial articulation, and lateral fracture of the atlas complete this remarkable series. Dr. Fagge remarked that skiagrams of spinal cases were very untrustworthy, so he doubted the diagnoses. One case he thought was caries. Mr. Corner, who exhibited the cases, replied that when two were shown to the society last January the members confirmed his diagnosis.

A Japanese girl of 10 months, with the pigmentation of the Mongolians, elicited the remark that the blue pigment of these cases was in the deeper layer of the corium, began in the fifth month of intrauterine life and often disappears after the second year of age.

Two cases of lupus, which became epitheliomatous after *x*-ray treatment, provoked diverse opinions. A case was quoted in which the same occurrence took place after only three applications. Another in which scraping was followed by epithelioma. It was said, however, by another member that, though this is a rare complication of lupus vulgaris, any variety of cancer may supervene upon any of the gravalomata.

A case of rodent ulcer of eight years duration cured by nine applications of *x*-rays was shown. The president, Mr. Clutton, preferred the knife as a rule, for though the rays did good, he had found the growth usually returned in a year or two.

Mr. Mansell Moullin has given to the Medical Society some account of sixty consecutive cases of gastroenterostomy for gastric and duodenal ulcers. In four cases no ulcer was found. Of the others four had died. In one of them no cause of death was found at the post mortem. In the other three the cause was preventable. Of the remaining 52 cases, 42 were cured, not merely relieved. Many had been under observation three or four years, and their digestion is as good as ever. A relapse of symptoms had sometimes occurred, but only required 24 hours in bed with abstinence of food and purgation. The cases might be classed as those in which there was some mechanical difficulty, as stenosis, and those in which an ulcer was unhealed. In the latter, if a long period of rest was followed by but brief relief, it was no use repeating it and exposing the patient to the risk of perforation. Gastroenterostomy gave a prospect of permanent cure with a mortality less than when perforation had occurred. It was considered better not to excise the ulcer. If symptoms continued, gastroenterostomy might afterwards become advisable.

Mr. Cuthbert Wallace thought the direction taken by the extravasated fluid depended on the position of the patient when the perforation took place. As to irrigation, pathologists had shown that it destroyed phagocytes, and so seemed contraindicated.

In reply to questions and remarks, Mr. Moullin objected to Murphy's button in any case. He admitted that hourglass stomach added to the difficulties, but could be met. Mr. Smith said the liver dullness varied much in the cases

At the same meeting, Mr. Maynard Smith read a paper on "Duodenal Ulcer," based on 13 cases at St. Mary's Hospital since 1900. Ten were operated with six deaths and four recoveries. Two classes of acute perforation were named: one with profuse escape flooding rapidly the peritoneal cavity; the other with slight escape localizing itself for a time in the right kidney pouch, but later further escape took place with overflow into the pelvis. Experimental evidence of the occurrence of this last class was given. The differential diagnosis from appendicitis was considered, and it was stated that both conditions had coexisted in reported cases. Drainage of the pelvis by suprapubic incision and of the right renal pouch by a right lumbar incision was the best method of treatment.

Dr. A. T. Schofield, at the inaugural meeting of the Kensington Health Society on Monday, said that since the National Health Society was started, twenty years ago, no less than eight years had been added to the life of every person in the country. But much more remains to be done, for at least 200,000 needless deaths occur every year. He said many births do not come to the knowledge of officers of health until the registrars furnish the death certificates of the children, because the law permits registration within 42 days, a period which he held legislation should reduce.

The Kensington Council of 1902 put into operation a scheme of voluntary notification of tuberculosis, and offered bacteriological examinations and disinfection after death or removal of patients. The medical officer of health, Dr. O. Dudfield, now reports the comparative failure of the scheme. He has only had one application for examination of sputum in the three years. As to disinfection, 895 rooms in private houses were infected in that period, but only 469 were disinfected. Assistance was refused as unnecessary in 129 cases and as inconvenient in 297. Dr. Dudfield thinks disinfection should be made compulsory, as it is in measles—a less fatal disease. This caused last year 2,261 deaths in London, mostly of young children, whereas the deaths from phthisis were 7,738, of which 80 per cent. were of persons at the working period of life. It is significant as to the inefficiency of voluntary notification, only 27 cases were notified by other than poor law medical officers out of a total of 680 deaths in Kensington in three years.

The Archbishop of Canterbury on Friday opened an additional ward at the New Hospital for Women, which he pronounced a great gain to the forces engaged in the relief of suffering. He knew the value of good nursing and medical care, as he had been laid up for considerable periods. But, he added, hospitals were not only directly useful. They did good indirectly by opening a new world of kindness and helpfulness to people who elsewhere could not have realized it. Even to those who had a good home, illness was not altogether a misfortune, for after recovery patients might often feel they had had a good time and seen a side of life different from the rough and tumble of healthy existence.

Mr. Davies then described the hospital as a monument of the devotion of Mrs. Garrett-Anderson, who opened a dispensary in 1855, which five years later became a small hospital but grew until a larger building became necessary. In 1889 the Princess of Wales, now the queen, laid the foundation stone of a larger hospital, since which a cancer ward, a nurses' home, an operating theater have been added, and now the present extension.

A case of scarlet fever occurred in the cruiser *Challenger*, lying off Chatham dockyard. After some delay caused by correspondence between the town clerk and the admiral superintendent as to whether the port sanitary authorities were responsible for the cost of removal, maintenance of patient, and disinfection of the ship, the crown authorities undertook to pay.

The Royal Society has awarded to Professors Sherrington and Poynting for researches on the central nervous system and on electro-dynamics, respectively

Dr. H. T. Griffiths died last Friday, aged 52. He was a St. Georges and Cambridge student, M.A., 1879, in which year he took the double qualification in London, and two years later his M.B., proceeding to M.D. in 1884. He had been medical registrar at St. Georges Hospital.

Surg.-Lt.-Col. Mulvaney, R.A.M.C., died on Tuesday, age 51. He joined the army service in 1880 and became lieutenant-colonel in 1900.

Col. J. C. G. Carmichael, M.D., of the I. M. S. (retired), died on the 23d ult., aged 60, after distinguished service extending from 1868 to 1900.

Dr. J. Jamieson, M.D., and F.R.C.S., Edin., died on Friday last, November 3, aged 64.

## OUR PARIS LETTER.

(From Our Special Correspondent.)

CONSERVATIVE SURGERY IN TRAUMATISM OF THE EXTREMITIES—SURGERY OF THE PANCREAS—PLASTIC SURGERY OF THE FACE—SURGICAL TREATMENT OF TUMORS OF THE BLADDER—HYPERTROPHY OF THE PROSTATE—CYSTOSCOPY BY DIRECT VISION—EARLY INTERVENTION IN UNILATERAL RENAL TUBERCULOSIS—INTERNATIONAL CONGRESS ON SURGERY.

PARIS, Oct. 20, 1905.

THE French Surgical Association held the opening meeting of its 18th Congress on October 20, in the large amphitheater of the Faculty of Medicine in Paris. This session

was presided over by Dr. Chauvel, Medical Inspector of the Army, assisted by Dr. Walter, Secretary-General. The numerous members of the Congress came not only from the large clinics of the Parisian Hospitals but also from other parts of France. There were besides many foreign physicians who had responded to the invitation of their French colleagues.

The President chose as the theme of his discourse, "The Health of the Army in Its Various Aspects." After some remarks by the Secretary-General, the Congress took up the first question of the day—"Conservative Surgery in Traumatism of the Extremities." H. Nimier especially emphasized the new attempts at conservative therapeutics which are becoming more and more reparative in nature. His conclusion was that thanks to greater facilities of earlier diagnosis, conservative surgery ought now to be able to attain the correction of primary lesions not only by the application of bloodless methods, but, if it is required, by operative intervention practised without delay as soon as the indication presents itself. Professor Le Dentu in the discussion which followed, favored specially conservatism according to the old meaning of the term. He considered the question from various points of view: primary amputation which is necessary only in certain exceptional cases of severe crushing. The speaker declared himself to be in favor of antiseptic irrigations. In case of acute gangrene of large extent, antiseptic irrigations together with the most incessant surveillance of the patient will do much to ameliorate the condition. As to complementary operations, such as osseous resections, autoplasties, and grafts, in spite of the great progress made in these lines in late years, they ought still to have our most careful attention, and no effort should be spared to bring these methods to perfection. Kirmisson, conservative to the extreme, gave a report of his personal statistics which included ten severe traumatisms of the extremities in children, five of the upper extremities and five of the lower, which are treated by conservative methods. Boeckel of Strasburg gave his statistics relating to tardy complementary operations. There were 35 cases, all of which were cured by conservative methods. Paul Delbert insisted upon extreme systematic conservatism especially in the treatment of extensive traumatisms.

The second question of the day was "Surgery of the Pancreas." F. Villar of Bordeaux presented in succession the functional symptoms of diseases of the pancreas and their physical signs. It appeared from this résumé that the diagnosis of pancreatic affections was often impossible and always difficult. From the point of view of special diagnosis of surgical affections of the pancreas, the speaker considered the annular pancreas, spontaneous hernias and displacements, traumatisms of this organ, acute and chronic pancreatic infections, and so on. He considered also the therapeutics of the affections of the pancreas and treated this question in three chapters: First the technique and the general indications for operations in pancreatic affections, then the medical treatment and opotherapy in maladies of the pancreas. He concluded with a study of surgical treatment of pancreatic lesions. Villar considered the best route to the pancreas to be the anterior abdominal or transperitoneal route, with median or right lateral incision. Thus there were three routes open to the operator, the gastrohepatic, the transmesocolic, and the gastrocolic. The last is the most simple and direct. In the course of the discussion which followed, a number of communications were made by Garré of Breslau, Lejars, Doyen, Thierry, Morestin, Cranwell of Buenos Ayres, and Auvray. All of these authorities contributed their personal observations, giving interesting statistics in favor of the special proceeding advocated by them.

Aside from these two questions, other communications were presented to the Congress concerning the surgery of the uterus and its adnexa, the surgery of the stomach, of the intestine, of the rectum, of the appendix, and of the esophagus.

Depage of Brussels presented a communication on "Plastic Surgery of the Face." He discussed the various surgical interventions which aim to overcome deformities or lesions which cause functional troubles. In the discussion which followed, Professor Berger stated that he had for twenty-five years employed the Italian method in autoplastic operations, and he dwelt upon the general and special indications and the contraindications to this method. The general indications were the impossibility of finding at hand the necessary materials for reparation, the fear of the recurrence of the affection in the flaps employed for reparation, and the desire which the surgeon had to spare the patient any disfigurement. As to special indications, Berger thought that in the case of the eyelids blepharoplasty by the Italian method gave truly wonderful results. For the lips chiloplasty by the same method also gave most excellent results. It was otherwise with the nose, for it was only in partial rhinoplasty that one might find any aid. The contraindications above all concerned the age of the patient. The inconveniences were the complexity of operation, the possibility of non-union or of gangrene of the flaps; the generally pale color of these flaps which sometimes contrasted disagreeably with other parts of the face; the fact that the transplanted tissues were not always to be depended upon which made it difficult to utilize them in such operations as those relating to the lobule of the nose.

Broca and Kirmisson took up the discussion concerning the surgery of harelip.

Girard, Doyen, Reverdin, Pozzi, and Campenon, all presented to the Congress interesting communications relative to surgery of the face.

The French Association of Urology held its 9th session from October 5 to 7, Professor Forgue of Montpellier presiding. The following topic was discussed: "The Surgical Treatment of Tumors of the Bladder." Rafin of Lyons advocated intervention by hypogastric cystotomy in all cases of pediculated tumors. Surgical intervention in such cases was far more uncertain in its results when the tumor was infiltrated. Before operating, then, the nature of the tumor should be determined by study of the clinical symptoms, by rectal touch, and especially by cystoscopy. Weinrich of Berlin gave the results which Professor Nitze has obtained by his intravesical method with his operative cystocope.

Motz then discussed the hypertrophy of the prostate from the anatomopathological point of view. The speaker thought that the lesion known under the term hypertrophy of the prostate, was in reality accompanied by atrophy of the prostate, and that it was the periureteral glands which were developed around the prostate which were the true cause of increase in the volume of this organ. It was this that explained the fact that in the enucleation of the prostate by the transvesical method of Freyer the true prostate was left intact with its ejaculative ducts, while the part taken away consisted of the periureteral glands transformed into adenomyomata.

Proust gave a résumé of the operative indications for prostatectomy. He declared himself an advocate of the transvexical route in the larger number of cases; by the method of Freyer—believing this operation to be the method of choice. Nicolich of Trieste, Legueu of Paris, Loumeau of Bordeaux, and Pauchet of Amiens, shared this opinion, while Rafin believed the perineal route to be superior on account of its safety.

Luys finally presented the advantages of cystoscopy by direct vision over cystoscopy with a prism. After showing the instruments that he considered necessary for performing cystoscopy with direct vision,—a simple matter in both men and women—the speaker explained the advantages of this method of examination which allowed a complete examination of the entire vesical cavity. Catheterism of the ureter was made very easy even in cases of highly inflamed bladders. One of the most interesting applications of cystoscopy by direct vision related to the extraction of foreign bodies from the bladder. The speaker reported the case of a patient from whom he had extracted a portion of sound which had been for one month in the bladder.

An interesting discussion followed concerning the early intervention in unilateral renal tuberculosis. Most of the surgeons believed in early nephrectomy as soon as the diagnosis of unilateral renal tuberculosis was made. Finally Nicolish of Trieste emphasized the value of radioscopy and radiography in the diagnosis of renal calculus. Radioscopy gave information concerning the location and the size of calculi.

The first Congress of the International Society of Surgery was held at Brusels, September 18 to 23, 1905. Professor Kocher of Berne, presiding. Among the questions discussed was that concerning the value of blood examinations in surgery. Four reports were presented: two of these were in French by Depage of Brussels and Ortiz de la Torre of Madrid, one in German by Sonnenburg of Berlin, and one in English by Keen of Philadelphia. For the second question, the treatment of prostatic hypertrophy, there were three reports, one in French by Von Rydygier of Lemberg, one in English by Harrison of London, and one in German by Rovsing of Copenhagen.

The third topic treated of surgical interventions in the non-cancerous affections of the stomach. Monprofit of Antwerp, Rotgans of Amsterdam, Mattoli of Rome, and Jonnesco of Bucharest, presented papers in French. Mayo Robson, of London, spoke in English and Von Eiselsberg of Vienna spoke in German. Finally the question of the diagnosis of surgical affections of the kidneys was considered in three papers; two in French by Albarran of Paris and Giordano of Venice, and one in German by Kümmel of Hamburg.

The 8th session of the French Congress of Medicine was opened September 25, at Liège, Bienvenu-Martin, Minister of Public Instruction of France, presiding. de Trooz, Minister of the Interior and of Public Instruction in Belgium, Francotte, Minister of Labor, and Beco, Secre-

tary General of the Department of Agriculture, honored the opening session by their presence. Professor Lepine of Lyons took charge of the program of the Congress. Three important topics were discussed. The first was: "The Clinical Forms of Chronic Rheumatism." Those who spoke on this subject were: J. Teissier of Lyons and R. Verhoogen of Brussels. The next topic was: "Dechlorated Regimes." F. Widal of Paris and L. Beco of Liége spoke on this subject. "The Secretions of the Pancreas," was the third topic and was discussed by Hallion of Paris and Falloise of Liège.

## OUR LETTER FROM CONSTANTINOPLE.

(From Our Special Correspondent.)

OPENING OF THE SEASON—INFLUENZA—OPERATION ON THE SULTAN'S SON—A TRIENNIAL CONGRESS OF LEPROSY AT ATHENS—YALLOVA AS A HEALTH RESORT—HOSPITALS IN TURKEY—DUTIES OF THE MUNICIPAL HEALTH OFFICERS—STRINGENT VACCINATION LAW—CIRCUMCISION IN HONOR OF THE SULTAN'S ACCESSION—PRECAUTIONS AGAINST CHOLERA.

CONSTANTINOPLE, September 30, 1905.

THIS date ushers in the early autumn rains, and conventionally, is the end of the Bosphorus summer season, when the world and its doctors return to town. Not that people go to the country for the benefit of the doctors, but that doctors now go for their share of the pleasures and amusements.

A mild form of influenza was prevalent in the early summer, with the unusual characteristic of superficial tonsilitis. But for the disproportionate debility of the patients so affected the cases might have been considered as ordinary catarrhal sore throat.

His Imperial Highness, Ahmed Effendi, son of the Sultan, was operated upon for hernia—the radical cure—by Dr. Djemil Pacha, in the presence of His Majesty. "In proof of the Imperial confidence in Ottoman physicians, and also in proof of His Majesty's appreciation of the progress of medical science in the Empire under the glorious reign of His Majesty, it was commanded that the operation should be performed by Ottoman surgeons." The operation was completely successful, and the surgeons, physicians, and nurses were rewarded. Dr. Djemil Pacha was promoted to be a marshal of the Empire. The General Dr. Ibrahim Pacha, chief of the Hamidiah Hospital, received the order of the Medjidiah in brilliants, and Dr. Kambouroglou the Imperial order of the Osmaniah; the nurses and other attendants were honored according to their respective positions.

Dr. Zambaco Pacha has notified Dr. Magina, professor in the faculty of the University of Athens, that he has devoted the sum of 10,000 francs towards the organization of a medical congress to be held every three years at Athens. The interest of this sum, 1,500 francs, will be granted to the Medical Laureat of the congress; the subject of the congress, leprosy.

This year the thermal establishment of Caury-Yallova has been conducted by Dr. Sioti with great success, and has attracted a large number of patients. The charges have been reduced, the general service has been extended and improved, and Yallova is becoming a favorite resort for invalids from every part of Turkey and the Greek islands, thus reviving its ancient reputation as a health resort, an account of which was given in a former communication.

The Greek and Armenian communities here have contributed largely towards the extension and further development of their respective hospitals. The Italians are considering the question of instituting a sanatorium for the treatment of tuberculosis, and Dr. Zeri of the Italian hospital went to Italy in connection with this object. The Imperial solicitude for hospitals is well known. They are included in the category of educational establishments, and it is announced that "the strongest desire prevails in Imperial quarters to place them all on a level with similar institutions in western Europe, and that there may be neither doubt nor difficulty about it, His Imperial Majesty has decreed commands to that effect." This boom in hospitals must eventually affect the general medical practitioners. The number of doctors of Turkish, Greek, and other nationalities is yearly increasing, and larger hospital accommodation is being provided, besides outdoor clinics. But the hospitals are not confined to the poor. They nearly all receive paying patients at a rate much lower than that of the fees of the ordinary practitioner.

In spite of the increased and increasing number of doctors, one reads in a local paper "that from the public health point of view the duties of the Municipal Health Officers are innumerable and require readjustment. These doctors are named to the posts with a salary of 500 piastres monthly, immediately after having terminated their studies. They are obliged, at all hours of the day and night, without extra remuneration, to attend the sick, sometimes at many hours' distance. They act as accoucheurs, ophthalmologists, rhinologists, etc. Besides these, they fulfil the duties of medical jurists in case of crime, examine the products imported into the custom houses of the maritime towns, attend sick prisoners, examine candidates for the police, give advice to the municipal council on the food products on sale, vaccinate children, inspect the cities with reference to cleanliness, and, in case of need, do veterinary work, and have to render detailed reports of what they do and see. "It is necessary," then concludes that remarkable protest, "that the multiple duties should be diminished, and, above all, that the municipal doctors should be chosen as good accoucheurs, experienced and able surgeons, and at the same time be able to treat contagious diseases, seeing that one man cannot usefully fulfil all."

An official notice has been issued to the effect that in accordance with the dispositions of the new law of vaccination, no person can contract marriage, or travel in the interior without exhibiting their certificate of vaccination. It would be interesting to learn the results of such a drastic law. It will probably remain a paper law.

On the anniversary of the Sultan's accession, no fewer than 2,026 children were circumcised in batches of 200 or 300, by Dr. Djemil Pacha and his assistants of the Hamidiah hospital. The expense of this rite of childhood is felt by the poor, and it has been the custom in Eastern countries where circumcision is practised, to take advantage of such high occasion to have the children circumcised gratis, *en masse*. The operation is now done with antiseptic precautions. It would be interesting to know the results as compared with the non-antiseptic days, when many untoward accidents followed the operation.

The security that brings neglect of hygiene, has been disturbed by the appearance of cholera in Europe, and by Imperial order, the High Commission of Hygiene are taking measures for preventing the contagion of cholera, and certainly not before they were needed, for the city and suburbs require a thorough purging of accumulated impurities. The instructions formulated are, to say the least, simple though negative. "(1) The principal quarters of the capital to be kept in a state of perfect cleanliness. (2) Municipal agents ought to submit to severe disinfection all kinds of food sold in the streets. (3) Doctors of the different quarters ought to examine carefully the sick. (4) Houses ought not to throw rubbish into the streets." Simple though the instructions are, they would require a hygienic Hercules to carry them out. This refers only to the internal sanitary precautions. The general quarantine board has been fully alive to the occasion, and has only to modify or extend the operations in force against Egypt.

On the day of His Majesty's accession the direction of the Imperial Society of Medicine forwarded the diplomas of the American Faculty of Medicine at Beyrout for distribution, and the prizes of the civil school of medicine were also bestowed.

Dr. Robert Hannington, physician to the Scotch Mission to the Jews for twenty years, has resigned his post in consequence of ill health. His departure is regretted by his special clientêle, as well as by the Anglo-American communities. Dr. G. Post has succeeded Dr. Otley at Robert College, Hissar.

## Progress of Medical Science.

*Boston Medical and Surgical Journal, November 23, 1905.*

**The Use of the Biograph in Medicine.**—W. G. Chase details his experience with this invention with reference to the depicting of pathological motion and notes the experience of others along this same general line. The resources, as to patients, of the Craig Colony were placed at his disposal and he was able to biograph twenty-one separate epileptic seizures, including one case of status epilepticus. For the photographic details of the work [the original paper must be consulted. The author believes that this method of illustration will play an important part in the future of medical teaching. He has been able to secure pictures of one rare case of double nystagmus in which the movements of the eyes are clearly seen. He has pictured a group of rhythmic idiots, each with his individual motion and keeping time to music. An interesting series of photographs accompanies the paper. In some of them the case of status referred to, is pictured in both the stuporous and convulsive stages. When these pictures are passed through the biograph and are magnified by its projection apparatus to life size, the very action of the muscles may be studied.

**A Simple Method of Measuring and Graphically Plotting Spinal Curvature and Other Asymmetries by Means of a New Direct-Reading Scoliometer.**—The method described by G. W. Fitz calls for (1) a scoliometer consisting

essentially of a sheet of transparent celluloid with rectangular graduations and with two level glasses set at right angles to each other for determining the level of both the horizontal and vertical lines of graduation; (2) a black flesh pencil for marking the spinous processes of the vertebræ, anterior-superior spines, clavicles, scapulæ and such other points as it is desired to measure for record; (3) card catalogue cards, 12 by 8 inches, graduated to quarter-inch squares, or 6 by 4 inch graduated to eighth-inch squares (or such other size and graduation as desired), for recording and plotting. Full directions are given for recording with this device the amount of spinal deviation, the measurement of lateral deviation with reference to a true vertical line, the measurement of the lateral contour of the trunk, the lateral displacement of the shoulders in relation to the pelvis, the lateral tilt of the pelvis and for measuring anteroposterior curves and shoulder levels. Several other uses of the instrument are also of value as for instance, recording the lateral or anteroposterior deviation of the head, the level of the eyes, horizontal and vertical position of the arms, etc. Fitz believes that in the hands of an observer of even moderate skill this instrument will furnish a means for a complete study of the significant points in the progress of a case of scoliosis under treatment and will avoid the necessity of using photography for that purpose, even for the demonstration of improvement when showing cases or publishing results since the plotted curves on the cards are equally complete and exact and the measurements themselves are much more definitely comparable.

*New York Medical Journal, November 25, 1905*

**Significance and Management of Chronic Uterine Hemorrhage.**—G. E. Shoemaker analyzes the causes of chronic uterine hemorrhage. Many cases call for surgical intervention which should preserve if possible the pelvic organs and functions. Passive congestion yields to local treatment by support. Boro-glyceride tampons and the correction of constipation are advisable. The author's experience with drugs for the condition noted is unsatisfactory. Until diagnosis is established no systematic treatment is possible. In cases suggesting malignancy examination must be made of a bit of tissue. Bleeding fibroids cannot be expected to stop bleeding simply because the natural time for the menopause may be near at hand. A marked hemorrhage near the time of the menopause calls for careful examination; as it may be due to malignant tissue. Changes in the endometrium associated with bleeding may not be accompanied by any very decided uterine enlargement, and careful examination may fail to indicate their presence. The most common change is a granular degeneration. A proper curetting usually relieves all symptoms. Severe hemorrhages may accompany development of a hydatidiform mole. Malignant degeneration of placental tissue is rare. It gives continuous hemorrhage and the death of the patient rapidly follows. Concealed or irregular cases of threatened abortion or retained placenta may be puzzling. Many patients are unwilling to give a clear or correct history. Extrauterine pregnancy of an abnormal type is a source of confusion in diagnosis as some patients do not show any missed or delayed periods, have no typical tearing pains or collapse, and instead of the brownish discharge have free bleeding so that the case is regarded as one of ordinary miscarriage and the real danger is overlooked.

**Appendicitis in Children.**—Illustrative cases are reported by C. C. Barrows. In his experience the disease is unusually common between the ages of five and twelve years and much more frequent in the country than in the city. Many cases start from a colitis and the disease seems more frequent during the season of unripe fruit. The appendix being a part of the colon does not escape the inflammation existing in that part of the bowel. On account of its slender caliber, the shortness of its mesentery or its abnormal position it fails to get rid of the products of inflammation, and by pressure the circulation in its mucosa is interfered with. It sloughs or is easily infected by the bacteria which infest the bowel. Diagnosis in children is extremely difficult. The patients almost invariably suffer from pain referred to the umbilicus, as a rule are nauseated and have vomiting with constipation. They have a great dread of being moved or touched. From the beginning of the attack abdominal rigidity is present and is a most important point in diagnosis. The question of fever is relatively of minor importance, but a rapid and increasing pulse rate and respiration are of grave significance. At times the disease begins with a well-marked rigor and the author regards this as suggestive of developing rapid gangrene. He considers an increasing leucocytosis with an increase in the polynuclear cells and of the fibrine of considerable help in the establishment of a diagnosis, but insists that we must not exclude the bedside clinical history of the case. As soon as the diagnosis is established prompt surgical intervention is called for in every case.

**Scopolamine-Morphine-Chloroform Anesthesia.**—M. K. Isham reviews briefly the literature of this subject and gives some pharmacological points with reference to scopolamine. She then analyzes the results obtained in thirty-four operative cases under the anesthesia sequence named in the title. The standard dose used was 0.01 grain of scopolamine hydrobromide and one-sixth grain of morphine muriate dissolved in 1 c.c. of distilled water, one, two or three injections were given according to the nature of the operation and the reaction of the patient. More than one injection for a laparotomy caused a degree of muscular contraction which interfered with the operation. One injection two hours before operation gave the best results. In no case was the anesthesia sufficient without the chloroform. The author enumerates the following advantages of the preliminary injections; less chloroform is required, fear is abolished, nervousness and pain preceding operation are lessened, suppression of the stage of excitement preceding muscular relaxation; long duration of sleep following the operation; lessening of nausea and vomiting is exceedingly doubtful; the necessity of an anodyne is not nearly so frequent; no increase in the amount of mucus and saliva; this decreases the troubles of the anesthetizer, and also, which is of greater importance, diminishes the possibility of postoperative pneumonia; it ought also to lessen the nausea and vomiting, absence of albumin in the urine; harmlessness, when used intelligently. Disadvantages are, its variety of action, *i. e.* the variability of reaction in different patients; vasodilatation and consequent hemorrhage, which, however, may be controlled by injections of ergot; muscular contraction; the inconvenience of giving the injections so long before the operation; the interference, in some cases, with sterilization; and the readiness with which both the crystals and the solution decompose.

*Medical News, November 25, 1905.*

**A Pieseometer for the Accurate Determination of Abdominal Rigidity.**—T. W. Kilmer has devised an instrument for this purpose which consists of a delicately tempered and accurately tested spring concealed in the handle of the instrument. This spring is accurately gauged so that it will take so many pounds pressure to press the small knob at the end of the plunger a given distance into the tissue muscle for instance. This plunger is so arranged that it may be drawn out to any distance from one-eighth of an inch to three inches. The metallic disk is used, as it were, as a horizontal line. The index of resistance of a given part of an abdomen is a fraction, the numerator of which is the number of pounds' pressure which it takes to press the plunger up to the horizontal line (metallic disk) into the abdominal tissue. The denominator of this fraction is the length at which the plunger was set. Judgment is required in the use of the instrument as regards the length of the plunger. It may be necessary in a very fleshy person to extend the plunger to the extent of an inch or an inch and a half according to the amount of fat under the skin. Also the plunger must be extended to the same distance in each examination of the same point on the same patient.

**A Case of Perforation of an Ulcer of the Duodenum, with Remarks on the Diagnosis and Treatment of this Affection.**—The patient of C. G. Cumston was a man of forty-three years who for some time had had attacks of epigastric pain coming on an hour or two after eating. One morning immediately after breakfast he was seized with a sharp pain which he located under the liver. Bilious vomiting ensued and in a few hours he was collapsed with tympanitic abdomen. Operation was advised as soon as the first stage of shock had passed away and the abdomen was opened late in the afternoon of the same day. Inspection of both surfaces of the stomach revealed no perforation. The upper part of the duodenum appeared collapsed and just below a large quantity of dark fluid, having an intensely acid reaction, escaped. The diagnosis of a perforated ulcer of the duodenum was made and it was believed to have taken place on the posterior aspect of the organ, because all the portion of the duodenum that could be inspected showed no evidence of perforation. As the patient's condition was very poor, the stomach, transverse colon, and omentum were pulled together with sutures in order to prevent if possible a leaking of the fluid into the general peritoneum, and two large drainage tubes were inserted and the wound packed with iodoform gauze. For the next forty-eight hours the patient remained in a very serious condition, and at the end of this time it was evident that the general peritoneal cavity had become infected and that a general peritonitis was present. Consequently, an incision was made in the median line just above the pubis, the abdomen thoroughly washed out with salt solution and drained by two large tubes. After this second interference the

patient's general condition began to improve steadily and after a very slow convalescence, covering about eight weeks, he finally recovered.

*American Medicine, November 25, 1905.*

**Relation of Stomach Disorders to Diabetes Mellitus.**—John P. Sawyer reports 19 cases which illustrate that much may be accomplished for the comfort and relief of many diabetics by direct attention to the condition of the stomach. Of these 19 patients, 14 gave evident histories of previous dyspeptic trouble, one of alcoholism without dyspepsia, three of slight indigestion, and only two reported a complete freedom from dyspeptic disturbance. As to the duration of the glycosuria, 9 of the 19 have been diabetic for years, 7 for months 1 possibly for a month, while in 2 the period is thought to have been from 1 to 6 weeks. From these considerations, as well as from the clinical history, all may be excluded from the range of alimentary glycosuria. Among them were cases of the severest type, as well as of the milder forms. With reference to the condition of the stomach, 16 show abundant catarrhal mucus, clumpy, sago grainlike in the contents of the stomach; 2 do not show this catarrhal process, and from 1, owing to age and disinclination, no test-meal was obtained. As to motor function, 10 show a considerable failure, and of the 18 cases, the secretion of hydrochloric acid in 8 is increased; 7 show normal proportions, 3 show less than normal or absent. Of the 19 cases, all but 2 show definitely active catarrhal processes, and in every case of the 18 there has been marked subjective benefit—gain in strength, weight, freedom from thirst, and polyuria—gained by direct attention to the catarrhal process. The most striking influence has been observed on the polyuria and thirst. In some cases the percentage of sugar has undergone no change, but there has been in these cases a great reduction of the total excretion of sugar per day, owing to the great change in the quantity of urine excreted, and the clinical course of this group of diabetics has been much more favorable under direct treatment of the stomach than without it. Moreover, the cessation of this treatment has been followed by the recurrence of the difficulty with prompt relief on resuming the treatment directed to the catarrhal process. In most of the cases lavage formed an important part of the treatment, antiseptic and alkaline solutions being used.

**The Ambulant Treatment of Internal Hemorrhoids.**—Collier F. Martin asserts that the treatment of internal hemorrhoids by hypodermic injection has fallen into disrepute among surgeons because it is the accepted method of the advertising quack. The many complications and accidents must not be ascribed to the method itself, but to the unscientific and unsanitary technique employed by this ignorant class of irregular practitioners. It is to be remembered that the injection method is a surgical procedure as truly as the clamp and cautery or the ligature operations, and is therefore not a method to be employed by the general practitioner. The advantages of the injection method are that the patient need not give up his business while under treatment and is not required to take an anesthetic like ether or chloroform. The treatment is usually painless and the complications few if the case be properly handled. The disadvantages are that, in a few instances, the treatment may be a little prolonged, and where the piles are greatly thickened and fibrous they do not completely disappear. For these cases the author usually employs the ligature, operating under local anesthesia. The complications, such as pain, hemorrhage, and strangulation, can be avoided by performing a free divulsion of the sphincter muscles under nitrous oxid anesthesia. This anesthetic is quick, safe, and non-irritant, and the patient need not be confined to bed after the operation. About four days after divulsion, or when the primary soreness has subsided, the treatment by injection may be commenced. He employs a fifty per cent. solution of phenol (Bobœuf), injecting from 7 m. to 10 m. of this solution directly into the center of the pile. The injection is made through a conical speculum, care being taken first to swab off the surface of the pile with an antiseptic solution. The speculum is then withdrawn, allowing the rectal walls to collapse, after which the syringe may be removed. After introducing a suppository containing 3 m. of ichthyol the patient may return to his usual occupation. These suppositories are also used twice daily—one after stool and one at bedtime. Treatments should be given at intervals of from two to seven days and should be continued until all of the hemorrhoidal masses have disappeared. The method, if properly used, is perfectly safe, and when it fails to cure, no harm has been done and one of the other operative methods may be tried.

**Purpura Hæmorrhagica During Pregnancy.**—B. Van Sweringen reports a case of purpura in a young woman of twenty-five, which appeared in the fifth month of her first pregnancy. Hemorrhages occurred from the gums and nose, into the cellular tissue and skin, and appeared in the urine and vaginal discharge. From none of these localities was the bleeding very profuse or serious at any one time. Continuing, however, over a period of two or three weeks, considerable anemia was produced and the prognosis was rendered unfavorable because of the serious nature of the reported cases. Many of these show that premature labor occurs in those who develop purpura during pregnancy, and when this does supervene, death of the mother from hemorrhage generally follows. In Dr. Van Sweringen's case the hemorrhagic tendency subsided, the pregnancy went to term, the delivery was accomplished by forceps and was followed by no unusual hemorrhage, the puerperium being perfectly satisfactory. The treatment adopted consisted of rest in bed, 5-grain doses of calcium chloride with 1 grain of extract of suprarenal gland every three hours and gelatin ad libitum. Several cervical cauterizations in the early months of pregnancy, done to relieve a severe nausea and vomiting, are looked upon as possible causes of the condition because of the purulent discharge which followed. Absorption of infectious material from the cauterized areas seems probable, although no leucocytosis was present. The case is cited to show that the prognosis of purpura may not be so bad as the literature of the subject indicates.

*Journal of the American Medical Association, November 25, 1905.*

**The Influence of Liver Congestion and Cirrhosis on the Splenic Connective Tissue.**—From a study of thirty-eight cases meeting the needed conditions as to age, date of autopsy, well-marked liver lesions and freedom from complicating infections made to determine the causes of the increased splenic firmness in hepatic congestion and cirrhosis, H. A. Christian found that in twenty-eight (73.6 per cent. there was an increase in connective tissue framework following chronic passive congestion and cirrhosis of the liver. In some of the ten cases in which there was no increase in the connective tissue, the liver was equally firm, showing that the consistence is partly dependent on vascular distension, and partly on connective tissue increase. This connective tissue increase is mainly in the reticular tissue of the pulp and with little or none in the white fibrous and elastic tissue. In some cases of cirrhosis, in addition to the pulp reticulum proliferation, there is an increase in the connective tissue about the smaller splenic arteries and in the Malpighian corpuscles. The increased firmness of the spleen found in congestion and cirrhosis of the liver are probably only in part due to simple mechanical hindrance to its circulation.

**Postoperative Pelvic Exudates.**—W. F. B. Wakefield has made a study of the postoperative conditions following pelvic operations, and concludes that exudates or indurations exist, to a greater or less extent, in about sixty per cent. of the patients thus operated on. These are seldom observed until after the woman begins to take up her active duties again, and this perhaps accounts for the scantiness of the literature on the subject which he remarks. He regards these conditions as of extreme importance, and as often tending to a state of invalidism as pronounced as that existing before the operation. After operation there is left an impaired circulation, with more or less venous stasis and edema following, and the presence of a greater or less amount of embryonic connective tissue. If now the patient, at the time when, under ordinary conditions the embryonic tissue is undergoing absorption, resumes her habitual activities, there are exactly the conditions favoring pelvic exudates and indurations. Careful observation has convinced him that these bad results can be prevented by a prolonged convalescence and a very gradual resumption of active life, aided when possible, by general hygienic and local depletory measures. In the former, he includes such measures as tend to improve the general circulation, light massage, alcohol and salt friction rubs, tepid sponge baths, etc. Local depletion at this stage consists in copious hot douches once or twice daily. If, some time after operation, pelvic induration or tumefaction exists, physical exercise must be restricted, the excretory organs, especially the skin, kept active, and local stimulating and depleting measures, the hot douche and the depleting tampon, and the local use of electricity may be beneficial. He has never found incision and drainage necessary.

**Prepernicious Anemia.**—F. W. Langdon has had under his observation during the past decade a number of patients whose chief symptoms were of a distinctly mental and nervous character, but who in the course of time were found to present the characteristic blood conditions and bodily signs of pernicious anemia. In some the nervous and mental symptoms appeared to be secondary to, in others to precede the development of, the anemia. These latter tend to raise again the questions which he says have not been satisfactorily answered: 1. Does the impaired innervation at times lead to morbid functioning of the blood-forming or blood-destroying organs? 2. Does the

blood deterioration lead to the nervous symptoms? 3. Is there a common cause for both? The third question he thinks eventually will be answered in the affirmative. In a few cases he has been able to follow their development from so-called "secondary anemia" to the pernicious type as shown by the blood test. Clinically, these cases collectively have seemed to present a rather characteristic syndrome, the principal features of which are given by him as follows: 1. General ill health. 2. Mental symptoms, viz., intermittent attacks of loss of inhibition, peevishness and gradual mental deterioration. 3. Sensory disturbances: (a) Subjective, consisting of intramuscular and articular dull aches and pains, seldom accompanied by effusion and never by true inflammatory action. With these, and perhaps rather more frequent, are sensations of numbness, tingling and weight in the extremities, especially the legs. (b) Objective sensory disturbances; these are common and consist in patchy losses of pain and tactile sensibility about the feet and ankles. Sometimes there may be only retardation of sensation at first. Tabes is excluded by the other positive and negative symptoms. 4. Plus knee jerks, ankle clonus, and the Babinski sign are sometimes present. 5. Ataxia of gait and station is often present. 6. Diarrhea of the mucous type is apt to occur sooner or later. 7. The peculiar lemon yellow tint of pernicious anemia occurs in the later stages. A combination of all these signs or a majority of them should suggest the possibility of a pernicious or prepernicious anemia, and a careful blood examination may then confirm the diagnosis. Eight cases more or less typical of the condition are reported.

**The Transplantation of Organs.**—Alexis Carrel reports experiments by himself and Dr. Guthrie at the Hull Laboratory of the University of Chicago in the autotransplantation and homotransplantation of organs. At first difficulty was experienced in adapting the organs to the new blood supply by vascular anastomosis, but after a new method of suturing had been perfected, the operation became comparatively easy. A few of the results are given. The kidney has been transplanted into the cervical region of a dog and a comparative study of the urine from the transplanted and the intact kidneys made the third day after the operation. The heart of a dog has been transplanted on to the carotid and jugular of another dog. The heart was beating and the blood circulating through it. With Dr. Guthrie he established an arterial circulation through the right inferior thyroid vein of a dog which had symmetrical hypertrophy of the thyroid glands. Marked changes occurred, and it thus appears that the reversal of the circulation in only one vein of a gland may alter the physiological process. It is possible that we may thus add to our knowledge of the pancreas, spleen, etc. Carrel suggests that organ transplantation may become of importance in a clinical point of view: that perhaps myxedema, idiocy, etc., may be thus modified, and that even heteroplasty with organs of the higher apes may be of practicable advantage. Much more animal experimentation, however, will be required before the method can be utilized on man. While it is impossible to say yet what practical results will be obtained, he thinks it possible and even probable that it will open up new fields in therapeutics and biology.

**Transperitoneal Ligation of Renal Vessels.**—George Walker concludes from a study of the subject that with the ordinary methods of performing lumbar nephrectomy there is danger that the operator may squeeze out tuberculous or malignant material, and thus cause a general infection He gives his reasons for this belief in detail, and in order to prevent such a possibility proposes the following operation: "Do a laparotomy, push the intestines to one side, incise the posterior peritoneum, expose the renal vessels, put a double ligature around each of them, cut between and free the distal end for a short distance. In passing the ligatures it is well to include a certain amount of the immediately surrounding tissue, so as to pass around and ligate the lymph tract, which is not visible, but which runs alongside of and very near to either the artery or vein. The peritoneum is then closed posteriorly, and the anterior abdominal wound sutured in the usual manner. The patient is then turned on his side, and the usual lumbar nephrectomy is done." He notes the objection that the procedure produces two separate wounds, but thinks that the opening of the peritoneum under proper precautions does not add to the mortality of the operation. On the other hand, he believes that removal of the kidney through the laparotomy wound or performing a simple transperitoneal nephrectomy would probably be more dangerous than by removing it by the lumbar route.

*The Lancet, November 18, 1905.*

**Meningitis Caused by Camphor Poisoning.**—The patient of T. H. Walker was a child aged two and a half years, to whom had been given by mistake a teaspoonful of camphorated oil instead of castor oil. When seen by the author, some six hours later, the child was unconscious, with rapid, uncountable pulse, bathed in a cold sweat and in convulsions. Potassium bromide was given per rectum and a small hypodermic of strychnine for the pulse. The patient gradually improved, but on the third day symptoms of meningitis developed. Tincture of gelsemium was given, but without effect, and on the fifth day the case seemed hopeless. Caffeine was injected and after one or two more critical days the child began to improve. From this time he did well, except that the right arm and leg were paralyzed. A slight return of power was later noted in the leg. The author's diagnosis was meningitis from camphor poisoning, with which view Prof. T. Oliver, who saw the case, coincided.

**Diphtheria in a Patient Seventy-nine Years Old With Subsequent Freedom from Gouty Symptoms.**—J. Birt reports the case of a woman of seventy-nine years who gave a definite history of exposure to the disease and in whom he injected 2,000 units of antitoxin. The left tonsil was covered with exudation, the glands were extremely tender, albumin occurred in the urine, and the patient was very ill. Thermometer registered 101 degrees, pulse was 96. She reacted well to the injection, and in a day or two was much better. Clinical diagnosis was confirmed by the culture test. The patient stated that two hours after the injection all the old gouty stiffness and neuritis from which she had suffered for eight years had disappeared. The right tonsil now began to be involved and the antitoxin was repeated. A rash followed the second injection, localized about the site of the latter. It was quickly relieved, however, and the patient went on to convalescence, and on the eighth day from the initial attack was quite comfortable. The point of interest in the case is the fact that in two hours after the first antitoxin injection the neuritis and general goutiness had disappeared and one is led to suppose (according to the author) that this must have been due to either the diphtheria or the antitoxin.

**Bier's Osteoplastic Amputation.**—J. H. Pringle gives his impressions, derived from twenty-four personal cases of this form of amputation, the object of which is to furnish a stump which will bear pressure. This is, according to Pringle, really the only gauge of its utility. He thus describes the method as applied to the middle of the leg. A flap of skin and subcutaneous tissue is cut, preferably from the anterointernal aspect of the limb and reflected with care that there is no damage to the periosteum covering the shin surface of the tibia. Next, three sides of a rectangular flap of periosteum are cut on the shin surface of the tibia, the two lateral incisions being made just beyond the margins of this surface of the bone, and the transverse incision about one and a half inches down from the base of the skin flap. With an elevator the periosteum is raised about one-third of an inch upwards from the transverse incision and then a fine saw is applied and a thin flap of bone, still adherent to the periosteum, is cut from the compact bone of the shin surface. If it consists of the whole thickness of the compact layer of bone it is no matter. Its length must be equal to the transverse diameter of the tibia, but it may be made long enough to cover the transverse surfaces of the tibia and fibula as well. When the bone flap is cut sufficiently long its base is snapped through, but the periosteal bridge connecting it to the bone of the stump is to be most carefully preserved. The bone flap being held up out of the way a short posterior flap is cut; the bones of the leg are cleared and sawn transversely. The prominence of the sharp shin border of the tibia should be removed as well as any irregularities that may be present at the margins of the bone flap. After the vessels are tied the bone flap is sutured by the margin of its periosteal covering to the edge of the periosteum of the bone of the stump and to the muscles of the stump also, so that it flaps down close over the sawn end of the tibia. The results are illustrated by the accompanying illustration. As soon as the wound is healed the patient is encouraged to walk on the face of the stump. At the end of four weeks a wooden pin leg is fixed to the stump by plaster-of-Paris bandages, and the patient is allowed to get up.

**A Case of Advanced Mammary Cancer Treated by a Combination of Operations and the X-Rays.**—The case is reported by Marmaduke Shield and H. L. Jones, their patient being a woman of forty-six. An initial free operation was first performed. Five months later recurrent nodules appeared, and in two months several were removed. Several more were removed two months later. Recurrence still persisted and *x*-ray treatment was begun, for two months twice a week and later once. The patient took five grains of muriate of quinine on the mornings of the days of applications. Within three weeks the patient commenced to improve. The applications lasted ten minutes, the tubes used being of soft or medium hardness and the current between 0.5 and 0.8 milliamperes There was no dermatitis and but little pigmentation.

The face and parts of the arm and forearm were alone protected. The scar tissue all changed in the direction of greater softness and suppleness. In six months the patient was again examined and there was no sign of carcinoma present. The case is reported because, first, now that cancer research is carried on, every case strikingly benefited is worthy of record, and second, because the case teaches that we should not hurriedly assume that all recurrent cancer is hopeless but should avail ourselves of all known reputable methods of relief.

*British Medical Journal, November 18, 1905.*

**Clinical Remarks on the Operative Treatment of Simple Fractures.**—W. Arbuthnot Lane states that it is now more than thirteen years since he devised the operative procedures in the treatment of simple fractures of the long bones, which he has systematically employed with uninterrupted success. He believes that this is the most efficient method at our disposal. The details of the operation are as follows: The skin is first made thoroughly clean. This sometimes takes several days. Moist compresses with careful scrapings are most effective in getting rid of suspicious material. After this a germicide is applied to make the skin as clean as possible. An incision is made which is large enough to enable the surgeon to deal effectually with the fragments. This incision should be made in a place which will involve a minimum chance of damage to important structures, and which will offer accessibility to the wound. The skin should be excluded from the wound by attaching sterile cloths to the cutaneous margins by forceps. After the fragments are exposed they are examined, and when all clots and material intervening between them are removed, they are brought into accurate apposition. Much traction may be necessary, as well as the leverage action of elevators and the approximating influence of powerful long-handled forceps. Strong compression forceps are used if there be any bleeding. When the fragments are accurately apposed, screws, silver wire, or staples, retain them in position. The screw is generally the most efficient; but great care must be taken in drilling the hole to make it the right size for the barrel of the screw, otherwise the bone may be hopelessly comminuted. If much oozing is expected, a drainage tube may for a day or two be employed with advantage. Generally a splint is required after the operation, but in certain cases it is impossible to employ any support. The writer then cites the history of several interesting cases, presenting cuts of the lesions and of the special instruments used.

**A Case of Traumatic Asphyxia.**—W. Sibbald Robertson reports the case of a child three years old, who was knocked down by a cable car and tightly wedged between the "cow-catcher" and the ground. He was extricated with difficulty. At first he was thought to be dead, but he was soon noticed to breathe and his face assumed a bluish-black tint. There was a cut on the forehead which was stitched. There was also an abrasion on the right side of the chest, extending in the anterior axillary line from the upper border of the third rib downwards for six inches, and a corresponding abrasion on the back. The intense blue-black color of the face and neck was far deeper than in extreme cyanosis. The skin was normal below a distinct line of demarcation round the neck at the level of the middle of the clavicles. The discoloration was rather less on the ears, and faded where the forehead met the hair. The skin of the hairy scalp seemed simply congested. Through the blue skin of the face and neck there were shining many minute spots which were most conspicuous near the line of demarcation. Pressure made no difference to the color. There was a lozenge-shaped hemorrhage under each conjunctiva. There were no retinal hemorrhages and the pupils were normal. Vision did not seem to be affected. Nothing abnormal was detected in the heart, lungs, or nervous system. On the eleventh day, the child looking still somewhat swarthy, was discharged. The conjunctival hemorrhages appeared to be unchanged.

**Chloroform Syncope and Direct Manipulation of the Heart.**—T. Rudolph Smith and Wm. Robert Daglish describe this case. The patient, a man sixty-three years old, was put under chloroform for an examination of the rectum for malignant growth. In a few minutes both pulse and respiration altogether ceased, the apex beat could not be felt, the pupils began to dilate, and the face became livid. Three minutes later the abdomen was opened in the middle line and just below the ensiform cartilage, the diaphragm was relaxed, and the heart was reached without difficulty by the fingers and pressed forward against the ribs. The heart was gently kneaded and in about sixty seconds it was beating feebly but fairly regularly. In a few more seconds respiration began. Artificial respiration was then stopped. In a few minutes the wound was closed. Recovery was uninterrupted.

*French and Italian Journals.*

**The Nasal Origin of Lupus.**—Escat declares that the nasal cavity is the constant primary focus of the lupus process. He recalls the law of Audry: lupus of the face always comes from the nasal fossæ; it may be added that pharyngo-laryngeal lupus always descends from the nasal fossæ. Since the nasal cavity is the only one of the upper air cavities where primary virulent tuberculosis is not observed, the question arises, is not the torpidity of this form of tuberculosis (lupus) due to the bactericidal function of the nasal mucus (Lermoyez and Würtz), which makes the nasal fossæ a veritable physiological laboratory for the attenuation of Koch's bacillus. —*Le Bulletin Médical*, October 11, 1905.

**Concerning the Epidemic of Grippe in the Winter of 1904-1905.**—F. Bezançon and de Jong, aside from their own original work, have studied the foreign medical literature on this subject. They refer to their conclusions concerning the rarity of the cocco-bacillus of Pfeiffer and the frequency of the saprophytes of the upper respiratory tract (pneumococci, enterococci, catarrhalis, and so on). Works giving identical results with the ones obtained by these authors have been published at the same time or afterwards by investigators in other countries. They all confirm indisputably the bacteriological conclusions reached by Bezançon and de Jong. In fact the various foreign writers have never found, or at least have rarely found in previous epidemics, the cocco-bacillus of Pfeiffer. They have been impressed, on the contrary, by the predominance of cocci and in particular by that of catarrhalis.—*Le Bulletin Médical*, October 14, 1905.

**Syphilitic Phlebitis.**—Jullien states that far from being a rare complication of this disease, syphilitic phlebitis is often noted at an extremely early stage of the affection. He has observed a case in which the patient was obliged to go to bed on account of malaise and fever, suffering at the same time with violent pain, located in one of the saphenous veins. On examination a rash was discovered. The phlebitis proved to be the first symptom, by means of which the syphilis manifested itself. In another case the beginning of the infection was coincident with a fracture of the leg, which monopolized the attention of the physician and a phlebitis developing on the other side was not interpreted as a syphilitic manifestation until long afterwards. However, when attention was called to this side, the phlebitis served as an excellent guide for the date of contamination. Jullien thinks that this phenomenon often passes unnoticed or else is falsely interpreted.—*La Médecine Moderne*, October 11, 1905.

**Albuminuria and Nephritis in Infancy.**—Ernesto Ballico calls our attention to the much greater frequency of albuminuria and nephritis in babies than is usually recognized. The infant has kidneys that are undeveloped at birth, and they must gradually accustom themselves to the demands of metabolism. The administration of unsuitable foods is a frequent cause of nephritis, and many cases of eclampsia, supposed to be due to teething, are really nephritis. Cold, gastro-intestinal troubles, bronchopulmonitis, infectious diseases, skin diseases producing poisons, drugs administered, and malaria are some of the causes of nephritis. Scleroderma in infants is simply subcutaneous edema. When the mother has nephritis and eclampsia, the child has also frequently albuminuria, the poisons that affect the mother producing alteration in the child as well. In autopsies alterations of the kidneys of all grades of seriousness are found. There are cases in which the ordinary symptom of albuminuria is absent, while tube casts may be revealed by the microscope. The author advises a thorough and accurate urinary examination in all cases in infants.—*Rivista di Clinica Pediatrica*, October, 1905.

**Treatment of Adenitis from Venereal Ulcers.**—Gino Migliorini describes his method of treatment of adenitis resulting from venereal ulcers, which takes the place of excision with its long period of repair. He incises the abscess, scrapes the walls, and cauterizes the interior with chloride of zinc, then tampons with sterile gauze and closes. Or he makes a small opening in case there is none as yet, presses out the pus through the opening, and then injects the sac with nitrate of silver solution, one per cent., and empties it. He then refills the cavity repeatedly until the liquid comes out clear, washes with sublimate and dresses without drainage. This is repeated each day until there is no more pus, then every second day. He claims for this method several advantages over other procedures. There is more rapid cure; more glands are preserved; it is adapted to any case; narcosis is not necessary; it does not result in an ulceration; the depth of the cavity is small after four to eight treatments; the patient can soon come for daily visits only; cicatrices are small; edema of the leg is never produced.—*La Riforma Medica*, October 14, 1905.

# Book Reviews.

The Medical Record Visiting List, or Physicians' Diary, for 1906. New Revised Edition. New York: William Wood & Company.

This visiting list, so well known to the profession, has been revised to increase the amount of matter calculated to be useful in emergencies. Tables of the doses of drugs, the duration of pregnancy, antidotes, solutions for subcutaneous injection, artificial respiration, signs of death, and hints on the making of wills, are among the important items found in the first thirty pages of this pocket volume. In addition to the usual visiting list, there are pages for special memoranda, consultation practice, obstetric engagements and practice, record of vaccinations and of deaths, addresses of nurses and of patients, and for cash accounts. The book is well made, is handsomely bound in flexible morocco, and is of convenient size.

Sobre o tratamento cirurgico do mal de Bright pela Nephrocapsectomia, operaçao de Edebohls. These de Concurso. Francisco Soares Branco Gentil, Chefe de Clinica Cirurgica da Escola Medico-Cirurgica de Lisboa. Cirurgiao dos Hospitaes. Lisbon: Libanio da Silva, 1904.

Professor Gentil's monograph deals with every aspect of the question as to the surgical treatment of Bright's disease, giving a complete review of the entire literature of the subject, including a list of references occupying over thirty pages, as well as the results of personal researches. Naturally, the work of Edebohls is given due prominence, and his technique, as well as the modifications introduced by others, are given in detail. The most interesting part of the book is the personal investigations of Gentil on the effects of decapsulation in animals. He concludes that the new capsule formed over the kidney is more vascular than the old, and that the new vessels (both arterial and venous) supply the parenchyma. The new vessels form within the new capsule, are abundant, and have an important bearing upon the renal circulation. They anastomose both with the parenchymatous vessels and with those of the adhesions forming about the kidney. These vessels do not disappear even after a year after the decapsulation, and the new capsule always remains permeable to these new vessels. The author therefore supports the claims of Edebohls, and his book may be regarded as a defense of the Edebohls operation, although he gives the objections and contraindications to this procedure, quoting various authorities. The illustrations show the steps in the operation and the effect of decapsulation on the kidney. It is unfortunate that the book appeared in Portuguese, as it should be widely read by American surgeons who wish a complete résumé of the subject from the pen of an unbiased observer.

Methods of Morbid Histology and Clinical Pathology. By I. Walker Hall, M.D., Lecturer and Demonstrator in Pathology, Victoria University of Manchester, etc., and G. Herxheimer, M.D., Prosector to the Städtisches Krankenhaus, Wiesbaden. Philadelphia: J. B. Lippincott Company; Edinburgh: William Green & Sons, 1905.

This book may be said to represent for morbid histology what Arthur Bolles Lee's "Microtomist's Vade-Mecum" does for normal microscopic anatomy. It covers both new and old methods of pathological histology, and includes also a chapter on clinical pathology which, however, is merely intended to give the methods employed in clinical investigations which might be useful to the pathologist, who examines the fluids, secretions, and excretions along with the morbid tissues. The subject-matter of the book is arranged conveniently for practical work. The general methods of study of fresh objects, the freezing methods, and the modes of fixation and hardening, decalcification, imbedding, sectioning, clearing, mounting, and staining are first given in sufficient detail for actual work. Next are taken up the special methods, such as staining of nuclei, of cell granules, etc., and finally the staining of special cells and tissues by the various methods specially devised. The methods of staining and examining bacteria, moulds, and other fungi, and the animal parasites, also form useful chapters in the book, though these are not so completely worked out. While the authors disclaim any originality in the work, and frankly state that it is a compilation from various German and English text-books, as well as from the original papers in which the methods appeared, the work contains practical suggestions, which are the result of the authors' own experience. A very useful feature of the book is the index of authors, which appears at the end, and which is very complete. The writer of this review has had occasion to consult this index for a number of references on staining methods, and has found it thoroughly up to date. The book, undoubtedly, will prove both useful and satisfactory in its own field.

The Principles of Bacteriology: A Practical Manual for Students and Physicians. By A. C. Abbott, M.D., Professor of Hygiene and Bacteriology and Director of the Laboratory of Hygiene, University of Pennsylvania Seventh Edition, enlarged and thoroughly revised. Philadelphia: Lea Brothers & Co., 1905.

This work is now so well known that it takes rank with the few text-books that are recognized as standards for the undergraduate study of the subject. In the present edition special attention has been given to the subject of infection and immunity, a field in which far-reaching advances have been made since the appearance of the sixth edition. Students will find in the chapter on immunity a condensed résumé of this difficult and complicated subject, an account of the historical development of this theme, and sufficient bibliographical references to enable them to seek further information in the original sources. Care has been taken to make the nomenclature conform to the recognized standards, and to the suggestions of systematic bacteriologists. The most important advances in technique have been included, although no attempt has been made to give a complete account of all the methods. In all respects the new Abbott is an improvement upon the older editions, while it presents the same satisfactory features that have made the former issues popular.

Elementary Manual for the Chemical Laboratory. By Louis Warner Riggs, Ph.D., Instructor in Chemistry in Cornell University. First edition; first thousand. New York: John Wiley & Sons, London; Chapman & Hall, Limited, 1904.

This is essentially a laboratory manual, to be used under the guidance of a competent instructor. The book begins with a few simple experiments; the author then takes up the study of some representative elements, and shows their acid, basic, or salt-forming functions. The next part treats of quantitative analysis. Here approved methods of volumetric analysis are employed to demonstrate the fundamental laws of chemistry, and to give practice in chemical arithmetic, and in general laboratory manipulation. The student is taught the importance of correct theoretical reasoning, and the absolute necessity of accurate measurement. Modern views of ionization or electrolytic dissociation are used throughout the work in the explanations of reactions in solution. We commend this little volume to the attention of teachers who, with but little time at their disposal, wish to present to their pupils as large an amount of chemistry as possible. The student who has conscientiously worked through this book will have done a considerable amount of thinking, and will, at the same time, have acquired a good training in chemical methods and philosophy.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia; assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital. Philadelphia and New York: Lea Brothers & Co., September 1, 1905.

The present number of "Progressive Medicine" contains articles on Diseases of the Thorax and Its Viscera, Including the Heart, Lungs, and Blood-Vessels, contributed by Dr. William Ewart; Dermatology and Syphilis, by Dr. William S. Gotthcil; Diseases of the Nervous System, by Dr. William G. Spiller; and Obstetrics, by Dr. Richard C. Norris. These articles present a readable and critical résumé of the various contributions that have appeared in the periodical literature during the past year. There are a number of illustrations; and the volume is quite up to the high standard of previous numbers. From start to finish there is not a dull or uninstructive page.

Manual of Chemistry: A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A text-book Specially Adapted for Students of Medicine, Pharmacy, and Dentistry. By W. Simon, Ph.D., M.D., Professor of Chemistry in the College of Physicians and Surgeons of Baltimore, etc. Eighth Edition, thoroughly revised. Philadelphia: Lea Brothers & Co., 1905.

The eighth edition of Simon's excellent text-book, which is well and favorably known throughout the country, has been delayed in order to include the changes and additions of the new pharmacopeia which has just appeared. The changes made in this edition are too numerous to mention here, and it will suffice to say that the book has been thoroughly brought up to date, especially as to the parts on organic chemistry, and on dental and metallurgic chemistry. The book is, in one respect, unlike many others of its kind in that it is intended primarily for students of medicine, dentistry, and pharmacy. A considerable section of the work is devoted to physiological chemistry, including the consideration of the animal fluids and tissues, digestion, etc. The essentials of these subjects are concisely given, and Simon's book will undoubtedly prove of value to students who desire the entire subject of chemistry, organic and inorganic, analytical and physiological, covered in a single volume.

# Society Reports.

## NEW YORK ACADEMY OF MEDICINE.

SECTION ON MEDICINE.

*Stated Meeting, Held October 17, 1905.*

DR. CHARLES H. LEWIS IN THE CHAIR.

**Pneumonia Followed by Pneumococcus Meningitis, with Autopsy.**—Dr. WARREN COLEMAN made this clinical report. The patient was 30 years old and entered Bellevue Hospital July 17 and died September 14. About July 10 she began to suffer from headaches which had been constant. On admission her temperature was 103.2°, pulse 120, and respirations 30. Indistinct signs of pneumonia over the upper part of lower and middle lobes of right side were noticed without any evidences of meningeal involvement. She also had a gonorrheal vaginitis. On July 19 there was a negative Widal and the blood showed 100 per cent. hemoglobin, red cells, 5,184,000, white cells, 10,600. One week after admission the temperature dropped to normal and the pulmonary signs had cleared somewhat. From this time on the temperature was of a septic type, and careful physical examinations failed to assign any cause for the temperature although there was present certain pulmonary signs, but no râles. Voice and breathing signs over this certain area were diminished. August 1 showed hemoglobin 78 per cent., red cells, 4,640,000, white cells, 16,000. Ten cubic centimeters of blood gave the streptococcus in pure culture. On August 6 there was no pain or tenderness in any part of the body. On the 14th the patient became stuporous, with intense headaches, rigidity of neck, and pain on moving the head. On the 16th, the patient was very stuporous but could be aroused. The headaches were continuous and rigidity of neck was very marked. There was a distinct Kernig's sign. Examination of cerebrospinal fluid was negative. On the 19th the pupils became unequal. On September 5, the patient was markedly emaciated. On the 7th, there were 23,000 whites and on the 8th the cerebrospinal fluid was found to be bloody. Cultures at this date showed the pneumococcus. On the 13th, there was strabismus with coma. The white cells were 16,600 and the reds, 2,552,000. Death occurred on the 14th. At autopsy there was found a great excess of cerebrospinal fluid and the pia mater over certain parts was very much thickened. There was a marked difference in the size of the cerebellar hemispheres and of the occipital lobes. The diagnosis at autopsy was healed (?) suppurative meningitis.

**Primary Carcinoma of the Pancreas with Metastases in the Liver, Vertebral Column, and Calvarium.**—Dr. Coleman reported a case of a patient, 30 years old, a driver, recently a porter, who was admitted to Bellevue Hospital July 24 and who died September 16. There was no cancerous history in the family. He drank a quart of beer a day but no whiskey. On July 1 his neck began to grow stiff and painful and he discovered a lump just below the occiput. About July 7 he complained of pain in the left upper quadrant of the abdomen which was constant and bore no relation to meals; the abdomen was somewhat swollen. On July 20 the lump on the side of his head was very tender. On admission to hospital the patient was pale, somewhat emaciated, and slightly jaundiced. He lay in bed with neck rigid and had difficulty in rotating the head. At the level of the third cervical spine was a hard mass. The abdomen was greatly distended, the enlargement being uniform. There were no evidences of venous obstruction. The liver extended from the fifth rib to two and one-half inches below the free border in the mammilary line. Its surface was smooth. The liver gradually increased in size, and during the last week of life nodules could be made out indistinctly on its surface and its edge became quite irregular in outline. The abdominal veins did not become distended. The nodule over the frontal bone became larger, softer, and more tender. The head movements beame more and more difficult. Hypertrophic cirrhosis of the liver was the obvious diagnosis, but there were no evidences of venous obstruction and the jaundice was very slight and soon disappeared and the spleen could not be made out as enlarged at all. The rapid enlargement of the liver and the changes in the nodules upon the head and neck made it evident at last that the case was one of neoplasm with metastases in the osseous system. A diagnosis was made of hypernephroma upon the uniform and massive enlargement of the liver, the absence of marked emaciation or cachexia, and the spinal metastases. The autopsy was performed three days after death. The liver weighed eleven pounds and eight ounces and the surface of both lobes were thickly studded with nodules; the left lobe was almost entirely converted into a mass of tumor nodules many of which were umbilicated. The spleen was normal. The pancreas had a tumor mass in its tail about the size of an apple. The calvarium was the seat of tumor metastases, one over the frontoparietal region, the other in the region of the posterior fontanelle. They infiltrated the entire bone, were soft and succulent in their internal aspect. The third cervical vertebra was the seat of metastasis. There was also a fusiform metastatic deposit in the eighth left rib as well as in the third lumbar vertebra. The anatomical diagnosis was carcinoma of the pancreas, with metastases in the lymph nodes and the osseous system.

Dr. L. F. BISHOP, in discussing the first case, reported one of a similar nature that he had seen a week before. A strong previously healthy Italian was seen at twelve o'clock. He complained of pains in the muscles and all over the body with rigidity of the back of the neck, evidently a case of meningitis although not of marked severity. Instead of the condition proceeding as it usually did the patient became worse, maniacal, and died twelve hours after admission to the hospital. The coroner came unexpectedly and the Junior was called upon to make the autopsy. Smears from the spinal cord and brain were made too late to be satisfactory. There was present meningitis, very much conjested but no pus and he believed the case to be one of pneumococcus meningitis.

**Essential and Paroxysmal Tachycardia.**—Dr. JOHN J. MORRISSEY presented certain observations on tachycardia (see page 891).

Dr. W. H. KATZENBACH remembered seeing a case of tachycardia in which the pulse rate was 240, and had been counted several times by different observers. He recognized the fact that it was difficult to count pulses above 180 or 200.

Dr. EGBERT LEFEVRE said it was possible to relate a number of cases of abnormal cardiac rate due to a number of conditions. For years the loss of pneumogastric control had been the theory most accepted, but after comparing the treatment and etiological factors it had been found that this theory did not hold. He referred to two cases in which there was well marked reflex irritation. He had seen three physicians with this condition. In two cases the irritation was from a calculus in the pelvis of the kidney; in another case it was due to the passing of a gallstone. For some time before the colic came on there were attacks of tachycardia. Cases had been traced to marked reflex irritation due to an unstable nervous system. At the meeting of the American Medical Association in Saratoga some time ago Dr. Hare advocated in cases of tachycardia a combination of tincture of aconite and digitalis on the theory that aconite increased the inhibitory action of the pneumogastric. The action of digitalis upon the heart muscle was still a question. In cardiac neuroses the combination worked very well. This condition was becoming more frequent and he did not think as formerly was merely a neurosis. It was probably some disease of the myocardium affecting the cardiac ganglia, and, in all probability, the neuromuscular system was affected primarily.

Dr. L. F. BISHOP said that he had seen a woman only last Friday who had right hemiplegia associated with aphasia. The case was one which was considered to be of

no particular interest. On Monday evening following she developed rapid heart action and on Wednesday the pulse rate was 200. The heart was feeble but the sounds were clear and regular. The patient did not seem to be very uncomfortable. The interesting point was the possible connection between tachycardia and the right hemiplegia. He thought there was some nervous accident whereby inhibition had been thrown off, allowing the heart to run away.

Dr. JOHN J. MORRISSEY said that myocardial degeneration of the heart was at times accompanied by tachycardia which became quite prominent and should be treated. Oftentimes tachycardia occurred in people who became quite nervous; this was denominated "heart hurry." In examining certain persons for life insurance this heart hurry often developed but before the examination was over passed away and the heart resumed its normal rate. There were other cases in which the heart hurry continued for some tme after, and he called partcular attention in that he believed that they pointed to an early development of an interstitial nephritis, a point he had never seen alluded to.

**Exploration of the Chest and Physical Signs in Beginning Pulmonary Tuberculosis.**—Dr. GEORGE MANNHEIMER read this paper. He said that the diagnosis of beginning pulmonary tuberculosis was a very difficult matter. It had to take into consideration in the previous and present history of the patient, it attached importance to minor symptom and combinations of symptoms in the general status, it required a most minute examination of the chest, and took cognizance of signs that seemed trifling to the inexperienced. By inspection and mensuration we ascertained the shape of the thorax, local flattening and retraction, the circumference of the chest and its relation to the height of the patient, which should not be less than one-half the maximum expansion, which should be at least 5 cm. The acromial ends of the clavicles should be on an even plane and higher than the sternal ends. The movements of both sides of the chest should be compared by looking over the shoulders of the patient, or from below upwards, or tangentially across the chest, and by watching the angles of the scapulæ. When the diaphragm phenomenon could not be observed in the usual way the fluoroscope would reveal it. The reader gave directions for palpation and directions for determining the extent of expansion. He said that the art of percussion and auscultation had made little progress during the last decades. At present we had arrived at a stage where we had different names for the same sign and when we came to the interpretation of that sign we were at sea. A uniform terminology was needed, stating as nearly as possible what the various signs sounded like, and a more thorough knowledge of the mechanism of their production should be gained by studying the corresponding lesions on the cadaver. Everybody percussed differently. Most physicians had accustomed themselves to the use of one method to the exclusion of others. Where physical signs were marked any method would reveal them, but where they were doubtful methods should be varied. In doubtful cases one should use not only finger-finger percussion but also pleximeter-finger or plexímeter-hammer percussion, also touch percussion and auscultatory percussion. One form of the latter, thoracic transsonance, percussing on the clavicle and listening in the supraspinous fossa, gave a short and dry note in case the corresponding apex was indurated. He considered the time-honored finger-finger percussion the best all-around method. For the detection of amphoric resonance nothing was better than the so-called pleximeter-rod percussion. One should percuss both during inspiration and expiration. Interspace should be compared with interspace and both light and strong blows should be used. One should not percuss too long over one area, as it led to confusion. He practised percussion on the hooked finger, as it imparted very well the sense of resistance. The most satisfactory way to percuss the apices was to stand behind the sitting patient, who kept the shoulders slightly bent forward, absolutely quiet and the hands resting on the knes. The most reliable way was that recommended by Koenig of Berlin in 1889. When the tuberculous process advanced below the clavicle, the percussion not very commonly became hyperresonant or vesiculo-tympanitic. The loudness of this must not be taken as normal, but should arouse our suspicion. Light percussion in the recumbent position revealed the additional dull quality and increased resistance. Compensatory emphysema around a healing or healed lesion might obscure the interpretation of these signs. Auscultation would help to clear any doubt as to which was the diseased side. As to how large a focus must be to be amenable to detection by percussion, Oestreich's very careful and extensive observations had shown that a single solid focus underneath the pleura must have at least the size of a cherry, and a conglomeration of foci each the size of a pea. It was especially in the area of the pamus apicalis posterior of a bronchus that the first symptoms were found which consisted in a change in the character of the breath sounds and not in the appearance of râles. He who waited for râles before he made up his mind that he was dealing with incipient tuberculosis missed his or his patient's chance. The normal vesicular murmur became rough instead of being heard as an even continuous breezy sound; it would be perceived to consist of a series of short puffs, following each other in rapid succession. It might be loud or low. It was heard principally during inspiration at the apices and presupposed areas of normally functionating tissue permeated by small foci of consolidation. Interrupted breathing was one of the easiest signs to recognize. It might be heard over the entire lung in patients with pleuritic pain, or in excited, embarrassed, or shivering patients when it had no significance. The second most common change in the respiratory murmur of a tuberculous apex was a diminution of its intensity. In our text-books stenosis of the small bronchi by catarrhal swelling was held responsible for a large array of auscultatory signs. He found that not only the rough, the diminished, and the interrupted breathing were ascribed to it, but also the increased vesicular, the broncho-vasicular breathing, prolonged expiration, and all sorts of râles. This universal explanation for such diverse phenomena was very unsatisfactory. Most râles were large, median, or fine. In apex disease they were usually fine. When large they meant cavity formation. They might then be at the same time consonant or ringing. This distinction between consonant and non-consonant râles was not sufficiently brought out in the American text-books and not duly appreciated by many practitioners. They had the same significance as bronchial breathing and bronchophony. In searching for râles we should auscultate beyond the margins to be found by percussion during quiet breathing, and we should not forget the cardiac area. The term subcrepitant râles should be abolished, as no two physicians would agree as to their nature. Small exudates or pleuritic thickenings at the posterior bases were frequently present without giving subjective signs; they were of diagnostic importance and should be searched for. We had to guard aganst mistaking for râles those sounds produced by the rubber of hair under the stethoscope, certain esophageal sounds, etc. If heart sounds were distinctly heard in circumscribed areas of the lung distant from the heart, local infiltration might be suspected. Râles were elusive; where their recognition was of great diagnostic importance it would be necessary to examine the patient in the morning on waking, before he had cleared his air passages, or he utilized methods that tended to increase secretion in the respiratory tract. Any sputum furnished in this way was carefully examined for elastic fibers and tubercle bacilli. It was necessary to make the sputum homogeneous by any of the various methods devised for the purpose. It should be centrifuged and the sediment examined. The positive findings at the Bedford Station Sanatorium had become much more numerous since the house staff had adopted the sediment method at his suggestion. He emphasized the

great diagnostic value of tuberculin. Signs of local reaction should be searched for along with the general. Vocal resonance and vocal fremitus were usually tested together. Bowles' stethoscope revealed the bronchial whisper better than the ordinary bimanual. He said it was well to remember that although dullness of percussion, bronchial breathing, consonant râles, bronchophony, bronchial whisper, and increased fremitus were equivalent signs for the diagnosis of an infiltration, they needed by no means occur together in a given case, but any one of them might be heard alone and would point to future development. Another point to be remembered was that there existed normal difference between the right and left side. In view of the difficulty of making a diagnosis of incipient tuberculosis, as a rule it should not, and in many cases it could not, be made after one examination, for the reason that it was based in the anamnesis and general status, on certain physical signs which were localized to a circumscribed lung area and which were persistent. This imposed upon us the duty of repeated examination, the intervals between which were useful for the purpose of ascertaining the temperature and examining the sputum.

Dr. Egbert LeFevre said that nearly twenty years ago a meeting was called by Dr. Quimby, where physicians from different dispensaries brought patients with well marked physical signs. These patients were placed in different rooms about the academy and all the physicians took turns in listening and then wrote down the name of the sound they heard, and also were asked to interpret the sound. It was found that hardly two men called any one sound by the same name, although they were unanimous as to its significance. He spoke of the chaotic condition of the nomenclature, but until writers of text-books got together and were brought into closer contact one could not expect order. With regard to percussing the apex, he said that the method of Koenig had gone through different languages, had been discovered and rediscovered. It had never had widespread acceptance as a method of examination. It was difficult to map out the apex of the lung with any degree of accuracy, although areas of resonance over the lung could be. Most text-books taught that a wider area was to be obtained in full inspiration than in expiration; if a full breath was taken, the muscles were held rigid, the clavicle was elevated and the area of resonance was narrower than at the time of quiescent respiration. If a deep inspiration was taken and then the muscles of respiration relaxed, there would be a ballooning out of the apex and there would occur an increase in the resonance, and one would be better able to judge to what extent the apex of the lung was distensible. He referred to the proper interpretation of the physical signs, and believed that the physicians were trying to place too much pathological and etiological significance to the various physical signs encountered. It was the anatomical condition of the lungs to which we should direct attention. The physical diagnosis of incipient tuberculosis had its limitations. Reversal of opinion had happened again and again, but since the introduction of clinical methods more hard and fast diagnoses were being made.

Dr. Alfred Meyer said that it was a good thing to have ideals, even though we never expected to attain them. It was in that spirit that the paper was written. It was a good illustration of the non-obtainable. It was not necessary to have every one call the physical signs by the same name, so long as their significance was understood. The botanist had greater difficulty in recognizing the description of flowers by the sense of smell than the physician had in recognizing the physical signs in the chest from their description. So far as making a diagnosis of incipient tuberculosis was concerned, it was important to remember that we erred in using too forcible percussion. He advocated the use of the light stroke. He advised that men plug their ears with cotton in order to exclude hearing and learn to recognize such an entity as feeling or resistance from whatever cause. He then described the method by which he mapped out areas of resonance. Adventitious signs might appear when the patient coughed. If in doubt as to the presence of adventitious signs at the apex, he advised auscultating the heart with the patient not breathing, and immediately after shifting the stethoscope to a point over the apex. In summing up all the evidence, he said there still would be a certain number of cases in which one could not say that tuberculosis was present. In reference to finding the bacilli in the sputum, he offered certain figures obtained from the Bedford Sanatorium. The sputum was examined in 43 cases 312 times with negative results. Then the method with caustic soda and sedimentation was tried, and only five gave positive results after eighteen examinations.

Dr. E. Libman spoke of the difficulty of properly interpreting sounds. He said that too much stress was laid upon the lungs as such and not upon the rest of the body in the diagnosis of incipient pulmonary tuberculosis. The glands above the clavicle should be more often examined. He mentioned the method of finding the tubercle bacilli by centrifuging the sputum and shaking with formalin and alcohol. In this way the tubercle bacilli could be found when otherwise they could not. This was the method of Quensel, the Norwegian.

Dr. Charles H. Lewis said that he was skeptical as to one's ability to make a diagnosis of incipient pulmonary phthisis on examination of the apex alone; there must be clinical symptoms as well. In going over the chest in these suspected cases one should make very careful notes and know exactly the condition, so that when the patient returned for other examinations he had data for comparison, and which no man seeing a case for the first time could have.

Dr. George Mannheimer said that in making a diagnosis of pulmonary tuberculosis in its earliest stages every detail should be studied. At Bedford Sanatorium boiling the sputum with caustic potash had been tried, but he had tried mixing it with a five per cent. carbolic acid solution. This he believed to be a good method, because the carbolic acid broke up all the mucus and did not interfere with the subsequent stain by carbol-fuchsin.

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SECTION ON SURGERY.

*Stated Meeting, Held October 6, 1905.*

Dr. Samuel Lloyd, Chairman.

**Suppurating Mesenteric Cyst, Sinus Six Months after Operation.**—Dr. C. A. McWilliams presented a woman who had been admitted to the Presbyterian Hospital April 1, with the following history. She was 50 years old and her menstrual history was without interest. Ever since she was a child she had attacks of pain in the lower abdomen which left her after a few hours and which was relieved by lying down and warm applications. When 18 years old a professor in Bresden advised operation for supposed tumor of the uterus, which was refused. The attacks continued more or less ever since. The abdomen at these times was prominent in its lower half, but not markedly so until two weeks before she presented herself, when she felt cold and sick. The abdominal pain was in the lower right quadrant. For several days prior to admission she complained of chills, fever, and sweating. The bowels had moved every day during the acute attack and was entirely mucous. Urination was accompanied by severe pain in the lower abdomen. A little before one week prior to admission she discovered a tumor in the abdomen which gradually increased, rapidly in the past day or so. Her temperature was 104° and pulse 120. The patient did not appear to be ill. The abdomen was prominent as though it had been ballooned out by a mass beneath. It extended higher in the right iliac fossa than in the left. It was tender, particularly in the right flank. The surface of the mass was smooth and elastic. When pressed upon

through the abdomen no impulse was felt *per vaginam*. Rectal examination was negative. The diagnosis was extremely difficult. His own belief was that there was an ovarian cyst with a twisted pedicle. The house surgeon believed it to be appendical abscess. Operation was immediately performed. When the peritoneum was opened a large cystic tumor was discovered lying between coils of intestines and covered by peritoneum, extending to the left side down to the left iliac fossa and the right flank. It was as large as an adult head. With cannula and trocar 2,500 c.c. were removed. The opening into the cyst was enlarged and its cavity was found to be immense, extending to the diaphragm, behind the stomach, down to the left iliac fossa and extending to the pelvis on the right side. No attempt was made to extirpate the mass, because it seemed absolutely impossible to do so. It was a mesenteric cyst, and the intestines were so firmly attached that any attempt at removal would have probably been followed by gangrene. The wound was drained and an uneventful recovery followed. The examination of the fluid gave the following: The fluid separated into two layers on standing, the lower portion making up two-thirds of the sample, and was heavy, yellowish, and white in color. It was alkaline in reaction with a specific gravity of 1.018. No reducing bodies were found with Fehling's solution. Polymorphonuclear pus cells were found. The culture showed bacilli that stained at both ends but did not look like pathogenical bacteria. The point of interest in the case was the discharging sinus. The withdrawal of the tube was followed by a collection of fluid in the left iliac fossa the size of a grape-nut. The replacement of the tube was followed by a disappearance of the collection. He wondered if the cyst was going to heal. If it did not heal internally he did not know what further could be done. So long as the tube was kept in it drained well.

**Endothelioma of the Jaw.**—Dr. A. V. Moschcowitz showed a patient who had been recommended to him in May. A swelling was noticed in the lower jaw eighteen months prior to the time he consulted him. He paid but little attention to it. The patient was a steward aboard a steamer. When he examined him he found a swelling the size of an egg occupying the left half of the lower jaw, covered by bone similar to parchment paper often found in malignant growths. The portion of bone covering it was seen to be filled with fluid and was believed to be a cyst. Only two diagnoses were considered, echinococcus cyst and an ordinary cyst. The tumor was aspirated and a fluid containing albumin was withdrawn. On June 18 he was sent to the hospital and an incision was made in the mucous membrane to resect the entire outer wall with the intention of suturing the posterior wall lining to the external mucous membrane in order to obviate the long period of healing. After resecting the wall the small tumor appeared, which determined him to change his course of procedure. The specimen was sent to a pathologist, who pronounced it to be an endothelial sarcoma. It took a long time to granulate and heal. Some of the posterior or bony wall became exfoliated.

**Enteric and Mesenteric Cysts, with Report of an Unusual Case.**—Dr. James C. Ayer read this paper. He said that cystic tumors occupying the lumen of the intestinal canal were of such rare occurrence as to make them of pathological interest rather than of surgical importance; yet the possible origin of certain of these cysts would seem to classify them with other tumors similar in character but different in location, which, from their comparative frequency, rendered them of practical importance to the surgeon. After a careful search of literature he had been able to find but one case at all resembling the one that he reported. He related the history of the patient, a male, 23 years old, who at the time of operation had a temperature ranging from 97.5° to 99.5°, pulse between 100 and 116, respirations between 20 and 28, blood count, 4,000,000 red cells and 15,000 white cells. The differential count gave 85 per cent. polymorphonuclear cells, 8 per cent. large lymphocytes and 7 per cent. small lymphocytes. No tumor could be made out by examination, though there was tenderness at McBurney's point. The case was diagnosed as one of recurrent catarrhal appendicitis. At the time of operation inspection showed that the lumen of the cecum was occupied by a mass as large as a duck's egg and of similar shape. The mass was tense, fluctuating, and smooth, and that portion of gut wall opposite the mesocolic attachment was freely movable over it. The cecum was opened by an incision parallel to its circular fibers and the tumor delivered. It was covered by what appeared to be congested, eroded, and transformed mucosa. It was apparently sessile over about one-fifth of its surface, that portion being attached to the mesocolic border. The lower extremity lay free in the cavity of the cecum. The ileocecal valve was found to be patulous, the upper half being fused with the outer covering of the tumor. The upper end was more sessile than the lower, and terminated in a sort of funicular process, about two inches in length, lying in contact with the mesocolic wall of the gut. An incision through the presenting wall of the tumor in the line of its longest diameter resulted in the evacuation of from three to four ounces of a clear viscid fluid, which was not saved. The cavity of the cyst was lined with a smooth glistening membrane of a grayish color. The cyst wall was three sixteenths of an inch in thickness, firm, hard, and somewhat friable on its outer surface. The interior lining was smooth and firm, conforming in shape to the outer surface except that it did not extend into the funicular process at the upper end. At the point of attachment there was a pocket extending for about two inches between the layers of the mesentery of the ileum. On account of the firmness of its incorporation with adjacent structures no attempt was made to enucleate the cyst. The free portion of the cyst wall was trimmed off to within a quarter of an inch of its point of fusion with the gut. The wound was closed in the usual way, and the patient recovered. The excised portion of the cyst wall was lost, unfortunately, so he could not give the results of a pathological examination. In order to arrive at a definite conclusion as to the origin of this cyst he briefly reviewed the question of cysts of the intestine, mesentery and general abdominal cavity in the light of recent pathological investigations. The subject resolved itself into two classes, cysts of the gut and cysts of the mesentery. The reader reviewed the classifications of Braquehaye and Moynihan. Dowd had made a simpler classification of mesenteric cysts into embryonic cysts, hydatid cysts, and cystic malignant disease. Dr. Ayer had adopted Dowd's arrangement but had enlarged it to include cysts of the intestine itself. There were minor amplifications which had been suggested by reports of recent cases. He considered: (1) Cysts arising from the glandular structures of the intestinal wall. These cysts originated in an occlusion of the mouths of the intestinal glands, following some inflammatory process, generally a chronic enteritis or colitis. These cysts were generally multiple and varied in size from one to four cm. in diameter. They might occur in any portion of the colon or small intestine, but were generally found in the former. The morphology of the submucosa would indicate the possibility of retention cyst formation in that structure, although it was doubtful if cysts originating here could be differentiated macroscopically from cysts of the mucosa, unless they were of very small size. (2) Parasitic cysts (hydatids). He said that these might occur in the mesentery as well as in other parts of the body, and should be considered as primary in the structure in which they were found. He had no record of this kind of a cyst, though Nannotti had collected twenty-nine cases and Psaltoff and others had made similar observations. This form of cyst was due to the growth of the tænia echinococcus, and the diagnosis was generally made by the peculiar, laminated character of the cyst wall, and by the finding of scolices or hooklets in the cyst cavity. The scolices were often absent. The normal echinococens fluid was clear or slightly opalescent, sometimes turbid from

admixture of disintegrated scolices or fragments of the parenchymatous layer. It contained no albumin, but sodium chloride, succinic acid, ptomaines, and toxins. Its specific gravity was 1,000 to 1,015. (3) Embryonic cysts. These originated from remains of fetal organs; from snared off portions of the intestine; from sequestrations of portions of the various retroperitoneal organs and from dermoids. Under this heading belonged the major part of the cysts found in the abdominal cavity. In this connection he mentioned those extremely rare congenital cystic tumors of the abdomen which contained a more or less well developed fetus. He then considered the etiology of each of these at length. (4) Cysts of the normally placed retroperitoneal organs. He said that instances of these cysts were very numerous. The pancreas was the most likely to give rise to a mesenteric cyst. (5) Cystic malignant disease of the mesentery or intestine. This was of rare occurrence, only a few cases being on record. In regard to the diagnosis of the nature and method of production of the cyst in the case that he had reported he said that he was obliged to arrive at his conclusions by a process of elimination in the absence of histological details. From the presence of the curious diverticulum of the cyst which lay between the layers of the mesentery of the ileum he concluded that the cyst was either mesenteric or retroperitoneal in origin. This, together with the thickness and density of its walls, excluded it from cysts originating from the mucosa or submucosa of the gut. The clearness and homegeneity of the fluid excluded it from cysts of hydatid origin and also excluded a dermoid. Cystic malignant disease was also excluded for obvious reasons. This left to be considered embryonic cysts and cysts of normally placed retroperitoneal organs, of which the latter could safely be thrown out as there was no organ in the vicinity to give rise to such a cyst. It could be excluded from embryonic cysts arising from ductus omphalo-mesentericus on account of the relation of this cyst to the ileocecal valve and the position it occupied in the lumen of the colon and mesentery. The walls of the cyst were not suggestive of a snared off portion of the intestine or a cyst arising from Remak's diverticulum or from an atypical diverticula. This left but two varieties of embryonic cysts, those due to fetal rests and those due to sequestrations. He was inclined to throw out the latter because the "rests" were a more frequent source of cysts than were sequestrations. Recognizing the tendency of these "rests" to undergo cystic degeneration, and postulating the existence of such a process in the present instance, it was not difficult to conceive the chain of events beginning with a tiny retroperitoneal "rest" *in fœtu* and ending with the same structure, which had undergone cystic degeneration and became many times enlarged, and had migrated between the layers of the mesentery during the development of that structure as far as its attachment to the gut, there pushing before it the structures forming the wall of the intestine and eventually lying within its lumen.

Dr. Charles N. Dowd said that the subject under discussion had two distinct kinds of interest, first, the surgical, and second, the embryological or etiological, the latter purely a scholastic one. The diagnosis of mesenteric cyst ws seldom made, yet it was a condition that all should bear in mind, and many explorations were made with the feeling that the condition encountered might be mesenteric cyst, which would necessitate a change in the procedure. The etiology was interesting to consider, and he believed that embryonic cysts embraced a large proportion of the cases and they involved structures of various organs in a remarkable way. In one instance there was supposed to be a multilocular ovarian cyst, and yet the cyst was found in the transverse mesocolon, an ovarian embryonic sequestration.

Dr. Warren S. Bickham referred to an experience he had with a patient who weighed over 300 pounds, with a fatal termination and without the recognition of the condition prior to death. So much adipose tissue precluded any successful efforts at examination. This patient complained of intense pain and soon become unconscious, and, when he saw him, was practically pulseless. There was nothing to indicate the source of trouble except a history of pain. While preparations were being made for abdominal section the patient died. The post mortem revealed a tumor the size of a cocoanut, which communicated with the lumen of the small intestine through an opening which appeared to be open, probably had been open for an indefinite length of time, and this tumor had ruptured, with considerable hemorrhage following. The opening admitted one finger easily through the remnant of the tumor sac into the lumen of the gut. This rupture occurred during sleep, and how it occurred he was unable to say, unless, being a large man, in turning. How long the patulous condition had existed he was unable to say.

Dr. Everett J. McKnight of Hartford, Conn., briefly reviewed the history of a case he had already reported at the annual meeting of his State Society last year, and which had already appeared in the transactions. A boy, 13 years old, have the history that from infancy he had had repeated attacks of pain, colicy in nature, coming on at intervals of months and lasting two or three days. He then had constipation and vomiting. His last attack lasted two weeks and there was less vomiting, no movement of the bowels, and for three days prior to death there was fecal vomit. The attending physician had ordered salts and there was an immense distension of the abdomen with fluid. The temperature was normal, but the pulse was weak. An exploratory operation was advised. The small intestine was followed back from the ileocecal region, and what appeared to be a volvulus was found apparently adherent to the pelvis. This proved to be a cyst 4 x 3 1-2 inches attached to the side of the intestine and part of the mesentery. It was perfectly loose and nonadherent. After untwisting the gut the obstruction was relieved, but the boy died, possibly being drowned by the fecal vomit. An immense amount of fecal matter had come from the mouth. The contents of this cyst was pinkish in color, with a specific gravity of 1,060, containing epithelial cells and detritus, cholesterine crystals and blood. The tumor was lined with nonciliated columnar epithelium.

Dr. Samuel Lloyd said he saw a case last year in which he was unable to say whether the cyst was a pancreatic or a mesenteric one. He found the mesocolon separating the cyst, as had been described in Dr. McWilliams's case, the case being treated in a similar manner. The pancreas and other organs were normal and the patient appeared to be perfectly well. Dr. Lloyd suggested that, in Dr. McWilliams's case, if the fistula did not close a secondary operation should be performed, splitting up the cyst wall, laying it open; this might enable him to get rid of the fistula.

Dr. C. A. McWilliams replied that the cyst extended from the top of the pelvis to the diaphragm and practically involved the whole length of the mesentery, thus preventing such a course as advised by the chairman.

**Inguinal Hernia in Early Childhood.**—Dr. E. W. Peterson read this paper. He said that it was generally agreed that in children under four or five years of age, where uncomplicated hernia existed, the treatment should be mechanical, and that if the rupture occurred or persisted after the fifth or sixth year, that only a small percentage of cases would yield to mechanical measures. DeGarmo claimed that ninety per cent. of cases under three years of age could be cured by the application of a suitable truss. In regard to the permanency of the truss cure, Lloyd was of the opinion that a large number of the so-called truss cures relapsed at some time or other. Dr. Peterson considered only those cases in children under five years of age, and stated that about forty per cent. of all cases of hernia occurred under the age of fourteen years. The condition might be present at birth and not appear until the child began to walk. The speaker was of the opinion that the cause of hernia in every case was due to defective develop-

ment, and rarely, if ever, to constipation, whooping-cough, crying, etc. He agreed with Hamilton Russel and Deanesly that the essential cause of hernia was the presence of a preformed sac of congenital origin, and that the strain acted simply as the exciting cause. He believed, further, that this developmental imperfection was as much of an abnormality as hypospadias, imperforate anus, hair lip, etc. In more than two-thirds of the cases of rupture in early childhood the sac was of the acquired variety. He had operated upon infants one week after birth and had found a sac of the acquired type. He had also operated upon two cases of bubonocele, where the rupture never passed below the external ring, yet in both cases an acquired sac reached down into the scrotum almost to the testicle. The sac of an oblique inguinal hernia was always adherent to the structures of the cord, and, no matter how recent its origin, he had never seen a case that could be reduced into the abdomen. Symptoms of hernia in early life were very much the same as in adult cases, though pain did not seem to be so common a symptom in childhood. The reduction or retention of a hernia often immediately relieved a restless or crying child, and many reflex gastric, intestinal and nervous symptoms disappeared promptly when a rupture was properly supported or relieved by operation. These reflex disturbances deserved a more prominent mention than given them in textbooks. The conditions which might be mistaken for hernia were various forms of hydrocele, femoral hernia, inguinal adenitis, psoas abscess, orchitis, undescended testicle, etc. The cases in which operation was positively indicated were: (1) Those in which strangulation existed or had been reduced by taxis; (2) all cases not controlled by truss; (3) where truss wearing caused pain; (4) where the patient could not be observed regularly; (5) in cases associated with reducible hydrocele or fluid in the hernial sac. Following, in a general way, these indications, he had operated during the past year upon twenty-three cases for the radical cure of hernia in young children. Three cases were under one year of age and three under two years, and the remaining were under four and one-half years of age. There were three cases of strangulation. There was one case of encysted hernia and hydrocele of the cord. In every one of the cases there was some feature of interest and some definite indication for operation. The Bassini method deservedly occupied the first place in the treatment of inguinal hernia, as it dealt thoroughly with both the sac and the canal. If rigid asepsis, absolute hemostasis, and a minimum amount of traumatism to the tissues were carried out this operation would give practically uniformly successful results. Two points he emphasized were: First, in splitting the aponeurosis of the external oblique, the division should be made in the cleavage line and as high above Poupart's ligament as possible. If the division was made directly over the inguinal canal, the lower flap of aponeurosis was so short that it was difficult to put in the two deep rows of sutures without tension and subsequent danger of splitting or sloughing. Where the long flap was used there was no tension on the stitches, and the suture rows were on different levels, thus giving a stronger wall. Second, that Lloyd, in a study of recurrence of hernia after operations, had demonstrated that the relapse was usually at the lower end of the wound and the rupture was of the direct type. His own studies had confirmed this observation, and therefore it was of the greatest importance to accurately coapting the internal oblique and transversalis muscles to Poupart's ligament at the lower end of the wound. After operation patients were kept in bed ten or twelve days and a bandage worn for three or four weeks. Children bore these operations well.

Dr. Neil Macphatter said that the whole secret of the matter was the study of the ring and its formation; this was absolutely necessary for a thorough and comprehensive understanding of the subject. When one considered that the testicle developed from the kidney in early embryonic life, and that the testicle developed behind the peritoneum and was brought down into the scrotum by the gubernaculum testis, being attached in three places, and when one considered the fact that sometimes the gubernaculum became too zealous and a sac of peritoneum was brought down as well, so as to form a nest or bed for the testicle, then one would be aided in their understanding of these hernias. Sometimes this process of peritoneum did not become obliterated, and then we got a congenital hernia. Occasionally one got an infantile variety of hernia covered over at the top and strong enough to resist the descent of the testicle for some time. If the child strains then these strands would give way and hernia develop suddenly.

Dr. Charles N. Dowd said that the question of whether a child should wear a truss or be operated on was a very important one, but the tendency to-day was for radical operation. When operative procedures are carried out the mortality rate was probably from .25 per cent. to .50 per cent. with the rate of relapses practically nil. In Dr. Coley's statistics of 1,400 cases there were eleven relapses, a very small proportion. At St. Mary's Hospital relapses were unknown. A truss could be worn under certain conditions. If the child could have careful and intelligent watching, with the means and inclination for doing it, the child certainly should be given the chance without operation and with a small risk. But when a child was brought to the hospital, coming from conditions and surroundings which made it impossible to follow out the truss treatment, then there was danger in attempting it. The conditions under which a child lived had a great deal to do with the decision of the question.

Dr. A. V. Moschcowitz said that it made all the difference in the world whose bull was being gored or whose corns were being trod on. Personally, he had grounds for serious doubt regarding the curability of herniæ, even in very young children, by means of the truss treatment. If one "cured" these hernia, there still remained potential herniæ. In the typical Bassini operation one closed up the lower part as tight as one wanted to, suturing the combined tendon, the internal oblique, and Poupart's ligament where it was attached to the spine of the pubis. If, therefore, recurrences occurred they must occur where the opening was left for the transmission of the spermatic cord, *i.e.* at the upper angle and not low down. Of late years he had been doing a modified Bassini's operation, not transplanting the cord, but leaving it in its bed, suturing the ligament over the cord. Here recurrences would occur at the lower angle, because there was the point of emergence of the cord.

Dr. Samuel Lloyd said that during the past few years he had looked up a large number of cases, and he found that, in the great majority of the cases, it was the exception to find recurrences occurring through the internal ring; the hernia came through at the lower end, and this he believed to be due to the fact that operators did not succeed in sewing down Poupart's ligament, making it firmly adherent to the symphasis pubis; the result was an extrusion of the gut through the lower end. He called attention to some remarks made by the elder Ford some years ago, when he was surgeon to the Randall's Island Hospital, and when he contracted for truss work. A great many measurements for trusses were demanded and he remembered well a statement by Mr. Ford, "Why not operate upon these babies?" Dr. Lloyd answered that they were too small. Mr. Ford replied, "I am trussing some babies that I began to truss forty years ago."

Dr. C. A. McWilliams said that he had had three cases of undescended testicle, one being accompanied by a strangulated intestine. The intestine was found at the bottom of the scrotum with the testis in the canal. Another case showed the testicle at the internal abdominal ring and a sac of peritoneum went down one-half into the scrotum. In the third case the testis went into the scrotum, but laid on Poupart's ligament outside the external ring and had no sac.

Dr. Moschcowitz asked Dr. McWilliams if the hernia in any case was large; if so, the sac would protrude into the scrotum.

Dr. McWilliams replied that they were all small. The ages of the three children were 8, 10, and 15 years, respectively.

**Subcutaneous Pelvicureteral Implantation, in Lieu of Ureterectomy After Nephrectomy.**—Dr. A. Ernest Gallant asked if removal of the ureter after nephrectomy was advisable, desirable, or necessary, and his own answer to this question was best stated by a recital of the history, method of operation, and outcome of a case which led up to certain conclusions. The following technique was employed: After the kidney had been delivered and the renal vessels securely ligated the kidney was freed from the ureter by cutting across the pelvis about one inch above its junction with the ureter, thus leaving a funnel-shaped opening into the ureter which must be sutured to the lumbar fascia in such a way that the mouth was not exposed on the skin surface, but opened into the subcutaneous fatty tissue. The flaring of the funnel made suturing very simple, the introduction of the drainage tube easy, and the mouth did not contract. When the discharge ceased the skin readily closed over the outlet and buried it, but should pus or mucous reaccumulate a simple incision through the cuticle released the pus and drainage could again be established. Refilling was announced by pain, fever and bulging at the site of the implanted ureter, but by this method there could be no involvement of the retrocolic space or any of the deep structures. This operation avoided the additional risk of immediate ureterectomy and secured free and easy drainage and maintained an opening through which drugs could be introduced to hasten retrograde changes. On the other hand the opening being beneath the skin did not prevent primary union and avoided exposure on the skin surface, and, should mucous or pus accumulate, it could not burrow in the retrocolic space, was easily recognized and released through a small skin incision and a tube inserted for drainage. There was an absence of ligature on the ureter and deep inflammation was avoided. If the ureter must be subsequently removed it could be accomplished without difficulty. The presence of the drainage tube in the ureter, with or without vaginal implantation, did not interfere with the patient in getting out of bed at an early date after operation, nor the exercise of her home duties.

## Chicago Medical Society.

At the regular meeting, held October 25, Dr. Arthur Dean Bevan made some remarks on "Treatment of Actinomycosis and Blastomycosis with Copper Salts." He had found in connection with the treatment of actinomycosis that the iodide salts had very definite and positive effects, and they had been quite successful in curing the circumscribed lesions about the mouth, tongue, and neck with iodide of potassium, and combined with it the *x*-ray, used as had been emphasized by Ochsner in intermittent doses, that is, giving the iodide of potassium for a period, then discontinuing it, and then giving it again. This fact was noted, that although marked impressions were made by the iodide salts on all cases of actinomycosis, the cases of abdominal actinomycosis and of lung actinomycosis were fatal in a large percentage of cases. Probably seventy per cent. of the cases of abdominal actinomycosis were fatal, and about 90 per cent. of lung actinomycosis were fatal in spite of the iodide treatment. In regard to some of the cases the speaker reported last year, one abdominal case had since died with very definite brain lesions. He had no doubt, although the post-mortem was not obtained, that it was a ray fungus lesion of the brain. One of the lung cases had made apparently a surprising recovery, as the patient had now no active evidence whatever of the process. He presented a patient with abdominal actinomycosis, secondary to ray fungus either of the appendix or of the cecum. The patient developed an enormous lesion which filled the entire pelvis. He was operated upon, and the abscess cavity opened, with fistulæ found extending in all directions. The patient was placed upon large doses of iodide of potassium, and in spite of that fact there was suppuration, and fistulæ continued to develop. About six weeks ago he placed the patient on copper sulphate, using it internally and as an irrigation. He began with one-fourth of a grain of copper sulphate, three times a day, then increased it to half a grain, and he had given some of his patients as high as one grain three times a day. It had been determined by French chemists that copper sulphate could be used in doses of from two to eight grains a day for six months at a time, without any deleterious effect to the individual. In the same connection he had used copper salts in two cases of blastomycosis. Iodide of potassium had a very powerful effect, used internally, in these cases. Many of them had been cured with iodide alone. Of the superficial cases the ordinary treatment of blastomycosis had been the combined use of the iodide and *x*-ray. Possibly, as had been shown by some experiments conducted by Prof. Haines and the speaker, the *x*-ray might produce a more powerful effect; that is, the iodide might produce a more powerful effect with the *x*-ray, because free iodine was given off as the result of the *x*-ray in iodide solutions. Some cases resisted the *x*-ray and the iodide treatment, and this was especially so in cases of general blastomycosis. Iodide as a successful means of treating general blastomycosis could not be considered, no matter how successful it had been in the cutaneous cases combined with the *x*-ray. He showed the effect of copper salts in one case of quite extensive blastomycosis involving the entire dorsum of the hand. He had used the copper salts internally in one-quarter grain doses, three times a day, then in half grain doses three times a day, using the copper sulphate as a wash in a one per cent. solution. The hand had almost entirely cleared up. The next patient was a man whom he had treated with copper salts for actinomycosis of the abdomen. At the time the iodide was used, he employed the *x*-ray. There was a large mass filling almost the entire pelvis. The ray fungus could be found in the pus at almost any time. There was extensive infiltration of the recti muscles by process; fistulæ were developing and now this pathological process had almost entirely cleared up under the iodide, so that the patient had gained twenty pounds in weight since the first of September under this treatment. He did not want to create an erroneous impression in regard to this treatment, but submitted it for what it was worth, believing it to be of considerable value.

At a meeting, held November 1, 1905, Dr. Henry Gradle read a paper on "The Efficiency of Salicylate of Sodium in Inflammatory Diseases of the Eye." This agent did not act specifically on any one form of disease, but it shortened the course and reduced the severity of many different types. It required to be given in very large doses, and although distressing, it never caused serious disturbances in large doses. It was best tolerated in the form of tablets. In non-suppurative tenonitis it had always shortened the course. In episcleritis, used only after other less annoying local measures had failed, it sometimes acted promptly, sometimes more slowly. Small sluggish infiltrates in sections of the cornea were usually made to heal rapidly in case the customary local treatment had proven inefficient. Salicylate of sodium might prove of great benefit in those rare instances of phlyctenular disease in which persistent lesions did not yield to the ordinary local treatment. It had influenced very strikingly some of the atypical forms of circumscribed deep keratitis. In diffuse interstitial keratitis the writer had seen no permanent benefit, nor had it affected the course of corneal ulcers. In atypical forms of iritis it had at times a striking influence upon the duration of the disease. In serous cyclitis it proved useless. Its greatest utility was seen in infectious iridocyclitis following injuries. Three cases of sympathetic disease of the second eye were treated from the start with

large and almost continuous doses of salicylate of sodium, and all recovered with perfect sight. Dr. D. N. Eisendrath read a paper on "Early Diagnosis of Acute Abdominal Conditions." He laid stress upon the fact that many of the cases observed by surgeons were not diagnosed as early as they might be if a more careful study of the patient's general and local conditions were made. He suggested dividing the acute abdominal affections, if seen at an early period of their development, into four classes. (1) Those in which symptoms of suppuration appeared early and predominated. (2) Those in which pain of varying intensity was the predominant symptom. It might be followed by signs of localized or diffuse peritonitis, or by the symptoms of intestinal obstruction. (3) Those cases in which the symptoms of intestinal obstruction were the most prominent from the onset. (4) Those in which signs of internal hemorrhage were marked, and were followed by signs of peritoneal irritation. The four classes were discussed at length. Much emphasis was laid upon the local examination of the abdomen, and the general practitioner was urged to make a careful physical examination of the patient's abdomen which should embrace, first, the location of the pain and the direction in which it radiated. Second, the amount of distention, whether local or general, of the abdomen. The third important point in the physical examination was to observe by the gentlest touch possible the amount of muscular rigidity. A fourth point was the detection of superficial tenderness which always accompanied the rigidity. Dr. Thomas A. Woodruff discussed the subject of "Changes in the Retina and Retinal Vessels as an Indication of Lesions in Heart and Blood Vessels."

## Pathological Society of Philadelphia.

At a stated meeting held October 26 Dr. Samuel Leopold read a paper entitled "Report of a Case of Coccygeal Teratoma." Dr. Courtland Y. White presented a communication entitled "Pathogenic Molds." He discussed especially the activity of the aspergillus group and exhibited specimens of birds showing the lesions due to aspergillosis. He pointed out that the aspergillus may be present as the cause of a primary and exclusive infection; or it may be engrafted upon a preexisting tuberculosis; or it may be present as a saprophyte. Similar conditions are observed occasionally in man also. Dr. M. Howard Fussell demonstrated a specimen of "Large Left Cystic Kidney, with Calculus of the Right Kidney." The patient was a young man who had presented symptoms of urinary disorder for some time. Skiagraphic pictures disclosed the presence of calculi in the right kidney. While under observation a large tumor developed in the opposite half of the abdomen and death resulted. On post-mortem examination eight calculi were found in the right kidney, while the left was converted into a large cyst. No cause of urinary obstruction was found in the left kidney or its ureter, and the conclusion was reached that the organ had been a mobile one which from time to time became kinked, so that accumulation of urine took place in its pelvis with the formation of a tumor. It was subsequently learned that symptoms of such a condition had been observed during life. Dr. A. O. J. Kelly presented a communication entitled "The Nature and the Lesions of Cirrhosis of the Liver, with Special Reference to the Regeneration and Rearrangement of the Liver-parenchyma." He considered first the normal histology of the liver, secondly the changes that take place in the parenchyma in cases of cirrhosis and finally the changes in the interstitial tissue. He was able to show that the cirrhotic change begins in the parenchyma of the lobules of the liver, constituting a form of cellular degeneration, and that the increase in interstitial connective tissue is secondary. He objected to the employment of such qualifications as atrophic and hypertrophic as applied to cirrhosis of the liver, and contended that the question of size is incidental and not essential, and that the real disturbance resides in the parenchymatous structures. Dr. Randle C. Rosenberger presented a communication entitled "The Spirochete Found in Syphilis." He had studied the secretions from various syphilitic lesions in some 33 cases of syphilis under diverse conditions and he succeeded by great persistence in finding the spirochete described by Schaudinn and Hofmann in every one. He made a large number of control observations, and while spiral organisms were often present they were appreciably different from *Spirochæta pallida*. The organism can be stained with great difficulty and at times it can be found only after protracted and painstaking search. It must be distinguished especially from a larger spirochete often found under the same conditions as *S. pallida* and staining more deeply, namely, *S. refringens*. Dr. Allen J. Smith presented specimens of extrauterine pregnancy and dermoid of the eye. Dr. C. Y. White exhibited a specimen of melanosarcoma of a horse's tail.

## Philadelphia County Medical Society.

At a stated meeting held October 25 Dr. John H. Gibbon read a paper entitled "The Operative Treatment of Fracture of the Patella," and he exhibited a number of patients illustrating the value of the method. Without delay the curvilinear incision is made through the tissues below the line of fracture, the latter being freely exposed, interposed structures removed, the fragments united by sterile catgut sutures and the wound closed. The results have been eminently satisfactory. Dr. Herman B. Allyn read a paper entitled "Two Cases of Severe General Infection of Obscure Origin." Both terminated fatally, but autopsy was secured in only one. In this, hemorrhagic pleural effusion was found, but in neither was the essential lesion determinable. Dr. W. Wayne Babcock read a paper entitled "A New Method of Surgical Anesthesia." He pointed out the antiquity of anesthesia induced by the administration of drugs, particularly mandrake. In more recent times morphine has been employed for the same purpose, and lately preparations of the belladonna group have come into use. Hypodermic injection of morphine and atropine has for some time been known as a serviceable procedure in advance of inhalation-anesthesia. Within a few years, scopolamine, which is now supposed to be identical with hyoscine, has been employed in combination with morphine for the purpose of inducing surgical anesthesia, and a considerable literature has already accumulated on the subject. An injection of gr. 1-100 of scopolamine hydrobromide and gr. 1-6 of morphine sulphate is made subcutaneously and repeated in an hour if necessary and for a second time in a shorter while if required. Dr. Babcock has modified this procedure by the substitution of apomorphine, gr. 1-10 in the third injection. Anesthesia was induced by this means in 33 cases of widely varying surgical conditions and the results in general were most satisfactory. As a rule the patient is unconscious—occasionally he is not, but generally there is no recollection of pain or operation. Often the patient is scarcely able to believe that there has been an operation at all. There is an absence of nausea and of vomiting. There may be some muscular rigidity during the operation, but respiration is calm and there is practically no disturbance of the abdominal contents in operations within the abdominal cavity. Sometimes there is delirium and motor excitement. The method proved especially applicable to operations about the mouth and upper air-passages, there being a measurable freedom from secretion, and the patient getting rid of blood and discharge by swallowing or expulsion, so that entrance of fluid into the larynx was avoided. The procedure is particularly valuable in cases in which operative intervention is indicated and inhalation-anesthesia cannot be borne. To attain successful results it is essential that a trustworthy preparation be secured and that the first injection be given not less than an hour before the operation.

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending November 25, 1905.

| | Cases | Deaths |
|---|---|---|
| Measles | 326 | 11 |
| Diphtheria and Croup | 310 | 31 |
| Scarlet Fever | 153 | 11 |
| Smallpox | | |
| Chickenpox | 121 | |
| Tuberculosis | 406 | 162 |
| Typhoid Fever | 65 | 9 |
| Cerebrospinal Meningitis | 17 | 7 |
| Typhus Fever | | |
| Yellow Fever | | |
| Cholera | | |
| Totals | 1,398 | 231 |

**Voluminous Tumors.**—De Rouville reports a number of these cases. In 1904 he removed a mixed carotid tumor weighing 2 kilogrammes, 950 grammes. It is interesting to note in this tumor the absence of all malignant tissues. The patient continues in excellent health. A case of very large tumor of the thigh was observed in a woman sixty-five years old. There was nothing noteworthy in either the personal or family history. The tumor, which the patient first noted at the age of eighteen, was very small. It increased in size slowly but continuously, but it never gave any pain, nor did it exercise any unfavorable influence on the general condition. After an attack of influenza the tumor grew more rapidly, and ulcerated. When the writer examined it, it had reached the size of an enormous gourd. It was removed without trouble. It was found to be a lipoma weighing 11 kilogrammes, 800 grammes. Another case is that of a tumor over the sternum. This proved to be a dermoid cyst. It was the size of two large adult fists. The last case mentioned by the writer is that of a large adenofibroma of the breast. The woman was a patient forty-four years old. The tumor after removal was found to weigh 2 kilogrammes, 800 grammes.—*Le Bulletin Médical.*

**A Practical Suggestion Respecting the Removal of Foreign Bodies from the Larynx, Illustrated by a Case of Cockle-Burr upon the Vocal Chords.**—Robert Barclay reports this interesting case describing his method of removing a cockle-burr from the larynx. The great immediate difficulty in a case of this kind in attempting forcibly to remove a foreign body of this character from this position is that of the intense reflex laryngeal spasm which may be excited thereby, against the sharp spines and tentacles of the cockle-burr. The writer first applied a light spray of cocaine to anesthetize the superficial tissues of the larynx. The patient was directed upon the word to take a slow, very deep, forced inspiration; and then at the words, "Say 'A'!" (not Ah) to attempt to phonate that vowel. She was told to prolong this sound, however much it might tax her to do so, at the end of her breath. This proceeding was followed out. The forceps was passed at the proper moment behind the burr, the blades were gently separated, the burr was firmly seized, and the patient was told to say "A." She kept up this sound until she was desperate for air, when she was directed to "Breathe!" The larynx at once relaxed into the position of forced inspiration. A slight wig-wag motion of the forceps brought away the entire burr without the loss of one of its parts, and without wounding any of the laryngeal tissues. The recovery was uneventful.—*The Medical Fortnightly.*

**Clinical Forms of Chronic Rheumatism.**—According to Teissier, chronic rheumatism is an infectious disease, the pathogenic agents of which are multiple and varied in different cases. Chronic rheumatism shows itself in diverse forms. The osteoarticular type includes chronic rheumatism, primary or secondary; certain forms of spondylosis (these cases are rather rare) in which there are noted deforming articular lesions; and certain cases of Heberden's nodes. The serous type includes cases of chronic synovitis and tendovaginitis, certain latent pleurisies, and so on; and generally also such skin phenomena as purpura, erythema multiforme, and erythemanodosum. The fibrous type is observed in the hypertrophy of periarticular organs; in certain cases of Dupuytren's disease; in certain cases of spondylosis with alterations in the vertebral ligaments; and in certain cases of scleroderma. The muscular type is seen in chronic rheumatismal myositis, and in certain cases of spondylosis of muscular origin. Up to the present time the existence of tuberculous rheumatism is merely hypothetical. Tuberculosis appears, nevertheless, to determine in some cases articular disorders which have nothing in common with rheumatism.—*Le Bulletin Médical.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon-General, Public Health and Marine Hospital Service, during the week ended November 20, 1905:

SMALLPOX—UNITED STATES.

| | | CASES | DEATHS. |
|---|---|---|---|
| California, San Francisco | Oct. 29–Nov. 11 | 7 | |
| Florida, Jacksonville | Nov. 4–11 | 1 | |
| Louisiana, New Orleans | Nov. 4–11 | 2 | |
| Michigan, Kalamazoo | Nov. 4–11 | 4 | |
| Ohio, Lucas County | Nov. 11 18 | 5 | |
| Pennsylvania, York | Nov 11 18 | 1 | |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Argentina, Buenos Ayres | Aug. 1–31 | | 28 |
| Brazil, Bahia | Oct 1–21 | 117 | 3 |
| Pernambuco | Sept. 17–30 | | 208 |
| Rio de Janeiro | Oct. 15 | 6 | 6 |
| Canada, Toronto | Nov. 4 11 | 5 | |
| England, Leeds | Oct. 29–Nov. 4 | 1 | |
| Nottingham | Oct. 14 21 | 1 | |
| France, Paris | Oct. 21–28 | 8 | |
| Gibraltar | Oct 29–Nov. 5 | 4 | |
| India, Bombay | Oct 10–17 | | 2 |
| Italy, Catania | Oct 28–Nov 2 | 2 | |
| Genoano | Oct 28–Nov. 2 | 2 | |
| Magliano Dei Marti | Oct 28–Nov. 2 | 1 | |
| Messina | Oct. 21 28 | | 1 |
| Troina | Oct. 28–Nov. 2 | 2 | |
| Vallelonca | Oct. 28–Nov. 2 | 2 | |
| Russia, Moscow | Sept 23–Oct 14 | 16 | 10 |
| Odessa | Oct 14–21 | 9 | |
| St Petersburg | Oct 1–21 | 5 | |
| Spain, Barcelona | Oct 21–31 | | 3 |
| Turkey, Constantinople | Oct. 22–29 | | 2 |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Florida, Pensacola | Nov 9–16 | 1 | 1 |
| Louisiana, New Orleans | Nov 4–11 | 2 | 1 |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | Oct 8–15 | | 2 |
| Honduras, Ceiba | Nov 15 | Present. | |
| Puerto Cortez | Nov 15 | 2 | |
| San Pedro | Nov 15 | 3 | |
| Mexico, Vera Cruz | Oct 29–Nov 4 | 2 | 1 |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| Russia, Adelfsfors | Sept 1 Oct 14 | 12 | 2 |
| Czarichan | To Sept 2 | 2 | 2 |
| Uratzow | To Sept 3 9 | 3 | 3 |
| Gamelenz | To Sept 9 | 8 | 2 |
| Gruss | Sept 3 9 | 3 | |
| Rastenburg | Sept 3 9 | 1 | |
| Sremmeau | Sept 3 9 | 1 | 1 |
| Stettenfurth | Sept 1 7 | 1 | |
| Warnikeim | Sept 10 16 | 1 | 1 |
| Stolpe | Oct 1 14 | 19 | 1 |
| Vistula Territory | Oct 11 18 | 26 | 14 |
| Germany, Kurzebrack | Sept 4–9 | 4 | 1 |
| Strasburg | Oct. 15–19 | 1 | |
| India, Calcutta | Sept. 23–Oct. | 14,117 | |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Hawaii, Honolulu | Oct 1–31 | | |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Australia, Sydney | Aug. 1–31 | | 1 |
| Brazil, Rio de Janeiro | Oct 8–15 | | 5 |
| India, General | Oct 7 14 | 4,293 | 3,395 |
| Bengal | Oct 7 14 | 88 | 65 |
| Bombay | Oct 10 17 | | 14 |
| Calcutta | Sept. 23 Oct. 14 | | 26 |
| Karachi | Oct 10–17 | 10 | 8 |
| Japan, Kobe | Oct. 14–21 | 2 | 2 |
| Peru, Lima | Oct. 11–20 | 7 | 4 |
| Lima | Sept. 21–30 | 4 | 2 |
| Payta | Sept 21–30 | 1 | 1 |
| Payta | Sept 21–30 | 3 | 2 |
| Mausiche | Sept 21–30 | 3 | |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 24.
Whole No. 1831.

NEW YORK, DECEMBER 9, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### ON CERTAIN FORMS OF OCULAR TUBERCULOSIS.*

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IT is now generally admitted by ophthalmologists that as regards the pathogeny of ocular tuberculosis, the eye may serve as a point of entrance of the infection into the general organism, and usually by way of the conjunctiva. We have reason to believe that tuberculosis of the conjunctiva is much more often a primary disease, the result of an ectogenic infection, even in cases where tuberculosis has already developed elsewhere in the body, than of infection occurring through the blood. But, although tuberculous disease of the conjunctiva is not often secondary to tuberculous disease in other parts of the system, yet it is itself liable to be the starting point of general tuberculosis.

An intact normal conjunctiva can, however, never be infected. There must always be a loss of substance usually a traumatic abrasion.

The conjunctival tuberculosis may long remain the sole localized point of infection, and hence the early removal by the knife here may lead to a cure. In certain cases, however, the conjunctiva may be invaded secondarily from the skin of the eyelids, from the lacrimal sac, from the nose, or from the eyeball. In these cases where the miliary nodules are not visible to the naked eye, the bacilli may sometimes be demonstrated in bits of tissue removed from the conjunctiva. Later in the course of the infection, every part of the eye may be invaded.

*Tuberculosis* of the *skin* of the *eyelids* is very rare as a primary disease. The lesion here consists of discrete shallow ulcers, with irregular eroded edges, and a pale yellow granular surface. These ulcers never heal, but extend and coalesce, especially along the ciliary margin of the lid, where they involve the conjunctiva.

*Tuberculosis* of the *conjunctiva* is a rare affection, which may be primary, but is generally secondary to nasal tuberculosis. When primary, an abrasion of the epithelium may furnish the nidus for the growth of the bacillus, which may be introduced from without, by the air, dust, towels, or the fingers. It is a singular fact that of the comparatively small number of cases reported, the majority of them have been in patients at or about the age of puberty. The conjunctiva of the lids is more often involved than the ocular conjunctiva. It is generally unilateral, and as the disease extends the conjunctiva of the eyeball is invaded, the cornea may become involved, and later the interior structure of the eye also. Then the preauricular glands, and sometimes the cervical and submaxillary glands may become involved.

*Read before the Practitioners' Society, November 3, 1905.

Its first appearance is characterized by small miliary nodules in the palpebral conjunctiva, which soon ulcerate and tend to coalesce. The conjunctiva is generally thickened, and in the subconjunctival tissue are found similar nodules, which have not yet ulcerated. The ulcers are ragged and the bottom looks "worm-eaten." The nodules vary in size, and as time goes on they grow and look like the hypertrophied papillæ, being accompanied by an extensive growth of granulation tissue. The eyelid becomes thickened, and there is a scanty mucopurulent discharge. There is usually but little pain.

The diagnosis is not always easy, and the disease must de differentiated from trachoma, chancre, and epithelioma. The bacillus is not always to be found, either in the secretion or in microscopic sections of the tissue, and when not found, inoculation experiments on animals should be instituted, for these will prove the diagnosis when the bacillus has not been found in the tissues. The injection of tuberculin in all doubtful cases is often a decided aid to diagnosis. The course of the disease is essentially chronic. The prognosis, of course, depends on the possibility of the destruction or removal of all the diseased tissue. When there has been total destruction of the conjunctiva, even over a limited area, this is not practicable. The idea has been suggested that tuberculosis of the conjunctiva might act as a focus for the dissemination of a general infection, but we have no absolute proof of this.

*Treatment.*—If a nodule or ulcer is small, it should be extirpated by the knife or the galvanocautery. The writer has tried tuberculin injections, but always without any success. Some cases have been reported where the *x*-ray treatment had been used with success, but the writer has had no personal experience with this method. The reaction from repeated injections of tuberculin in these cases is sometimes so severe, that it is wise, at least in the beginning, to limit the dose to two or three milligrams.

*Tuberculosis* of the *cornea* and *sclerotica* is exceedingly rare, only two cases of the latter having been reported in literature. The cornea, like the lens, seems to be very little liable to the infection. I have never seen a case of primary infection of the cornea, though such are reported. The corneal infection is usually secondary either to conjunctival infection, or to extension of an intraocular invasion from the iris to the cornea. The diagnosis must depend upon the presence of the bacillus in the scrapings and detritus removed from the cornea. The prognosis is unfavorable, and the only treatment available seems to be the galvanocautery. In the writer's experience, the injection of tuberculin, TR, has proved entirely useless.

*Tuberculosis* of the *iris* may occur in two forms, either as disseminated growths, or as a solitary tuberculous mass.

In the first form, small reddish nodules appear

in the iris, which may subsequently flatten and disappear, or be followed by numerous grayish elevations, mainly at the periphery of the iris, varying in size from one to five millimeters. Each is surrounded by a zone of fine bloodvessels, making the base appear red. Sometimes these elevations appear at the papillary margin of the iris. Whether these miliary tubercles disappear or become larger, by coalescing, the entire iris becomes dull, thickened and discolored, and adhesions are formed between the iris and the capsule of the lens, proving the existence of a general iritis, and the entire pupil may be occluded by the growth of the small tuberculous masses.

In a certain number of instances, these disseminated tuberculous nodules are absorbed and disappear, and in these patients the presence of other foci in the body either have not been positively recognized, or, if present, they have been absolutely quiescent. Leber has described these cases as "attenuated tuberculosis," but they must not, therefore, be regarded as offering a favorable prognosis; for they have been known to be followed by meningitis, or acute miliary tuberculosis of the lung, and death. This "attenuated tuberculosis" is not deficient in infecting power, for inoculation of an excised portion of such an iris in the anterior chamber of a rabbit's eye will produce severe local and general tuberculosis in the animal.

The second variety of tuberculous disease of the iris is characterized by a single round or oval nodule of considerable size, arising from the periphery of the iris. This is of slow growth, but may fill the entire anterior chamber, involve the cornea, and end in perforation of the eyeball, and protrusion of the tuberculous mass. The tubercle bacillus may be found in the nodule. This form is unilateral and rarer than the disseminated form. Both varieties usually occur in young adults, who have a family or personal history of tuberculosis, and many of them present other signs of active infection, such as suppurating glands and joint affections. In view of these facts, it is doubtful whether tuberculosis of the iris is ever a primary disease.

The diagnosis depends partly on the character and course of the lesion, and partly on family or personal history. Tuberculin injections are a decided aid to the diagnosis. The disease must be distinguished from syphilitic gumma and from sarcoma. The latter usually appears at a later period of life, and grows more slowly. If a solitary growth is found in the iris, without any signs of inflammation, and if syphilis can be absolutely excluded, the test by tuberculin injections should be made, and, if the reaction occurs, treatment may be begun by tuberculin injections, though in the writer's hands this method has given no satisfactory results. It is not wise in these cases to attempt the removal of the single nodule by iridectomy, on account of the danger of the more rapid spread of the disease. In all cases of multiple growths, the eye should be enucleated before perforation has occurred, provided there is no evidence of the existence of other foci of disease elsewhere in the body. It was formerly believed that tuberculosis of the iris was a primary affection, and as such necessitated an immediate enucleation of the eye, in order to prevent a general infection. But there is now a widespread belief that tuberculosis of the iris is also a secondary infection, and hence enucleation is not always indicated.

*Tuberculosis of the Chorioid.*—Tuberculous disease of the chorioid also occurs under two forms, the so-called miliary tubercles, associated with general acute tuberculosis, and in large masses of infiltration, associated with chronic tuberculosis.

Miliary tubercles of the chorioid are almost always bilateral, and vary in number from one to twenty or more, and in size from one to three millimeters. Repeated examinations are often necessary to detect them, on account of their small size, and they have been found at autopsies, when they were not recognized during life. They are of a yellowish-white color, surrounded by a rose-colored area, scattered all over the fundus, and have been mistaken for patches of chorioiditis disseminata. They are of decided prognostic value in many cases, for they appear shortly before death, some observers affirm only a few days before. They grow from the adventitia of the larger vessels in the deeper layers of the chorioid. They may cause no disturbance of vision, and must often be repeatedly sought for before they are found Some of a larger diameter than three millimeters are occasionally found, but these tend to coalesce into large masses. They may form rapidly or slowly, and their actual frequency cannot be accurately estimated. As a rule, their presence is of diagnostic value as an evidence of general tuberculosis, and of prognostic value, because they are found when the general infection has reached an advanced stage; but their absence is of no significance. They are usually, but not necessarily, associated with similar nodules in the meninges.

The bacilli can, by no means, always be found in these eyes at the autopsy. One additional diagnostic value is that their presence may enable the physician to distinguish acute miliary tuberculosis from typhoid fever, which it sometimes resembles.

According to the most recent statistics, these tubercles have been found in fifty per cent. of the cases of acute miliary tuberculosis and tubercular meningitis, and in ten per cent. of the cases of chronic tuberculosis.

The second form of chorioidal tubercle, the large mass of infiltration or conglomerate tubercle, is usually met with in the subjects of chronic tuberculosis, whose general condition is much more favorable than those affected with miliary tuberculosis. The disease, like the acute form, is secondary to a tuberculous lesion elsewhere. It is usually unilateral, and ophthalmoscopically resembles a chorioidal sarcoma. At first it gives rise to no symptoms, unless occurring in the vicinity of the macula lutea, when, of course, the vision is defective, but it may be characterized by the early appearance of destructive inflammation of the eye, with perforation. It occurs chiefly in children and in young adults. Its appearance, under the ophthalmoscope, is a solitary grayish-white spot of elevation, and it may be distinguished from a sarcoma by the absence of vessels, and from an intraocular cysticercus by its immobility.

As the disease is always secondary, it is bad surgery to advise enucleation of the eyeball in every case, with the object of preventing general infection; but those cases which show a tendency to grow very rapidly and cause perforation of the eyeball, are better removed, in order to save the patient much suffering and long-continued suppuration.

There is a form of chronic tuberculosis of the chorioid, which appears in groups of nodules, and involves the retina, and is therefore, a chorioretinitis, and it has been called by Michel chorioretinitis disseminata tuberculosa. Michel has gone

so far as to say that every case of nodular exudation in the chorioid, which cannot be traced directly to constitutional syphilis or some other equally known cause, must be regarded as tuberculous. Whether we accept this dictum or not, it has been proved that the chronic nodular tuberculous chorioretinitis can exist as an independent lesion, with no clinical evidence of any tuberculous infection elsewhere in the body.

This form of disseminate chorioretinitis may seem an entirely benign course. The groups of nodules are at first yellowish-white, with but little elevation and with ill-defined margins. These may be pigmented or free from pigment. Later, the chorioid in the vicinity becomes discolored. But it must be admitted that the ophthalmoscopic picture of the supposed tuberculous chorioretinitis is difficult to distinguish from other ordinary forms of chorioretinitis disseminata.

Microscopical examination of chorioidal tubercles seems to prove that the nodules which consist solely of epithelioid elements are more difficult to recognize ophthalmoscopically than those consisting of lymphoid elements. The vascular changes in this form of chorioretinitis are not so marked as in the chorioretinitis due to syphilis or arteriosclerosis. In making our diagnosis, we must also depend upon the results of the general physical examination. If tuberculous disease is found elsewhere, and there is no evidence of syphilis or of general arteriosclerosis, then the diagnosis is easy. But it should not be forgotten that even when we cannot demonstrate clinically the presence of tuberculosis, it does not necessarily follow that none is present. It is known that changes in the chorioid sometimes precede the development of tuberculous disease elsewhere. In these doubtful cases the past history of the patient is valuable, as to the presence of other diseases, or of hereditary taint. Schultz-Lehden suggests that the rather benign course followed by this form of chorioretinitis may be due to a less virulent tubercle bacillus, or even to spores, and experiments by Stock have shown that the injection of very virulent tubercle bacilli into the veins of a rabbit's ear almost always causes a tuberculous inflammation of the chorioid of a mild, benign type.

*Tuberculosis* of the *retina* is rare, and may be said never to occur as a primary lesion, and never involves the retina alone. When found, it is usually around the optic nerve entrance, and is accompanied by such intense papillitis, that ophthalmoscopically the tubercles are not recognizable. Under the microscope they are found to occur in the nuclear and molecular layers, and they are always associated with general tuberculous infection of the whole eyeball.

When we come to speak of the *optic nerve*, it may be stated positively that the optic papilla, the intraocular end of the optic nerve, is never the seat of tuberculous disease, unless all the tissues of the eyeball are involved. The optic nerves back of the eye, the optic tracts, the chiasm, are infected in general tuberculosis, but always directly by extension of the disease from the meninges, or by the proximity of tuberculous nodules at the base of the brain. It may be remarked here that visual disturbances without ophthalmoscopic findings in tuberculous patients are not at all uncommon symptoms of tubercular meningitis.

As regards the occurrence of optic neuritis or papillitis, the cause is more often tubercular meningitis than any other variety of meningitis. But the inflammation of the optic nerve is not a specific tuberculous neuritis, and the bacilli are not found in the optic nerve. A tuberculous tumor of the optic nerve is a very rare lesion, of which a few cases have been reported, but it is only found in the extraocular portion of the nerve, somewhere between the eyeball and the chiasm, and is never a primary disease. Hence, if tuberculous deposits are demonstrated or suspected to exist elsewhere in the body, the usual surgical treatment for tumor of the optic nerve, resection of the nerve and excision of the tumor, is in such cases contraindicated.

No *tuberculous* lesion of the *extraocular muscles* has ever been reported, and the cases of muscular paralysis met with occasionally in tuberculous patients are due to intracranial invasion of the nerves supplying these muscles.

*General Conclusions.*—It is doubtful if any case of intraocular tuberculosis is ever a primary disease. In cases of doubt, or of very difficult diagnosis, the injection of tuberculin is an efficient aid to diagnosis. There is a general reaction in at least eighty-five per cent. of the cases, and some local reaction in about fifty per cent. of the cases. As a method of treatment, both the old and the new tuberculin have proved practically useless in the writer's experience. It is a remedy which needs careful watching.

Surgical intervention in intraocular tuberculous conditions of the eye should seldom be done, unless there is considerable pain which tells on the patient's health, because the disease is not a primary one, and hence excision would remove only one focus of the disease.

## DISPLACEMENT OF THE ABDOMINAL ORGANS.

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Splanchnoptosis is an affection of common occurrence, causing so many functional disturbances of the abdominal organs, of the heart and lungs, and of the nervous system, frequently presenting a variety of symptoms imitating organic lesions, that it will be always of great importance to the general practitioner. On the other hand, occasionally an entire absence of suffering may be found, even in cases in which the displacement of organs is marked. Virchow showed in 1853 that such displacements were frequently caused by local peritonitis. Relaxation of the abdominal walls seems to be their most frequent origin. I believe that this is the reason why we find the disease far more frequently in women than in men, and that women, usually after childbirth, commence to suffer from the trouble, and young girls are less subject to it.

A dislocation of organs may be congenital, and not rarely we can trace the affection to other members of the family, sometimes through two or three generations, to females and males as well. Slender figure, emaciation, trauma, tight lacing, lifting and straining, and various other causes are justly accused, With the prolapse of the stomach we may find the kidneys dislocated, especially the right kidney, the intestines, especially the transverse colon and iliac flexure, the liver, the uterus, and occasionally, though rarely, the spleen. A displacement of the heart in advanced cases is found occasionally. The disturbance of the nervous system is practically found in all cases, and nervous symptoms presenting the picture

of hysteria and neurasthenia are always present. Such a symptomatology, with the history of good health up to marriage, frequent childbirth, and emaciation often allow a diagnosis almost invariably confirmed by an examination. The nervous symptoms are, therefore, of great interest, and, as the patients frequently present hysterogenous zones the disease has been diagnosed as hysteria. If the dislocation of the abdominal organs were not present such a diagnosis would be correct in many instances. Women are most frequently the sufferers, and ovarian pain and backache are hardly ever absent. The psyche is changed, the patients show the great instability of temper so characteristic of hysteria, are easily irritated, and easily fatigued. Susceptibility to suggestion and forgetfulness, or better, lack of attention, are associated with a train of various other hysterical symptoms. Hot flushes and chilly sensations dermographia, globus, cramps, tremor, pressure points of pain in the usual locations, headaches, hemicrania, and the clavus hytericus, exaggerated reflexes, absense of uvula reflex, and diminished or absent corneal reflex, analgesia and hyperesthesias, palpitation, of the heart, and dyspnea may all be present. Subjective pulsation of the vessels, especially of the abdominal aorta, is always an object of observation and worry to the patient. One of my patients called it her "second heart." All may be found, and to such a picture we may add often an inherited tendency of the trouble. The mother and grandmother, or some other member of the family, are suffering like our patient. It is not strange then that the disease has been and is not rarely mistaken for hysteria. Symptoms of neurasthenia are usually mixed with those of hysteria. The patients are easily irritated, the slightest mental or physical exertion will thoroughly fatigue them, they are unable to think, to read, or do anything. They complain of loss of strength and inability to walk when an examination of the various groups of muscles will show considerable power. They are depressed, complain of dizziness, headache, and sleeplessness; of pain everywhere, of hypochondriac sensations, etc. These are all important symptoms, and frequently will call attention to the real trouble. The downward displacement of the stomach is the usual form, though occasionally we find it in the vertical position. In the congenital displacement of the organs, *situs viscerum inversus*, the stomach is found on the right and the liver on the left side of the body. This is of such rare occurrence that it does not need further consideration. The displacement of the stomach causes digestive troubles, and these vary in character, are rarely alike in two patients, and even in the same patient they may change from day to day, though, on the other hand, a certain complexity of symptoms may be lasting in spite of treatment for days, for weeks, and for months. It is a clinical picture of the digestive troubles of the neurotic, the hysteric, and the neurasthenic, not that of any organic disease, though it may, as these so frequently do, occasionally imitate the latter to perfection. Pressure and fullness after eating, a voracious appetite, changing to complete anorexia, a good appetite with fear to eat, may be seen. Heartburn, waterbrash, and regurgitation of food, paroxysmal pains that frequently amount to crises which have been mistaken for gallstones, the gastric crises of locomotor ataxia, or renal calculi, appendicitis, etc., are frequent symptoms. Vomiting does occur, of food or of gastric juice mixed with mucus, but it is rare and some of the patients state that they cannot vomit at all. Loud belching of odorless gas, swelling and tightness of the abdomen, sometimes after eating, sometimes with an empty stomach, are also symptoms, and sometimes the swallowing of a mouthful of water may cause severe pain and discomfort, and just as the chemical composition of the gastric juice happens to be, food may relieve or cause it. As is to be expected, intestinal function is always disturbed, flatulency and constipation are common, though diarrhea may be found alternating with constipation. Large flakes of mucus are often passed, though their passage does not cause pain in every instance. One patient of mine passed for weeks at a time large masses of jellylike mucus without the slightest pain, and no pain or pressure along the colon, though the appearance of the mucus in the stools greatly affected and worried her. A dislocation of the intestines, which always may be found in these cases, coupled with the disturbance of the nervous system, causing hypersecretion of mucus, explains these peculiar symptoms. Symptoms due to dislocation of organs, whether the stomach, intestines, kidneys, liver, or uterus, are produced by the new position the organ occupies, pressing upon the neighboring structures and pulling and tearing on its own blood vessels and nerves, thus causing reflex symptoms. Pain caused by a dislocated kidney may be a dull, aching sensation in the right side below the border of the ribs, or it may be paroxysmal in character, giving rise to Dietel's crises, often accompanied by nausea and sometimes by vomiting. These crises may last for hours or for days. The urine rarely shows any abnormality in nephroptosis, though during these crises, when the ureter is twisted, it is concentrated, contains a heavy sediment of urates, uric acid, and oxalates of lime; and occasionally blood, albumin, and epithelial casts are found. All the symptoms are relieved as soon as the ureter has returned to its normal position; as a rule, the urine becomes copious and pale after such a crisis. A completely dislocated liver, a floating liver, is not of frequent occurrence, at least I have seen it only twice, once in a young boy following a fall after a severe attack of grip, and prolonged confinement in bed, and once in an old negro who had been a hard worker and had done a great deal of heavy lifting and straining during his lifetime. Minor degrees of displacement of this organ are frequently found with a general ptosis, but do not give rise to particular symptoms outside of a dragging sensation, pain, and heaviness in the right hypochondrium or lumbar regions. Far more pronounced are the symptoms caused by the displaced uterus so frequently accompanying a general ptosis. The patient will often call upon the physician for local examination and treatment of the genital organs, to the disease of which she ascribes all her sufferings. If she is a young married woman she dates back her troubles to the birth of her first or second child, and if she has passed the age of thirty she wants to know whether her suffering is due to an approaching menopause. There, as well as in the gastrointestinal tract, organic disease may follow the displacement. A positive diagnosis in the majority of these cases is, as a rule, not difficult to make. The course of the disease is marked by its chronicity and slow progress. The symptoms are vague to begin with, and, as they are always associated with nervous symptoms, they are frequently passed off as hysteria or neurasthenia, the patients obtaining but little sympathy from the members of their families. They gradually fail in health and lose flesh, so that in the most advanced stage they may suggest tuberculosis or malignant disease. Examing the lungs of these patients I have sometimes been asked by the patient: "Doctor, are you hunting for consumption?" Generally, only after the troubles have become severe a more thorough examination is called for, and in these the emaciation brought about

by the disturbance of the digestive tract facilitates the diagnosis. Bimanual palpation readily discovers a dislocation of the kidneys of the first, second, third, and fourth degree, meaning by these terms, respectively, that the kidney is movable with respiration, a condition not considered pathological, a portion of it can be palpated, the whole kidney can be palpated, and lastly the kidney is dislocated and fixed. Similar degrees of dislocation of the liver may be determined, the third degree being a complete downward displacement of the organ, which can be felt in the abdominal cavity. The dislocation of the spleen is so rare that it only needs mention. The stomach is readily seen in the emaciated standing out like a distended bladder below the thin abdominal walls. The whole organ can be inspected and the space below the ensiform cartilage is found more or less sunken. The upper border of the stomach is found below the fourth intercostal space, and the large curvature below the navel; splashing sounds can be elicited over the stomach area, and the percussion note confirms inspection. Any doubt that may still exist as to position may be removed by distending the stomach with carbondioxide or air in the usual manner, giving a seidlitz powder in two portions, or inflating the organ with air. The last method is preferable, as the exact amount of air necessary to distend the stomach can be gauged, and as this can escape after use before withdrawing the tube. Gastrodiophany is another method introduced by Einhorn to determine the position and size of the stomach, but is rarely, if at all, necessary for practical purposes. Atony of the stomach walls is usually present, and splashing over the stomach area is a constant symptom. The motor function of the organ is disturbed, though, as a rule, the stomach is able to empty itself. The examination of the contents showing an absence of lactic acid, Boas bacilli, yeast cells, and sacrinæ, and frequently an excess of hydrochloric acid, may become of importance in those extreme cases that suggest malignancy. Furthermore, the chemical examination will indicate therapeutic measures. The position and size of the large intestine is conveniently shown by inflating it with air after it has been thoroughly evacuated. This is best done on an empty stomach. Another method advised by Boas, is to prepare the patient as above and to inject 300 c.c. of water. If the colon is distended and dilated, splashing and succussion sounds can be elicited, the position of which will determine the course and size of the colon. In the healthy, 500-600 c.c. and more, are needed to produce splashing, which will show the normal position of the colon. The dislocation of the intestine explains the chronic constipation from which these patients are constant sufferers. The histories of these patients present an interesting study. We find a considerable number of cases with nephroptosis, gastroptosis, and splanchnoptosis in different degrees of advance, up to the most marked without symptoms. In fact, it has been said that a patient with a prolapsed organ will not suffer till told of it by his physician. This, of course, is going too far. The physician will discover the trouble, as a rule, only when searching to find the cause of some obscure ailment. As with any other disease knowledge may aggravate suffering. Quite a number, however, who have been accused of suffering from imaginary troubles, are relieved to find some real cause to grieve over. We occasionally find an inherited tendency to the same trouble in families, and frequently the families from which these patients come are nervous, and anomalies of development are found in a large number. The tall and slender figure, the peculiar form of the chest, high arched palate, infantile uterus, etc., are common features. Nervous symptoms are never absent and are always the same. They present the clinical picture of the functional neurosis and the treatment most benefiting this class of patients without displaced abdominal organs is the treatment best adapted to benefit our patients, and it is just as difficult to treat the latter class of patients as the former. Occasionally the local trouble may become a source of comfort to the patient and be of assistance to the general treatment. These are quite a number of important reasons all pointing one way—that the trouble only can be developed upon an inherited basis. A neuropathic constitution with faulty development, especially insufficient fixture of the abdominal organs, is not sufficient to start the trouble, but a direct cause is needed to produce it, and the various agents that may gradually or at once produce the familiar picture have been mentioned. Relaxation of the abdominal walls after childbirth, emaciation, trauma, tight lacing, emotion, and worry, etc., may cause it. A dislocation of abdominal organs may occasionally be produced without such an underlying cause. The following histories of a few cases taken from my record will illustrate the points discussed:

Mrs. A., thirty-one years of age; has four children, no miscarriages. Her father is fifty-seven years of age and her mother fifty-four. She is weak, has always been so, and is a sufferer from hysteria. One uncle on her mother's side suffers from epilepsy. Five sisters and brothers suffer from nervousness and stomach trouble. Grandmother was a nervous woman and suffered, like all her children, with stomach symptoms. Patient has had measles, whooping-cough, diphtheria, typhoid fever, grip, and several severe attacks of malaria. Appendix, right ovary, and a small fibroid tumor were removed five years ago. When sixteen years of age she commenced to suffer from her stomach, and experienced fullness and oppression after eating, followed by nausea, and occasionally vomiting and hemicrania. These attacks would last for weeks and months at a time with long intervals of apparently good health. The trouble was greatly aggravated later by the various pregnancies, the patient improving between pregnancies. Excitement would also increase troubles. When coming under my observation a few months ago she complained of being unable to eat anything. After taking any food, independent of its character, she feels nauseated and vomits the food with mucus. She suffers from pain in the epigastrium, severe hemicrania, and constipation, the stomach feels tight and swollen. She is depressed and is constantly worrying about something; she is never free from pain somewhere, is easily irritated and fatigued. Weighs 118 pounds, usual weight 120; height, 5 ft. 7 in. Is thin, color good, eyes bright, expression of face mobile. Has cold hands and feet. Complains of choking sensations, tremor of hands and of eyelids, sways with eyes closed. Dermographic, pressure points of pain especially below left clavicle, left nipple, and left ovary. All reflexes are exaggerated. Complete analgesia of right arm and hand. Painful points along spine. Chest organs normal, liver somewhat prolapsed, lower border one finger below border of ribs; right kidney displaced, can be entirely palpated; prolapse of stomach, upper curvature just above navel. The urine, nothing abnormal; the fecal matter contains flakes of mucus. After test breakfast contents of stomach show absence of hydrochloric acid, undigested food, and mucus. The case is typical, and illustrates well the salient features of most of these patients. Neurotic, hereditary history, slender figure and emaciation,

hysteria, and, finally, as a direct cause, the frequent pregnancies of a young woman. She commenced to suffer at the age of puberty, but those attacks were mild and passing in character.

Mrs. B., twenty-eight years; has no children and no miscarriages. Father and mother are living, and are healthy; the mother is nervous. She has had measles, whooping-cough, malaria, typhoid fever, and appendicitis, and states that she has always been in delicate health, but well until about six years ago. She then commenced to suffer occasionally with severe paroxysmal pains in the right side, though she would constantly have a feeling of discomfort and soreness in that side. In the summer of 1901 she commenced to suffer from indigestion and flatulency after eating; the character of the food did not make any difference, everything would disagree. She was then treated by a specialist for ovaritis and appendicitis, without obtaining relief; returned to her home and improved until 1903, when the pains again became severe and she had her appendix and ovaries removed, and the stomach, which was found prolapsed, raised and fixed. The gall-bladder was also removed. No gallstones were present. After the operation the pains became milder, but shortly afterward again returned. When I saw her she complained of the same soreness and pain in McBurney's point and around the navel, and backache, which she has had for years. She is deeply depressed and cries frequently. Her face expresses despondency. She worries constantly about herself, examines her rectum frequently and feels greatly worried if she finds mucus in the stools, as is often the case, or if she has not had a passage. Patient is easily irritated and fatigued, afraid to walk or to do anything. Her appetite is good, digestion poor, she feels full after a meal and belches loudly. She has never vomited, and states that she has frequently tried to relieve herself by putting finger in the mouth, but cannot vomit. Patient is thin and pale, clear skin, five feet eight inches in height, weighs 125 pounds. Weight has been always between 110 and 125 pounds. Chest organs normal, liver and spleen normal, and right kidney can be palpated full length; splashing is present over the stomach area, lower curvature is a hand's breadth below the navel. Contents very acid, excess of hydrochloric acid, undigested food, and some mucus. The urine is normal. The stools are formed and occasionally contain flakes of mucus. "Infantile uterus." This patient presents the neurasthenic type, with hypochondriacal sensations and anomalies of growth—slender figure and infantile uterus. It is interesting to note that the usual complexity of symptoms, though temporarily relieved after the operations, returned after a few weeks to stay.

Mrs. C., twenty-six years of age; one child, no miscarriage. Father died at the age of forty-five, of some liver disease. Mother is sixty-five years of age, living and in good health. Four brothers and one sister living; the sister is nervous. Patient has passed through measles, whooping-cough and mumps, and was in perfect health until birth of child. Three days after birth had a severe cramp, colic, and terrific pain below sternum. From this time she commenced to suffer with severe backache, and during the next few years had similar attacks like the first, but more in right side and above pubis. She felt "as if she was cut open." These attacks became gradually more frequent, finally two, six weeks apart. They are entirely independent of diet, and she never has had any attack during rest or sleep. Excitement has nothing to do with them. The patient is fairly well nourished and weighs 128 pounds. Weight during good health 135 pounds. Appetite and digestion are good, but she suffers occasionally from heartburn. She sleeps well, the bowels are regular. She suffers from severe backache; the chest organs, liver and spleen are normal; the right kidney can be palpated for full length; there is splashing over the stomach area and the lower curvature is three fingers below navel. The uterus is prolapsed.

This case is instructive on account of the almost complete freedom from nervous symptoms and disturbances of the digestive tract. The pains are Dietel's crises. During the crises the urine is high colored, scanty, loaded with urates, and contains traces of albumin. After the crisis has passed the urine is copious, of light color, and specific gravity. The direct cause is relaxation of the abdominal walls after childbirth.

Mrs. H., fifty-seven years of age; has four children and never had any miscarriages. She states that she lives on raw eggs, milk, and rice, and that she does not take coffee, tea, or alcoholics. Her father died at the age of eighty-one years and her mother at thirty-nine, after childbirth. She has had measles, diphtheria, yellow fever, and dysentery when seventeen years of age. She states that she has been a dyspeptic all her life, and does not remember whether her mother was nervous. She was always thin, but during the last two years has lost weight and gotten weaker. She complains of excessive weakness, palpitation of the heart, indigestion, fullness, pressure, pain, and swelling after eating, loud belching of odorless gas, and severe constipation. Her appetite is good, but she is afraid to eat. She sleeps well. Patient is five feet three inches in height, and weighs eighty-nine pounds. Three years ago she used to weigh between 100 and 110 pounds. She has stigmata of hysteria. The lungs are normal. Instanding, heart dullness to the right is increased and the apex near left sternal border is displaced downward. Systolic murmur at apex, not conveyed to left. Has no symptoms of heart disease, no dyspnea, cyanosis, or concentrated urine, swelling of feet and ankles, etc., and never has had any. In lying down heart is normal, the displacement and murmur disappear. The right kidney can be palpated full length, and lower curvature of stomach is a hand's breadth below navel. Contents of stomach show hydrochloric acid in excess and mucus. Two brothers, one sister, and daughter suffer as she does. One sister and daughter are now under treatment. This case is especially interesting on account of the heart displacement simulating disease of this organ. It is useless to give any further histories; they all show the same features. Often an inherited predisposition, "a neuropathic constitution," a direct cause and symptoms that are caused by the displaced organs. The treatment has to be prophylactic, as a relaxation of the abdominal walls is the most frequent direct cause. The abdominal muscles ought to be strengthened by systematic exercise, bending forward and backward, raising from a horizontal position into sitting posture, etc. As soon as such a predisposition is recognized a bandage ought to be advised during and after pregnancy, lifting of the child prohibited, overloading of the stomach avoided, and the bowels kept open.

If these patients call for relief after the disease is fully developed, the first thing is again to direct a suitable bandage and to strengthen the abdominal muscles. The patients are emaciated, at least the majority of them, and it is, therefore, difficult to find a bandage that gives the desired support. Almost every clinician who has given attention to these cases

has designed his own bandages. I have designed a bandage made for me by McDermott & Co., consisting of a piece of elastic, which is fitted above the pubes in front, and held by leg straps and three elastic straps buckled to a second shield across the spine. These straps secure a backward and upward pressure and are easily regulated by the patient so as to be comfortable. The bandage is not cumbersome and gives full support. The second indication of treatment is to replace waste of fat and muscle. This is done by directing rest, a proper diet, varying, of course, in each case according to the chemical composition of the gastric juice, hyperacidity, or anacidity, and moderate exercise short of fatigue. The diet in every case must be designed to counteract the obstinate constipation and to avoid overloading of the stomach, frequent and small meals being the rule. Mild hydrotherapeutic measures are always of advantage. A warm bath, followed by a cold sponge or shower bath and by vigorous friction in the morning, and cold ablutions at night, is to be recommended. A cold sitz bath, in suitable cases, every day or every other day is often of advantage. General massage and special massage, given or directed by the physician, will be valuable assistance in the treatment of these cases. From the Weir Mitchell treatment I have not seen much advantage, but some failure, but this may yield better results in a sanatorium. Judging from my own experience, rest and exercise well suited to each case act best. Drugs can be employed only to assist the mechanic dietetic treatment, and ought to be discontinued as soon as they can be dispensed with. Strychnine and resorcin act well in these cases, raising tone and preventing fermentation. The sulphocarbolates of sodium and zinc are useful where flatulency is a disagreeable symptom and the stools are offensive. Hydrocholoric acid and wine of pepsin may be used where anacidity is found, and burnt magnesia, if necessary, combined with bismuth and soda, given one or two hours after eating where hyperacidity exists. Finally, we have to decide whether an operation is to be advised. An operation may occasionally relieve these patients by suggestion, though ovariotomies performed on hysterics to cure have been very discouraging, and the operation for that purpose has been abandoned. With this class of patients we have to remember that, in the majority of cases, the visceral dislocation forms only a part of the trouble. Organs are frequently found dislocated without causing any disturbance if general health is good; the severity of suffering does not depend on the degree of dislocation and correcting operations have been, in many cases, without any or without permanent result. Under such conditions it requires careful consideration of the cause, on set, and history of the case before operation is to be advised. If the defect to be corrected contributes to the trouble, and medical treatment has failed, an operation is indicated.

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**A Hospital Car** has recently been built by the Southern Pacific Railway. It is 67 feet long, with a breadth of 9 feet 8 inches. Twenty-six feet of the central body of the car is given up to the operating and dressing-room, and a ward with berths for twelve patients. The rear of the car is built as an observation room, and between it and the hospital proper are staterooms for doctors and nurses. Forward a limited space is given to kitchen, refrigerator, and servants' quarters. Under the car body, stored in pockets reached through trapdoors, is the paraphernalia which goes to make up the twelve berths. Close by is the medical locker room, with closets containing a regular dispensary outfit and sets of surgical instruments.

## FRESH AIR AND REST IN THE TREATMENT OF PULMONARY TUBERCULOSIS.*

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In recent years much has been written on the subject of fresh air and rest, and their relation to the treatment of pulmonary tuberculosis. Few writers have apparently taken into consideration the individual case, or any certain class of cases, and have simply recommended fresh air or outdoor life, without qualification, ignoring that most important feature that must be considered in any line of treatment, viz., management or supervision of each case, all of which is generally left to the patient's own sweet will. Fresh air and rest, while perhaps the most important factors in the treatment of pulmonary tuberculosis, will prove of little advantage except they be properly administered according to the therapeutic indications, and tempered to suit the individual.

The indiscriminate prescribing of fresh air, outdoor life, and exercise, without proper instructions and education of the patient, together with a consideration of the extent of the lesions present, has led to many unsatisfactory results, and has been the undoing of many a poor fellow who has staked his all on "outdoor life" and who might have had a fair chance for recovery had he had a proper education in the needs and dangers of his particular condition. If there be any part of the treatment of tuberculosis in which the patient needs supervision and education, it is in the line of fresh air, rest, and exercise, and how to apply them to the greatest benefit to himself, and why certain things should be done and others avoided.

A man in the early stages of the disease, with little or no breaking down of tissue, would require different treatment, and could stand more hardships incident to outdoor life, than a frail woman with more advanced lesions. Yet we see all classes of cases, in all stages of the disease, practically put on the same line of treatment, with no regard for the individual, and still feel disappointed that our results are not more uniform.

The history of tuberculosis proves that it is essentially a house disease, that is, it is harbored and spread by overcrowding, unhygienic conditions, and lack of fresh air and sunlight. Knopf and others have done much to educate the laity on this subject, and their efforts will certainly bring their reward and be a lasting monument to their devotion to suffering humanity. Even the little animals that have served us so faithfully in our laboratory experiments, and which are so susceptible to infection when exposed, are seldom or never found to be tuberculous in their native haunts. While lack of sunlight, fresh air, sufficient space in sleeping apartments, together with other unhygienic conditions, may be the surroundings of those unfortunates whose lot in life forces them to live in such habitations, it would be a surprise to us could a canvass be taken of the sleeping and living apartments of the more well-to-do class who have the opportunity and surroundings for the enjoyment of fresh air and good ventilation, and note the number who have a "holy horror" of the "bad" effects of night air, and who, during the day, value the colors in their rugs and carpets above their own health. They practically live day and night shut up in a box, breathing over and over again the same air, and enjoying no sunshine except when they leave the house. The lack of fresh air is often carried to the extreme by the individual who is ignorant of his

*Read before the Colorado State Medical Society, October 5, 1905.

unhygienic mode of life. The other extreme is demonstrated by the physician who carries the fresh air treatment of tuberculosis so far in the opposite direction that his patient is injured rather than benefited.

It is the sheerest folly—but we see it done every day—to place a patient with high fever, chills, and sweats, outdoors all day long in cold weather, and then require him to sleep in an open tent with no provision made for the comforts of life to which he has been accustomed. Before morning he may have his usual night sweat, it may be mild or severe, and on waking he finds himself wet with perspiration, unable to make a change of either night robes or bedding; he must remain in his uncomfortable condition until he dries off or morning brings relief. During his waiting, his cough becomes aggravated from the cold and his own restlessness, and he dare not move or change position, as every move lets the cold air come in contact with his moist body and sends chills to his very heart. By morning he is worn out and haggard from loss of sleep and exposure to cold; yet his friends wonder why he does not improve, as he and they have been informed that "tent life" is the only proper course to pursue in pulmonary tuberculosis.

We also have the same remedy ordered for a patient in the early stages of the disease. There are no modifications or conditions attached. He is simply ordered to live in a tent, and being ignorant of the laws of ventilation, or fearful of the bad effects of night air, he closes up his tent so that no outside air may get in, and virtually spends eight to ten hours each night in a closed, canvas box. Again comes failure. We must first become thoroughly acquainted with the physical conditions of our patients, learn their peculiarities of constitution and temperament, and then their life and treatment can be regulated accordingly.

1. Our patients must be kept outdoors all day long in the open air, and practically the same conditions must prevail at night.

2. They must be made comfortable, and be protected from cold winds, rains, and storms, and, during the summer months, from the direct rays of the sun.

A covered porch, shut in from the north and west, gives ample protection during the fall and spring, while winter weather will require the addition of extra clothing, rugs, blankets, etc. During the summer months it is a matter of shade and comfort during the day, as the hot sun has a lowering effect on the patient's vitality, as well as causing certain digestive disturbances. In the higher and dryer altitudes, with their more even climates and maximum number of days of sunshine, it is much easier to train our patients to live outdoors.

Patients who come under treatment during the late autumn or winter must be gradually hardened to outdoor life. They have previously been accustomed to warm, indoor life, and it would be a great mistake to put such a one outdoors in cold weather and require him to remain out all day at first. He must be gradually tempered to the cold, and ere long he will be more comfortable out than indoors. Especially must we be careful in this line with women and children. They cannot bear much cold to start with, and often become easily discouraged; but when once they have undergone the hardening process, they enjoy the outdoor life, and as a rule are the most obedient patients.

Where the patient comes under treatment during the warmer seasons of the year, there is no difficulty in getting him acclimated to his new surroundings, and by the time winter is at hand he has learned how to care for himself and provide protection accordingly. We have comparatively little trouble in providing good, fresh air during the day, but when night comes we encounter our difficulties. As the vast majority of tuberculous cases are treated by physicians in private practice, each patient must be educated to the needs of air at night as well as day, and it falls on the physician to look after these little details. So many people have an apparent inborn dread of night air, especially in any form of pulmonary disease, that they resort to all manner of schemes to modify or exclude air from outdoors at night.

I make it a practice, when possible, to have my patients sleep in large rooms with two or more windows, which are kept open from the top. The larger the windows the better. Rooms facing the south, east, or west, are suitable, but we should never use a room that faces the north only. A screened-in porch makes a very appropriate sleeping apartment, and has advantages in some cases over an open room, and it prevents meddlesome friends from in any way interfering with the ventilation. The open room has a great many advantages. It is more comfortable and convenient for all classes of patients, especially women and children, who never do well on a purely tent life. For centuries mankind has dwelt in houses, and no matter how well they may do in tents while ill, they sooner or later return to their old house life and discard the habits of tent life, and the lessons learned are forgotten. If they have been taught to live and sleep at night in the open room, they are very apt to continue the practice when they are no longer under the supervision of their physician.

For male patients, especially those with no active or extensive lesions, a tent life properly conducted may prove very satisfactory, particularly during the warmer months of the year; but for those in the more advanced stages, and for any during the winter and spring, the open room and sheltered porch are much more desirable.

That tuberculosis is never cured by any single element with disregard to all other therapeutic laws is a well-known fact. Anything and everything that is applicable to the individual case must be utilized in aiding to arrest the disease and building up the barriers against further invasion, thus laying the foundation of an ultimate cure. That fresh air is one of the essential elements in attaining this end, is admitted by all phthisiotherapists, but we must not rely on fresh air alone, without regard to climate, temperature, humidity, altitude, and general surroundings, and the physical and mental condition of our patient.

"The healthy man sits down to rest because he is tired; the tuberculous man should sit down so as not to become tired" (Brehmer's motto). How many follow it? There is perhaps no part or element in the treatment of tuberculosis that has been more abused and has brought greater disaster to the patient than exercise and gymnastics. For some unknown reason both physicians and laity have become imbued with the idea that if a tuberculous patient does not take lots of exercise he is sure to go the downhill course and his finish is in sight. Patients are sent away from home for change of climate, and about the only instructions they receive are to "get out and rough it." When they get to their journey's end, every person they meet gives them similar advice, at the same time pointing out Jones or Smith, who came here several years ago and has recovered his health by walking, riding horseback, and climbing mountains, but they never tell the poor secker after health of the hundreds who have gone over the "great divide" and have practically been forgotten, who

tried the same remedies. The few who survive this vigorous exercise are but a small percentage of the numbers who employ it. I have been through it, and know whereof I speak. It took me two years to get over one day's duck hunting, which I took on the advice of a physician who has since succumbed to the "exercise cure." I have seen a patient who, under rest, fresh air, and good diet, had gained twelve pounds in four weeks, take the advice of another and go horseback riding; in three days he was in bed, and in less than sixty days he had passed to the great beyond. This is only one case out of many that have come under my observation during the last five years, with similar results.

One of my patients who had improved rapidly and apparently was in a fair way to have her disease arrested, and who had in four months gained over thirty pounds, and all of whose symptoms had disappeared, took some violent exercise, which was soon followed by fever, return of cough and expectoration, tubercle bacilli in the sputum, loss of appetite, chills, and sweats. Examination of the chest showed infiltration of the greater part of the upper lobe, while previously the disease had been confined to the apex; this was due to the rupture of a necrotic focus in the apex, the contents of which were aspirated into the greater part of the whole upper lobe, causing caseous pneumonia, and later a tuberculous infiltration of a new area. It is too recent to give a prognosis, but it is safe to say that her chances of recovery are about one to ten she had before she took her exercise.

Respiratory gymnastics also come under the head of exercise, and are equally pernicious when carried to the extreme, and a tuberculous patient is very apt to go to the extreme with any class of exercise. Forced and deep breathing, together with the accompanying muscular exercise, causes certain metabolic changes, followed by increased absorption.

Rest and exercise must be graduated to suit each individual case, and while there is little fear that the patient will not get enough exercise there is a great fear that he will not get the required amount of rest. As a general thing our patients come to us imbued with the idea that everything depends upon exercise, and so thoroughly do they believe in active exercise that they often disobey instructions and steal exercise and imagine it is the right course to pursue, and is all right if the doctor does not know it. These active exercises are generally followed by recurrences or advances of the disease, which sometimes require months to arrest.

There is not in this broad land a surgeon of any recognized ability who would advise active exercise or motion as a cure for a tuberculous joint. Instead, he would put the parts in an immobile dressing and put the patient at perfect rest, trusting to the recuperative powers of the tissues to arrest the disease and give the patient, if not a perfect joint, a useful limb.

If such absolute rest be required in the treatment of a tuberculous joint, what sane argument can be brought against rest in the treatment of tuberculosis in any other tissue of the body? A knowledge of the pathology of the disease teaches us that rest must be one of the essential factors if we expect to get an arrest of the process, the same as in any other infectious disease, as in pneumonia, typhoid fever, etc. Even in the earliest form of the disease, when the lesions are small, rest is just as necessary as later, and the results are far more satisfactory to both the patient and the physician.

Tuberculosis differs from other microbic diseases in that the tissues in their attempt to destroy the invading microorganisms, build about them a non-vascular structure histologically known as tubercle in the center of which are the imprisoned bacilli, hemmed in by a more or less impervious capsule; but there is always present the danger of a spread of the disease from rupture of the walls during resolution, and it is here that active exercise gets in its deadly work. Should rupture take place into an open bronchus and the contents be carried out with the secretions, little or no harm results, but should the rupture take place into the parenchyma of the lung or into the blood stream, the results would be quite different, viz., an acute exacerbation of the disease, or an acute general miliary tuberculosis.

Exercise favors and promotes the absorption of toxins, while quiet and rest reduce it. In all acute processes the elaboration and absorption of toxins is greater for two reasons: (1) The young and growing tubercle bacilli produce more toxins; and (2) in the young tubercle the walling-up process is less dense, allowing the escape of toxins from the infected centers. The greater the amount of toxins absorbed, the higher the fever with its accompanying destructive influences.

In the face of these pathological facts, we are justified in demanding rest in all cases of active tuberculosis, no matter how minute the lesions, and more especially when even mild exercise causes a rise of temperature.

The injurious influence of fever upon the entire organism, if it persists for any length of time, is of the highest importance. The heightened consumption of albumin and tissue material which the fever induces in an already sparsely nourished body, bring about a loss of weight and strength in ratio to the height and duration of the febrile course. Loss of weight causes an increased absorption, which in turn adds fresh fuel to the fire. The effects of fever in further weakening the heart, together with the loss of strength from sweating which often follows high temperatures, has a very depressing effect on the morale and spirits of the patient; as the heart partakes of the general emaciation produced by toxemia, fever, and malnutrition, it requires rest and nursing so that it may continue to perform its functions without producing further degeneration in its anatomical structure, such as dilatation, fatty degeneration, valvular insufficiency, etc., with coexisting edema.

These are a few of the conditions that may be brought about by exercise in active tuberculosis, which are detrimental to the patient, and I fail to find anything except that which is imaginary, in exercise, whether athletic or the so-called pulmonary gymnastics, that is of any benefit to the individual suffering from pulmonary tuberculosis.

Granting that rest in itself does not add to repair, it surely prevents the occurrence of those conditions that bring about degeneration and destruction of tissue, and it thereby aids the physiological processes that tend to repair and to produce greater resisting power in the economy. In an individual whose tissues oppose a somewhat more sturdy resistance to the advance of the tuberculosis process, there is a greater possibility for an arrest of his disease.

I have the histories of sixty-two patients with tuberculosis in various stages of the disease, seen during the last five years, who took the so-called "roughing it" cure, or active exercise; of these forty-three are dead, and only two show signs of having their disease arrested with a prospect of ultimate cure. Fresh air and rest are only units of the sum total of the therapeutics of tuberculosis, but without them other remedies are of little avail.

In special sanatoria there is little trouble in carry-

ing out the rules for obtaining the best effects of rest and fresh air, but it is in private practice where we get our greatest opposition, not so much from the patient as from the numerous individuals who are always ready to give free advice (in good faith), believing that active exercise is the only means of combating pulmonary tuberculosis, and when the patient breaks down and dies, they have the same consoling answer, "all cases of consumption die anyway, it is only a matter of a short time."

By rest we do not mean actual confinement to bed, except in those cases in which there is a very acute process accompanied by high fever and rapid pulse, together with the other phenomena that accompany such a condition. Under these circumstances, absolute rest in bed is necessary until the acute symptoms have subsided. But even here we must employ the fresh air or open-room treatment.

As the patient regains his strength, I find it much more profitable to get him up and dressed (to suit the climate or season), and have him outdoors, either on a comfortable couch or on a reclining chair. Comfort is the great essential to rest. Worry and excitement have just as detrimental an influence on the patient as exercise, especially if he be of an excitable and nervous disposition. How often have we seen a sudden elevation of temperature after the receipt of bad news, the arrival or departure of a friend, or some minor accident in the family or immediate neighborhood?

It is very difficult in discussing fresh air and rest in regard to the treatment of tuberculosis to leave out of consideration other therapeutic measures, such as nutrition, special medication, etc., but the field is too broad, and authentic opinions are too numerous to enter into at the present time. But I wish to state that all measures that are of value in building up the patient and increasing the resisting powers of the tissues, should be employed in conjunction with rest and fresh air, if we expect to get the best possible results.

Statistics show that the death rate from tuberculosis has been reduced from 14 per cent. to 10 per cent. during the last third of a century, and there is little doubt, that if all cases were recognized early, and the pathological conditions properly appreciated by both physician and patient, with proper management and education, the next third of a century would see the death rate reduced to as low as 5 per cent.

Dr. Norman Bridge, in discussing "some common errors in the treatment of pulmonary tuberculosis," in part says: "Every one of these patients should be constantly supplied with outdoor atmosphere in such abundance that every successive inspiration brings a fresh dose of air into the lungs, and none from previous expiration. Everyone should have long hours of rest—if feverish, the rest recumbent should be almost, if not quite, constant, for exercise increases fever. The digestive powers should be made to do their best under the most careful supervision toward improving nutrition, and possibly also the resisting power of the patient. But we have allowed our patients to stay indoors, without proper ventilation, and breathe a poisoned house air three-quarters of the time. We have subscribed to the popular untruth—as pitiful as it is groundless—that patients in a gentle current of air, called a draught, are in danger of cold and other harm, and so we have kept them breathing over and over their contaminated air. The truth is, one never takes cold in any draught, even a wind, if his body and head be kept warm by clothing. The advice of the profession ought to be, to keep in a draught, never out of it; only it would lessen the business of the physicians, while it would be of incalculable benefit to the people." (*Journal of the American Medical Association*, Vol. XLIV., No. 12.)

In closing I cannot do better than quote the conclusions of Bernheim of Paris, in regard to rest in the treatment of tuberculosis:

"1. In the treatment of phthisical patients the rest cure is the indispensable complement of a sojourn in a salubrious climate and of forced alimentation.

"2. Since the lungs participate in all excessive activity, the effect produced is an active congestion in the region of the tubercular focus, and new tears in old adhesions.

"3. Every organism which fatigues, suffers more abundant organic losses (increased katabolism). These losses are still more augmented in the phthisical subjection who, when overexercised as a consequence of fatigue, mobilizes his bacilli, whence comes a veritable autointoxication which evidences itself by febrile phenomena.

"4. Forced feeding and life in the open air are of profit to a tuberculous patient only when he is placed under conditions of absolute repose.

"5. Furthermore, repose plays another important rôle: it prevents the general localization of the bacillus of Koch.

"6. One should therefore prescribe the rest cure for every phthisical patient who has fever and in whom one observes clinical symptoms of tubercular activity.

"7. This rest cure may be practised in all cases, provided it is applied in a disciplinary manner and with intellectual supervision." (*Journal of Tuberculosis*, Vol. II., No. 4.)

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## REDUCTION TREATMENT.

By JOHN W. WAINWRIGHT, M.D.,

NEW YORK.

Old and long-held theories as to the treatment of disease are so often being overthrown, that it is no matter for surprise that views regarding therapeutic measures to reduce obesity have undergone within the past few years a considerable change. Not that there is now by any means unanimity among the medical profession as regards the treatment of obesity, but some time-honored ideas have been strongly assailed, and it would seem that our views with regard to the best means of reducing corpulency must undergo revision.

Von Noorden, who is perhaps the most distinguished authority on the diseases of metabolism and nutrition, has recently published a monograph on the subject of obesity. The work opposes some popular beliefs with regard to the indications for treatment of obesity, but coming as it does from one with the experience of v. Noorden, is at least entitled to respectful consideration. His work is somewhat disappointing in that no means by which superfluous flesh may be reduced are disclosed; it merely treats of the indications for the establishment of these methods, the main points of his teaching being, (1) that the different methods must be suitable to individual cases; (2) that reduction cures should be seldom applied to children and old persons; (3) that rapid reduction cures pursued for a month, and followed by eleven months of self-indulgence are of little benefit; (4) that massage does not, as is popularly supposed, remove local deposits of fat, but rather increases them; (5) that slow methods of reduction are to be preferred, especially in women with a large

amount of abdominal fat, and in young subjects; (6) that the reduction of obesity is often of very great advantage in heart disease, the treatment being best conducted in a sanatorium; (7) in renal diseases obesity can only aggravate the functional disturbance; (8) in chronic bronchitis, chronic rheumatism, chronic gout, diseases of the organs of locomotion, and diseases of the nervous system, obesity may constitute an unwelcome complication, while good results may follow careful reduction; (9) even in pulmonary tuberculosis, the extreme obesity which has sometimes followed the overfeeding and lazy life of a sanatorium, does harm, this result being likely to occur in early or slight cases of pulmonary tuberculosis.

Referring to the principles which should decide a physician for or against a reduction cure, v. Noorden wishes, in the first place, to place himself on record as opposing the view so frequently expressed that reduction cures are a weakening process and constitute in other words, a so-called "weakening cure." He is of the opinion that a reduction cure can always be tolerated under proper conditions without detriment to the patient, and as a rule improves the general functional powers of the organism. He takes occasion to utter some timely words of warning regarding the regulation of diet for obesity. He points to the fact that there are in Germany and elsewhere a number of sanatoria and many physicians who are committed to certain definite methods of dietetic treatment, methods that are usually known by some well-known name; in all such institutions the particular method that is in favor is adopted for the average patient who goes there for treatment, and all physicians who swear by any one particular method of treatment, apply it in each case that comes under their care. Individual idiosyncrasies are ignored, and the old precept that "what is one man's meat, is another man's poison" is not heeded. Von Noorden also criticises severely the schematic method of treating disease so greatly in vogue at the present time, and thinks that when a medical history of our times comes to be written, we shall certainly be accused of having endorsed almost any method of treatment that seemed to contain something new or seemed to present certain special features. In the case of obese, but otherwise healthy people, a strict treatment, and not half-way measures, is the best method to adopt. It should constitute short courses of treatment, lasting some four or five weeks, at varying intervals; the result of these interrupted courses is a loss of weight of a few kilos; after a small loss of flesh has been brought about, the patient should be induced to take advantage of comparative leanness and strengthen the muscles by systematic exercises and at the same time use appropriate measures for improving the condition of the skin. Sanatorium treatment for sufferers from obesity presenting urgent indications for a reduction cure, is to be recommended.

Williams has called attention to the importance of due mastication of food in the treatment of obesity; for, not only does food thoroughly masticated assimilate better, but by long mastication appetite is much more easily satisfied and less food is ingested. Duckworth has pointed out that heredity plays an important rôle in obesity; according to Oertel this influence can be traced in fifty per cent. of all cases. Occupation and habits have, of course, much to do with the condition. Those who lead sedentary lives, eat and drink too much, are likely to be burdened with a superfluity of flesh. Overeating and drinking are potent causes. Osler has said that "the majority of people over forty years of age habitually eat and drink too much," and it may also be said exercise too little.

Bain, at the meeting of the British Balneological and Climatological Society, in April, 1904, discussed the subject from the physiological standpoint. Excessive fat deposition is due either to an abnormal production of fat or to a diminished oxidation. Fat formation is chiefly linked with carbohydrate metabolism. As regards treatment he said that the essential elements are regulated exercise, the restriction of the carbohydrate and fatty materials of the food, living an outdoor life, accelerating heat loss, and combating any tendency towards anemia. Barnes considered that to elucidate the question of obesity it was desirable to study the conditions of race, climate, and food. He had been struck with the extreme leanness of the Arabians of the working class, most of whom were extremely active and fed mainly on vegetables. Clippingdale referred to the frequency with which a state of obesity was found in persons of high intellectual capacity, contrary to the usual belief, giving several instances in the present and past times, and referred to Julius Cæsar's well-known dislike for thin persons.

Symes-Thompson pointed out that as life assurance experience showed how dangerous to life obesity was, it behooved us to utilize to the utmost spas and climate treatment, to encourage exercise, to promote metabolism, and to raise the health level of the patients. Morison maintained that undue mystery had been cast around both adult and infant feeding. The principles of nutrition were clearly known and their application was sufficiently indicated by each case considered on its own merits. He pointed out the importance of separating obese cases from those with and those without anatomical organic disease. In the former the general force of the patient must be improved before his fat reduction by restricting diet was commenced. Bezly Thorne drew attention to the fact that Bouchard placed obesity in the class of affections which he had denominated "l'arthritism," that it was common to the subjects of gout and rheumatism in which venosity was a recognized concomitant, as well as in those who were deficient in hemoglobin or had suffered from prolonged loss of blood. He recalled the fact that the obese were specially liable to angina pectoris and to death from syncope and to apoplexy consequent on atheroma. Such considerations in his opinion pointed to a potent cardiovascular factor in obesity, and emphasized the danger of treating that condition on lines of arbitrary dietary restriction. Ewart alluded to the distinctions between physiological stoutness, which ran in families and needed no treatment, and that which was pathological. The latter was generally admitted to depend upon relative deficiency in oxidation. Baynes said that he had found high frequency currents on alternate days with galvanism speedily reduced the most corpulent, and quickly relieved the dyspnea due to fatty heart. Sunderland considered it to be necessary to warn patients who showed signs of commencing pathological corpulency, to begin to take the requisite precautions against its increase in the early stage; there would then be seen fewer cases of excessive

stoutness, the reduction of which was sometimes attended with much risk. He referred particularly to the abuse of thyroid gland extract, with which some people dosed themselves without medical advice.

Treatment should be conducted on preventive lines. Strict temperance should be observed as regards food and drink, and activity of life, both mental and physical, should be a main feature in the treatment. General principles to be observed, so far as dietetic measures are concerned, are the restriction of fats and carbohydrates and a no less certain increase in the proteids. Increase in water drinking between meals and in some cases treatment by spa waters. The sea air is generally beneficial as a means of reducing obesity. The fact must always be remembered that obesity cannot be successfully treated by the same or similar methods in every case. Corpulent persons, who are otherwise healthy, by careful dieting, plenty of exercise, baths, and other rational means may reduce their superabundant adipose deposit, or at any rate may prevent an increase. But on the other hand, obesity in disease is but a symptom, and the treatment of the obesity alone may, and probably will, have an injurious effect upon the patient's general condition. The cause must be treated and the attempts to reduce the flesh must be governed by the disease from which he is suffering. As v. Noorden truly says, we possess so many physical means of treatment and such a large variety of dietetic schemes, that in deciding on a method of reducing fat the peculiarities of each individual patient can, without difficulty, be considered and included in the calculation. In numerous cases, it is true, the choice of the matter is more or less indifferent and we may be permitted to exercise considerable latitude, may in fact allow the patient to determine the method he wishes to adopt, according to the requirements of the external circumstances obtaining in each case; in others, again, the success of the treatment and the feasibility of instituting a reduction cure at all, not to speak of the well-being and very life of the patient, may depend on our choice of method.

The Harvey-Banting was the first method of dieting in the treatment of obesity, which gained general recognition. Harvey of London initiated this form of treatment, and used it with much success in the case of Mr. William Banting. Animal food is not restricted, but the amount of carbohydrates is reduced, and little or no fat is given. Water is permitted in large quantities. The Oertel method combines mechanical and dietetic treatment. Fluids, fats, and carbohydrates are all restricted. The second part of the treatment consists of systematized exercise, walking, and hill climbing. The Ebstein method consists of increase of fat foods, reduction of carbohydrates, while the amount of proteids remain unchanged. The Schweninger method somewhat closely resembles that of Oertel. No water at meals and less than a pint in the course of the day. Hot baths and massage are important features in this treatment. Duckworth recommends as a diet for the obese: 12 to 14 ounces of meat daily; 6 to 8 ounces of bread, 4 to 5 ounces of green vegetables, 1 to 1½ ounces of butter and fat, and 30 to 35 ounces of fluid.

The reduction treatment of obesity, to be successful, must be left wholly in the hands of a competent physician, who will recommend whatever form of treatment he may think advisable.

H. C. Wood divides corpulency into two divisions; the anemic, with little muscular power, and the plethoric and robust. It is plain that a treatment which afford a measure of relief in one of these conditions would not avail in the other; in fact, that a line of treatment pursued in the plethoric and robust type would be extremely hazardous in the anemic and weak form.

In the robust type the tendency is sometimes hereditary, but more often the condition begins with an overindulgence in food and alcoholic beverages, especially malt liquors. Once the tendency is fairly started, however, the quantity of food partaken of is of lesser moment; in fact, an aggravated obesity is often accompanied by a pronouncedly small consumption of food. Sedentary habits, lack of the proper amount of exercise, are also potent factors in the tendency to obesity.

The theory of the excessive indulgence in carbohydrates being mainly at fault is no longer tenable, as we know that these products are converted into water and carbon dioxide. That they interfere, however, with the oxidation of the albuminous elements of the food, and thus interfere with complete metabolism, is conceded. A rigid diet may be prescribed for the plethoric and strong, but would prove inoperative for the anemic and weak. A more complete oxidation is the object to be attempted, and this is measurably secured in various ways. Baths, particularly the Turkish or Russian bath, or a combination of the two, exercise such as walking, horseback riding, work with the various apparatus to be found in gymnasiums, rowing and massage are the most beneficial, but these must be accompanied by a restricted diet, especially of the albuminates, such as animal foods, to a lesser degree the farinaceous and starchy foods. The quantity of water consumed, if it has, previous to the commencement of the treatment, been large, should be restricted. Alcoholic beverages should be proscribed, excepting occasionally a Moselle or Rhine wine mixed with an alkaline carbonated water. In these cases saline cathartics may be rather freely indulged in to the extent of keeping the intestinal canal free from all accumulations, and this is an important part of the treatment. Carlsbad salts or water taken before breakfast in hot water, or Rochelle salt will answer admirably, the dose being regulated according to the individual needs of the case and the response to its administration; but this should be used in connection with the other methods indicated.

The thyroid gland has been recommended, as it hastens the oxidation of the carbohydrates, but its effects should be very carefully noted, as the continuous use is followed by shortness of breath, weak, rapid pulse, and a general nervous condition.

With the anemic and weak, the problem is more difficult. If the measures suggested above for the plethoric and strong are adopted, they must be carefully watched. Heroic treatment in those cases is injurious. Exercise, mild at first, gradually increased, will prove useful. Iron in some form is often indicated.

Poultry, game, fish, eggs, toasted bread, fresh vegetables, and fruits are allowed in moderation in obesity, while soups, especially the heavy soups, containing fats, milk, unless thoroughly skimmed, farinaceous foods, puddings and pastries of all kinds are to be forbidden.

Dietary lists might be given, but it is not thought that any form or quantity would meet

the indications in all, or, in fact, very many cases. Each case must be carefully studied and the diet as well as amount and character of exercise and the medical treatment must be adapted to the individual.

Williams declares that obesity is not only not a disease, but occasionally it is not even, strictly speaking, pathological, inasmuch as its presence is apparently essential to the ordinary physiological working of certain individuals. In the commoner forms, obesity is due to a want of balance between intake and output. Too much food is eaten or too little is oxidized. The ingested material may be excessive in quantity. This is frequent in the case of those who have been athletic in youth. That class of women patients, too, who think they need "supporting" habitually takes more food than can be assimilated. The practice of drinking fluid with meals is another cause of the ingestion of too much food. This fluid not only seems to increase the appetite, but by enabling the food to pass more rapidly out of the stomach than it would otherwise do, it makes it possible for the patient to eat more. Insufficient mastication leads to the ingestion of a great deal of unnecessary food. Excess may be a matter of quality. The quantity itself may be moderate enough, but the excess may reveal itself in the relative quantities of fat-forming or fat-saving principles. The starches, sugars, fats, and alcohol, are most readily converted into adipose tissue.

As to the oxidation of food, the chief agent in effecting this is muscular exercise. Ordinary obesity probably never occurs where circumstances allow this agent full play. When obesity is already established, there are substitutes for ordinary exercise which may be used, such as massage, electricity, Swedish movements, and Zander exercises. The nervous system plays a part in the oxidation of food. Mental anxiety may give rise to an extreme degree of emaciation. The obese patient must have mental and physical energy forced upon him. Hot baths for ablutionary purposes by the young and healthy are most undesirable, except when they are immediately followed by cold affusion and vigorous toweling, as are the Russian or Turkish bath. The prevalent vice of overclothing is still more important. The wearer of flannel undergarments, as far as his skin is concerned, lives in a moist climate, relaxing in its effects. A preservation of the activities of skin and lungs, bowels and kidneys, is very important.

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## THE PRINCIPLES OF ETHICS OF THE AMERICAN MEDICAL ASSOCIATION.

By A. L. BENEDICT, A.M., M.D.,

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A short time before the last meeting of the New York State Medical Association, the President of the Medical Society of the State of New York sent to his fellow members a circular letter asking them to prepare themselves to vote intelligently on the acceptance or rejection of the principles of ethics of the American Medical Association. As it has transpired, this action was evidently in anticipation of the favorable vote of the State Association to amalgamate with the State Society.

The Principles of Ethics of the American Medical Association thus become a live issue for the profession of the Empire State. In attempting a discussion of such a topic, it becomes the duty of each writer to acquaint his possible readers with his viewpoint, since, however fair one tries to be, his mental picture varies according to perspective and position. The present writer, therefore, in no egotistic mood, but merely to allow a discount of personal prejudices, would summarize his personal bias as follows: Graduated about five years after the split in the New York profession, member of the State Society, but mainly because of its relative antiquity, a member of the American Medical Association from 1897 until 1902, when, along with certain other members of the State Society who were unwilling to be on both sides of the fence at the same time, he was turned out of the A. M. A., a disbeliever in sectarianism in medicine or anything else, unless actually demanded by practical conditions, and yet not refusing consultation with homeopaths or any other conscientious and ethical practitioners of medicine, hostile to "politicians" of all kinds, but especially to manipulators of the medical profession.

The derogatory and ridiculous spectacle of two antagonistic State organizations of the "regular" medical profession, who can meet on a common ground not only at the bedside, but in other medical societies and who, as individuals, may even belong to both opposing organizations, has required explanation and apology during the whole period of its existence.

While the history of the schism scarcely needs to be repeated to medical readers, it may not be out of place briefly to recapitulate the conditions. A little over twenty years ago, the New York State medical profession, which had for some time been trying to secure a higher standard of medical education, became convinced that it could do so only by combining with the Homeopathic and Eclectic organizations of the State. Such a combination necessitated more or less professional recognition of the standing of sectarian physicians, and an abandonment of insistence on ethical qualifications for medical licensure since, in the first place, it would be impracticable to frame a law which would make such a requirement, or to pass it if framed, or to execute it impartially if passed, and since, in the second place, the Eclectic organization consisted mainly of advertising physicians, and, indeed, existed as an organization rather on account of dissatisfaction with ethical than with scientific and clinical views held by the regular profession. On the contrary, the homeopathic schism was almost solely on account of therapeutic differences and not on account of differing general conceptions of the professional customs of physicians.

Not because it favored advertising nor because it believed in homeopathy nor because its members were influenced by sordid motives with regard to consultation fees, but because, on the whole, these matters seemed insignificant in contrast with the annual graduation and licensure of ignorant and imperfectly trained physicians, the Medical Society of the State of New York voted to make the necessary combination with the Homeopathic and Eclectic organizations and, necessarily, thus to cut loose from the code of ethics of the American Medical Association, and its delegates were excluded from the latter body, at its next meeting. It may be questioned, as it has frequently been, whether a more general appeal to the profession in other States in advance, or a more diplomatic attitude of the delegates would not have averted the actual separation of the mother—the State Society—from the daughter—the National Association. Very likely, if the delegates had submitted to suspension or had demanded a postponement of radical action for a year, the bond would have been strained, but not broken. However, it is unwise to

censure action so long past, especially since, at the time and subsequently, the need of a national organization was not realized, and the American Medical Association has only recently assumed a leading position in scientific medical thought. Even so recently as 1900, when the writer unsuccessfully tried to induce the Medical Society of the County of Erie (Buffalo and vicinity) to memorialize the State Society to take action looking toward reaffiliation with the American Medical Association, one of the most prominent members of the society asked, in all seriousness, "Who gives a —— for the A. M. A., anyhow?" So rapidly, however, did opinions change that in 1902 there was a very nearly unanimous sentiment in the State Society that reaffiliation was urgently to be desired, and the mere fact that the meeting of the A. M. A. took place in New York State in that year was confidently regarded as indicating that such reaffiliation would be speedily and readily accomplished. This expectation was too sanguine, and, in one way or another, medical union has been delayed, but it now seems warrantable to expect that the desired harmony will be reached within the coming year.

Meantime, curious inconsistencies have prevailed. The members of the State Society have certainly demonstrated that their dismissal of the code of ethics was not a prelude to the adoption of quack methods, nor even to any inordinate desire to run after homeopaths. On the other hand, the State Association members have, in many instances, met with homeopaths, both at the bedside and in the discussion of sanitary and other general topics of interest to medical men. The Association has freely admitted members of the State Society, and a few homeopaths who have stated that they have not relinquished homeopathy. Other State organizations have followed closely the method of the New York State Society, to secure legislation in regard to educational requirements of prospective physicians, and in no case has this action resulted in their exclusion from the American Medical Association.

In 1903, partly to pave the way for the readmission of the New York State Society, partly in recognition of the impossibility of governing individuals by a formal code of ethics, the code was simplified, abbreviated, and reduced to the status of "Principles." Over a year ago the committee on conference of the State Society adopted the resolution that "The principles of medical ethics of the American Medical Association, being suggestive and advisory, shall be the guide of members in their relations to each other and to the public." Aside from the verbal blunder, this emasculated resolution can arouse no hostility, although its half-hearted spirit is scarcely satisfactory to either party. For that matter, the Principles of Ethics are a compromise between the adherents of the old code and the radicals who consider that the Golden Rule, or even the instincts of a gentleman, ought to suffice for guidance.

The Principles of Ethics are divided into three chapters, dealing with the duties of physicians, respectively, to patients, to other physicians, and to the public. The first and last chapters strike one as rather musty platitudes. An uncharitable layman would perhaps say that there is too much said as to cheerfulness of demeanor, realization of duty, and advisability of making visits frequently and of not abandoning cases that cannot be cured. If such matters are mentioned at all, it might be well to qualify them with warnings not to place the patient under obligations for unnecessary services. Objection may also be made to the reiterated policy of reserving unfavorable prognoses from the patient and of communicating them only as a last resort, and, then, preferably through a member of the family. Under older conditions, when treatment was largely expectant, and when all physicians were general practitioners, much could be said in favor of such a policy, although even under such conditions there are obvious religious or, perhaps we should say dogmatic grounds for informing patients of an unfavorable outcome, while they are still in possession of their faculties; and in a great many instances the physician is better qualified than a distracted member of the family to convey such information. The language of the Principles seems to imply that the preference for the member of the family is because the patient will be less likely to take the information seriously, and this is exactly the reason why the physician ought not to shirk his painful duty. There are also obvious business reasons why patients should prepare for death by putting their earthly affairs in proper condition.

In this age of specialism and of divergent methods of treatment, there are very practical reasons why an intelligent layman may rightly feel that he is, in a sense, purchasing not merely relief from symptoms or even treatment directed toward radical cure, but also an intelligent and clearly-stated opinion as to his case. In many conditions, the conception of seriousness of a case carries with it one line of treatment to one physician, another to another. Often there is a choice between medical and surgical treatment, between treatment designed to prolong life and that which stakes full recovery or immediate death upon a single throw of the dice. Again, even when there is no choice of this sort, one physician may have his own theory as to the proper treatment of a disease, while others, equally expert, may have others. Sometimes, in diseases whose various treatments have proved unsatisfactory, a physician has arrived at an idea the execution of which is purely experimental, and perhaps involving foreseen or unforeseen dangers. At other times the patient can be influenced to yield himself to needed treatment only by a full realization of the extreme gravity of his case. All things considered, the writer would lean to the view that the rule should be perfect candor as to prognosis, and that exceptions should be made in the case of patients of highly sensitive and apprehensive natures, or who are not thoroughly compos mentis, or who may well be spared disagreeable knowledge for a certain time. Be this as it may, there certainly is enough to be said on both sides of the question, so that it should not be decided as a matter of ethical principle, in one direction.

If a chapter, even a brief one, be devoted to the discussion of the duties of physician to patient, it is a serious omission to emphasize how the doctor should comport himself and how often he should make his calls, and to say nothing as to his prime duty to maintain, by proper preparation and continued application, a reasonable degree of scientific skill, and to secure for the patient supplementary care when, for any reason, his own skill is inadequate. In this practical age it is more important to examine the urine and the blood than to preserve a cheerful demeanor, and, in many instances, a doctor might much more humanely "abandon a patient because deemed incurable" than fail to call the proper counsel. All of us can recollect cases which we have cured after they were deemed incurable, as well as cases which seemed hopeless to us and that proved to be curable by some one better fitted to deal with them. It may seem uncharitable, but it is a cold fact that an aggregate of hundreds of human beings die every year because physicians of good ethical standing do not abandon them to others who might cure them.

Chapter 2, on the duties of physicians to their pro-

fession, is quite lengthy, and, perhaps, may be criticised as going into too many details. For example, the successive steps in organizing individuals into county societies, these into State societies, and the latter into the American Medical Association, though highly desirable under most circumstances, hardly constitute a principle of ethics.

Article 3, regarding consultations, like the first chapter, is behind the times in failing to recognize specialism. The true consultation is no longer a council of war of men of essentially equal standing, in which differences of opinion are to be decided by majority vote or by mere weight of individual experience or seniority. There are certain localities and certain cases in which such consultations must persist, but they have long since given place, in practical importance, to consultations in which one or more experts, rationally so considered, are summoned to give opinions rightly considered as decisive. If, for any reason, and such reasons often develop, the consultation does not assume this phase, it is recognized that the result is not ideal. Many of us would frankly confess, from various standpoints, as attendant and consultant, as general practitioner and specialist, often to have violated the explicit "principle" of ethics that differences of opinion developed at a consultation should not be divulged either to the patient or his friends. This policy was proper enough half a century ago, but it is contrary to ordinary principles of business ethics to-day, when consultations are called and paid for, largely because the patient and his friends on the one hand, and the attending physician on the other, realize the possibility of such differences of opinion. When a consultation was called of neighboring physicians, to decide how long a patient would live, whether he had had enough, too much or too little calomel, or bleeding, whether one tonic should be substituted for another, etc., such a dictum was proper. Nowadays, the matter is very different. If the patient's disease is called a cancer of the pylorus by one consultant and gastric catarrh by another, it is a matter of operation or very different methods of treatment. Differences of opinion as to climatic changes, adbandoning business, grounds for divorce, suspension of reproduction, interruption of pregnancy, commitment to asylums, submission to gradual failure of vision or risk of eyes in the hope of securing practically rejuvenated sight, questions as to whether an intermittent fever is to be treated with quinine or by draining a possible hepatic abscess or supurating gall-bladder, do not appeal to us as proper for final settlement by majority vote or by the dictation of supposedly superior judgment or admittedly longer experience. It is unfortunate that they should be left to the decision of the laity, and yet, in many cases, the laity are paying for just such a frank submission of disagreement and, under modern conditions, by yielding to their explicit or implicit demand, we are not asking the laity to settle abstruse problems as to which learned doctors have disagreed, but are enabling them to cast a vote from the standpoint of other considerations which they can intelligently entertain, or to seek further advice from experts. Thus, in general, it seems to us that any radical difference of opinion at a consultation should be submitted to the patient or his representatives, and that, ultimately, the interests of patient, attendant, and consultant are best subserved by this policy. The vital defect in this "principle" is the implied conception of medicine as an infallible and mysterious art, rather than an application of natural, scientific principles to bodily ills.

The essential weakness of the document of the "Principles of Ethics" is that it attempts to codify rules of conduct of physicians, without reference to existing problems. Among these problems, we have already mentioned education and specialism. These imply other problems with regard to medical colleges, hospitals, dispensaries, sanatoriums, open and covert advertising, selfish or altruistic use of positions of trust and honor, subversion of public or private benevolence to personal, scientific, if not pecuniary, advancement, etc. Then, too, problems present themselves with reference to the relation of the medical profession to prospective members, and to official and sanitary control, to allied professions, as of dentistry, nursing, pharmacy, etc., pharmacy alone being touched upon and very briefly in the "Principles." Very delicate problems also present themselves as to the harmonious relations of private physicians and those in institutional practice, in the employ of various branches of the government, etc. A live issue is the licensure as limited by State and national boundaries. Many others will present themselves to those studying the situation carefully.

As has been stated at the outset, the principles of ethics, in their present suggestive form, are not an obstacle to the reunion of the medical profession of the State of New York. Yet, like most compromise measures, the "principles" cannot prove satisfactory. Without reference to special points of disagreement, a very large minority of the medical profession favor a "code." In other words, they hold that if a matter of professional policy is really a principle, it ought to be binding. The present "principles" are too detailed and too codified for a general preamble of professional ideals, too arbitrary in some particulars to secure universal approbation, even as a suggestive guide, too incomplete for the practical demands of the present age. In their present form, they cannot be viewed complacently, except as a rough draft for future revision, which must take one of two diametrically opposite directions. Either they must be abbreviated to a very general application of the Golden Rule to medicine, or they must be amplified and perfected so as to cover the ethical details governing modern physicians. In either case they must be so far restored to the position of the old code that their spirit shall be binding on the profession, and that departures from the principles enunciated shall be allowed only under exceptional conditions.

156 West Chippewa Street.

## UNCERTAINTIES AND FALLACIES IN SCIENTIFIC MEDICINE.*

By HENRY BIXBY HEMENWAY, A.M., M.D.,

EVANSTON, ILLINOIS.

One of the first lessons I learned in the use of the microscope was: Keep both eyes open, but ignore everything not seen through the microscope. Unfortunately many of our younger graduates in medicine seem to have learned this lesson so thoroughly that they ignore as unscientific everything which they do not discover by the aid of chemistry or the microscope. In a recent discussion on typhoid fever, before the Kalamazoo Academy of Medicine, Dr. Simeon Belknap, one of the leading practioners in southwestern Michigan, called attention to the greater fatality of the disease at the present time than formerly, and expressed the opinion that, if the time which is spent in looking through the microscope studying the germs were used in watching the patients, more would recover. There is more truth than poetry in his remark.

An interne told me some time ago that in the

*Read before the Evanston Branch, Chicago Medical Society, October 26, 1905.

laboratory he learned thoroughly that salol has practically no antiseptic influence. He also learned that typhoid fever is a general, not an intestinal disease. When, therefore, in the hospital, he was told to give a typhoid patient salol he protested, but he finally agreed to give to some patients salol, and compare those cases with others in which the treatment was, as he thought, "more scientific." The result was that he was thoroughly convinced of the clinical efficiency of salol.

I have no doubt of the fact that the pneumococcus is the cause of pneumonia, and I believe in the general truth of serum therapy, but there is something more required to-day in the treatment of this disease. Why is it that pneumonia is now so much more fatal than formerly? That it is so is well known. Why is it that eminent men in the profession have said that treatment of this disease is useless? The doctor of forty years ago studied his patient. He imagined that he was engaged to pilot the craft through a dangerous channel. He wanted to know the materials of which the craft was constructed. Heredity and hereditary characteristics play a much more important rôle in disease than the recent graduate is likely to realize. Some time ago I was surprised and horrified to hear a prominent specialist urge that in a case of pneumonia the entire chest should be examined thoroughly at least twice every day. After that advice I was not surprised to hear him say of treatment that there is little one can do. The old-fashioned idea was that the patient must be kept quiet, his strength must be saved, he must not be exposed to draughts, and the chest should be enclosed in a meal poultice. Perhaps early in the case the patient might be bled. The recent graduate smiles sardonically at those old fogey ideas, but, strange to say, the old-fashioned treatment is as successful to-day as it was fifty years ago. Some of the modern specialists certainly bleed the patient's pocketbook, but through their curiosity they turn the patient into the undertaker's hands. Respiration, temperature, and pulse are sure guides as to the progress of the disease. Is it mere accident that one doctor loses half or three-quarters of his pneumonia patients, while another scarcely a set of his? These facts ought to open the other eye of the laboratory doctor, but unfortunately, in his self-satisfaction he asserts that the other fellow must have made an error of diagnosis.

In diphtheria we ordinarily have a mixed infection. The diphtheria antitoxin is theoretically efficient against the Klebes-Loeffler bacillus only. It has been of undoubted benefit, but it should not be used exclusively. Why neglect the streptococcus infection?

Some time ago I read with much pleasure an article on a simple method of obtaining definite percentages in modifying cow's milk for infants; but the article was spoiled for me because, when it came to the application, it did not differ from the rules laid down half a century ago. Each case must have the milk modified to meet its individual requirement. Some children demand an increase of cream, some of water, and others of milk. No account was made of the fact that the casein of Jersey milk differs clinically from that of Holstein, and that most mothers do not know the meaning of the percentage. So long as the indications for use are inexact, so a great display of accuracy in prescribing seems to be done chiefly to impress the patrons.

Every movement of troops from the south northward in the war in 1861 was followed by an increase of fevers. People coming from the Ohio river to the Lake region, or from Southern Michigan to the Lake Superior region, are frequently troubled after a week or two with what are familiarly called bilious symptoms. It is far too common that the drinking water is unjustly blamed for these conditions and the following fever. In fact that water may have absolutely nothing to do with the case. It is easy to assume a wise air and, *ex cathedra* as it were, condemn the water supply; but what are the facts? Take Evanston for example. I doubt if any city of its size in America has a better supply. "The proof of the pudding is in the eating of it." Compare the amount of sickness here with that in other cities; especially compare the amount of intestinal disorders here with that in other places, and the contrast is remarkable. It might almost be said that we have no such troubles. If the water were bad we should have these disorders, particularly in the summer time. Yet there are some well meaning doctors who are constantly urging that all the water be boiled. Why? Because chemical analysis may show the presence of albuminoid ammonia. Is that of itself harmful? Not so far as is known. It may show the presence of sewerage, but that is harmful chiefly, not entirely, on account of the presence of pathogenic bacteria. Nonpathogenic bacteria are nearly always present in an open water supply, and they are necessary for the purification of the water. The presence of pathogenic bacteria I believe is exceedingly rare in our public supply. But note the inconsistency of the "boil the water" doctors. They do not condemn our sola fountains, though the water there is not boiled. They often endorse the use of well water, though the well may more easily become contaminated than our public supply; but especially they permit and even recommend the use of salads, though the lettuce, cress, radishes, and celery are washed and often soaked in this same unboiled water. The semi-gelatinous outside of the celery or lettuce makes a fine culture ground for bacteria. Notice the "rust" on the stalk of celery, or the spots of decay on the tender lettuce leaf that has been kept a day or two. If the drinking water must be boiled, the salad should be cooked also.

Don't misunderstand me—too great care cannot be taken of our water supply. The Emerson street sewer* should be diverted to the south as far as possible and as soon as possible, certainly before the opening of the drainage canal. Now occasionally it is best to take extra precautions. For example, as in the past week, when after a period of calm a northeast wind drives in the surface of the lake, and the returning undertow washes out the filth that has accumulated along the shore. So, too, when after a dry spell the sewers are flushed by heavy rains. At such times the water is oily. At any time when the intestinal tract is in an irritated condition it is wise to avoid every possible source of infection, whether it be water, fruit, or salads. But do not let us lose our heads. I know of a man who refused to drink his coffee because it had been made of water which had not been filtered, though perfectly clear, yet at the same time he eats freely of salads.

The Widal test and Diazo reaction are of undoubted value in the diagnosis of typhoid fever, but he who depends upon either, is sure to overlook important symptoms. The Diazo reaction for example has been noticed in tuberculous and simple

*Evanston is supplied with water taken from Lake Michigan, about a mile from shore. The Emerson street sewer empties into the lake about one mile south of the waterworks. The current of the lake is southward on this shore. An extension of the Drainage Canal will pass through Evanston and open into the lake about a mile north of the waterworks. The opening of this branch of the canal may affect the current in the lake.

meningitis, septicemia and other conditions, aside from typhoid fever. I have previously reported a case of supposed cancer of the stomach in which the diagnosis had been made after the most careful examination of test meals, and made by competent observers. I told the family that what we to-day regards as facts the future may prove to be false, and that, though I believed the diagnosis correct, I should work on the supposition that it was not. To our surprise the patient recovered.

The causative action of a few germs has been demonstrated in some diseases, but even in those cases—diphtheria for example,—there are other influences at work. Disease is not an entity, but an abnormal condition, and generally speaking we name it according to the most prominent abnormality. The action of the pneumococcus in a plethoric patient is very different from that in a person of the nervobilious temperament. Disease therefore must not be treated by name.

The body is a complex mechanism, and "if one member suffer, all the members suffer with it." The fact that the peculiar germ of a disease or its toxin is found in the blood or in the various parts of the body, does not prove that that disease is essentially general. Tropical anemia is general in its results. Smith has recently proven that the uncinaria may enter the body through the skin of the wrist, yet here, as in other cases of uncinariasis, the use of intestinal anthelmintics cures the disease.

Again: When diphtheria or pneumonia is present in the community the specific germ may be found in the fauces of perfectly healthy individuals. The presence of the germ is then not sufficient ground for a diagnosis. The healthy animal organism has power to overcome and destroy bacteria. You may not properly speak of a bed of radishes until the seeds begin to grow. They may decay before germinating. You do not have a case of diphtheria before the germ has begun to develop and produce its toxin. Where the bacillus is present without disease, the patient is really threatened with the disease. When by medication we aid the system to conquer an incipient attack of diphtheria or typhoid fever, I see no impropriety in saying that the disease is aborted. Tuberculosis is frequently aborted, and why not typhoid fever?

All remember about the French professor of the practice of medicine who always closed his clinic by hoping they might be present at the autopsy of the patient. When we are called by our patrons it is to avoid an autopsy. It is our duty to get them well with the least possible delay. To do this we must sometimes use remedies which experience has proven good, even though our reason says differently.

Let us, therefore, use both eyes and have minds open to receive truth from every source. Centuries ago one wrote the good advice: "Be not wise in your own conceits."

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**Some Anomalous Cases of Locomotor Ataxia.**—F. H. Edgeworth calls attention to cases of locomotor ataxia which differ from the ordinary type of this disease. In certain instances there is noted the absence of ordinary features, in others the presence of rare ones, in still others the coexistence of diseases which modify the general clinical picture of this affection. It is known that absence of the knee-jerks is an almost constant symptom of the malady. However, in certain cases they are present. The writer describes a case of tabes in which the physical signs were absolutely negative. The patient had had both primary and secondary syphilis and had suffered for a year from attacks of intense shooting pains in the muscles of the legs. Aluminum chloride was administered three times a day, and antifebrin was given during the attacks. Six months later considerable improvement was noted; the physical signs were, however, still negative. In another case the gastric crises were so characteristic that the diagnosis of tabes was made even in the absence of physical signs. Morphia, given hypodermically, was the only drug which controlled the attacks. Romberg's sign which developed was the only physical evidence of tabes. This man had had a hard chancre. Another case showed an interesting combination of symptoms—ocular paralysis, gastric crises, and loss of knee-jerks. This patient was a married woman twenty-seven years old. She had suffered from symptoms very suggestive of syphilis five years before. Iodide was administered and the ocular paralysis disappeared in two months. The other symptoms persisted. The writer states that the knee-jerks, if lost in tabes, may return in consequence of an attack of hemiplegia. He further declares that an arthritis does not bring back the knee-jerks. He concludes this paper by citing the case of a man thirty-four years old in whom peripheral neuritis complicated tabes. Treatment consisted of large doses of iodide, massage, and electricity. Almost complete recovery took place in two months, but the physical signs of tabes did not change.—*The Bristol Medico-Chirurgical Journal.*

**Subcutaneous Fixation of the Omentum.**—Narath has obtained satisfactory results in cases of cirrhosis of the liver with ascites by the following modification of the Tahua operation. A small incision is made in the median line just above the umbilicus under local anesthesia. Through this incision the abdomen is emptied of ascitic fluid as thoroughly as possible by pressure and by drainage through heavy metal catheters introduced into the pelvis and hypochondrium. A thick finger of omentum 12 to 15 cm. long is then drawn into the wound, and secured by sutures at its base. The portion of omentum selected should have a rich blood supply. Under further local anesthesia a subcutaneous pocket is formed by blunt dissection to the left of the umbilicus, and the selected projection of the omentum fastened in it. If the pocket is not too large sutures are not essential to hold the omentum in apposition with the abdominal wall. Traction upon the omentum must be as slight as possible to avoid displacement of the transverse colon. This is the only danger in the operation, but even where the intestine has been drawn into the wound no clinical symptoms have resulted. The abdominal incision is closed without drainage. Transient edema of the abdominal wall from infiltration with ascitic fluid is occasionally observed. Dilatation of the paraumbilical veins indicating the formation of anastomoses is usually apparent at the end of a week. The advantages of this method are, (1) the rapid and extensive formation of venous anastomoses; (2) the substitution of local for general anesthesia in debilitated subjects.—*Zentralblatt für Chirurgie.*

**The Motility of the Stomach in Pregnancy and the Puerperium.**—Giuseppe Fossati calls our attention to the fact that in pregnancy the motility of the stomach is increased, and the secretions are increased in the amount both of pepsin and of hydrochloric acid produced. Hence the good appetite shown during the last months of pregnancy. To test the rapidity of peristalsis and of absorption of materials by the stomach the author administered iodopina, a combination of iodine with the oil of sesame, which is absorbed in the intestine, being unchanged in the stomach. By noting the time between the ingestion of the iodine and its appearance in the urine, he determined the rapidity of the motor action of the stomach. The experiments were made on women in the last three months of pregnancy, and a few in the first ten days after childbirth. The author's conclusions are as follows: (1) The gastric motility in pregnancy is above normal at the seventh month, and is at its acme in the eighth and ninth month. (2) In the first four days of the puerperium, it is below normal; it then rises again above normal, but not to so high a degree as during pregnancy. (3) Primiparity or multiparity has no influence on the motility of the stomach.—*Annali di Ostetricia e Ginecologia.*

# MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, December 9, 1905.


## THE HABITUAL USE OF PURGATIVES.

IN dealing with a malady so widespread as constipation, and so susceptible, in its most prominent manifestation at least, of easy medicamentous relief, it is not surprising that therapeutic abuses should be almost universal, and that among the laity and the profession alike measures leading to symptomatic alleviation rather than to radical cure should be oftenest applied. The orthodox dietary régime is frequently irksome or inconvenient to follow, fresh air and exercise may be luxuries difficult of attainment, and still more so the special gymnastic, electric, and hydrotherapeutic measures that are usually the privileges of the well-to-do. It is so much simpler to take at bedtime a spoonful of this or that, or some pet pill, then to carry out the hygienic program dictated by a more rational, but less convenient system of therapeutics, and the result is often the acquisition of a highly undesirable "purgative habit." The advantages attending a smoothly functionating intestinal tract have been so thoroughly impressed on the popular consciousness that a special type of neurasthenics and hypochondriacs has been fostered, amateur scatologists who make a fetich of the water-closet and view with dismay any putative diminution in the matutinal output of waste material, or regard an occasional omission of the function as a signal for instant recourse to the medicine bottle. The difficulty is that it is not sufficiently well recognized that while it is customary for most individuals to empty the lower bowel once in twenty-four hours, this is largely a matter of education, and perfectly good health may be maintained even though the act of defecation is performed only at much longer intervals. Habit and idiosyncrasy play a large part in the establishment of periodicity in this regard, and what constitutes constipation for one person may not be at all unnatural for another. The advocates of restricted dietary and thorough insalivation, like Sir Michael Foster, Chittenden, and Horace Fletcher, have shown that infrequent defecation may be quite consistent with good health. The literature of proctology is indeed full of phenomenal, but we suspect apocryphal, cases in which defecation regularly occurred at intervals of weeks or even months without apparent impairment of the general well-being.

Jürgensen, in a contribution to the "Ewald Festschrift" of the *Berliner klinische Wochenschrift*, points out that the multiplicity of available purgatives has led to a haphazard, stereotyped manner of their use which demands serious censure. The daily administration of such agents is wholly unwarrantable and is distinctly pernicious. Under these conditions the intestine is deprived of all occasion for spontaneous action, and no opportunity is given for any estimate of its intrinsic capacity. The question of the normal interval between movements is still unsettled, but is after all of secondary importance, for in determining whether or not constipation exists the nature of the stools, their consistency, amount, etc., are of greater significance than their frequency. The usual statements of habitually constipated persons to the effect that unless a daily movement is secured by the aid of drugs all sorts of disagreeable symptoms result may, according to Jürgensen, often be disregarded, and he thinks the alleged general consequences of the condition are in many cases much exaggerated. The distinction between permissible and non-permissible laxatives must be drawn with greater care. Ewald has stated that only those laxatives are satisfactory that produce mushy, non-watery stools, without any discomfort, such as griping or tenesmus. Jürgensen goes still further and avers that such agents intended for routine use must act without giving rise to any unnatural collateral effects whatever, that is, without even disturbing the normal consistency of the movement. Another point of importance is the matter of dosage. Laxatives must never be prescribed in a fixed dose if intended for repeated use. The amount to be taken must always be determined by experiment in each case, and the minimum quantity which will produce a perfectly comfortable, formed stool is the proper dose. Many cathartics, perhaps most of them, exhibit only the two extremes of action, and either are without any effect at all or, if the dose be increased by even a very little, cause liquefaction. If no golden mean can be obtained such agents should be discarded from the treatment of chronic constipation, and only those that can be made to exhibit a more nearly natural action should be used. The various mechanical, electrical, and dietary measures are termed by Jürgensen the hygienic purgatives, while those belonging to the realm of pharmacology, he says, are distinctly anti-hygienic. Of the latter class he mentions as suitable a decoction of the European buckthorn bark, a weak infusion of senna leaves, and, finally, medicinal "teas" containing combinations of several simples, such as linden, elder, and German camomile flowers, peppermint leaves, valerian root, arnica flowers, mullein flowers, etc. These latter, on account of their mild action, he considers especially satisfactory and he recommends them for further trial.

The same subject is approached from a somewhat different standpoint by A. Schmidt, of Dresden, who has already done much toward advancing the study of the feces. In the *Münchener medizinische Wochenschrift*, No. 41, 1905, this author states that most writers in attempting to explain the nature of chronic constipation regard it as dependent on a primary defect of the motor apparatus of the intestine, *i. e.* its nerves and muscles. He believes, however, as the result of observations, mainly on the feces produced while on a test diet, that this theory is insufficient to explain many cases, and suggests an entirely different view. This is that in chronic constipation the food is exhausted to an extreme degree as compared with the normal conditions, so that the

residue is hard, dry, and too small in amount. This abnormality of digestion is the primary element, the deficient motor activity of the gut being the secondary factor. This is dependent on the fact that owing to the small quantity of débris from the food fewer bacteria develop, and consequently smaller amounts of decomposition products to irritate the intestine into activity are formed. Strassburger has actually found that the feces of constipated individuals contain much less than the normal proportion of bacteria, and Lohrisch has shown that the feces of such persons give evidence of increased digestive capacity for cellulose. Furthermore, the stools of chronic constipation do not usually show evidences of decomposition, but are almost odorless, neutral in reaction, and when tested in the incubator undergo little fermentation or putrefaction. Schmidt's idea is that if the cause of the constipation is the, so to say, overdigestion of the food, an effort must be made to render the amount of residue greater. This is usually attempted by the addition to the diet of coarse articles of food, such as whole wheat bread, nuts, fruit, etc., often without much effect. Wholly indigestible materials such as sawdust, bran, and sand have also been tried, but although they may render the intestinal residue more bulky they do not cause it to be softer or moister, which are the essentials for easy evacuation. A substance which fulfills both conditions and increases not only the actual volume of the stools, but also their moisture, while without being in any way injurious or irritating, is the agar-agar of the bacteriological laboratory. This absorbs water freely and then swells up, but is practically indigestible. Schmidt has found that if small amounts of this (10-20 g.), finely chopped, are added to the food the consistency of the feces is altered for the better to such an extent that many cases of chronic constipation may be relieved in this way. Another agent that has a similar but somewhat less effective action is vaselin, and often a combination of this with the agar is more satisfactory than either alone. In some cases, he admits, the increase in bulk and moisture effected by this means is insufficient alone to produce the desired result, and a small amount of some laxative, such as cascara, must also be given, to serve as an irritant stimulus to the intestine; but this need never be as large as would otherwise be the case.

Whatever practical value this suggestion will be found to have there is no doubt that it, like all other plans of internal correction, will be most likely to prove successful if the greatest stress in the treatment be laid on what Jürgensen terms the "hygienic purgatives," and of these proper diet is probably the most effective. The tendency of the laity to self-medication is always a source of danger to the public health, and the risk is certainly less if the therapeutic endeavors of the populace have as their inspiration the bill-of-fare instead of the pharmacopeia.

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**Another Cancer Cure.**—According to the newspapers, Dr. James Fenwick of Accrington, England, has hit upon a new cancer cure. Like Behring, he declines to reveal the exact nature of the remedy, but asserts that he has cured nine patients in nine years—a rather poor showing for an infallible remedy.

## CHRISTIAN SCIENCE AND THE CHURCH IN ENGLAND.

The Bishop of London, who, undoubtedly, is the most progressive and, in many respects, the most able of the English Protestant Church prelates, has made recently a considerable commotion in both church and lay circles by the delivery of a remarkable address in regard to Christian Science. The occasion was a meeting of the Women's Diocesan Association, held in London on November 11. The title of the Bishop's address was "The Truth and Error of Christian Science." In the course of his remarks the speaker admitted that the teaching of the Christian Scientists embodied a great truth. Up to a certain point they were perfectly orthodox. There was in us all a deeper personality which had a power over us. In times of sickness an appeal might be made to that deeper personality in such a way that the sick might be strengthened even to recovery. The Bishop then related an instance in which he had been the means of exerting so great an influence over a sick person that she had come out of a state of collapse and had been enabled to undergo an operation which had cured her. The speaker said that "to a great extent there was truth in what the Christian Scientists taught. But when this truth was distorted and exaggerated, as it was, one was changing it deliberately into a gigantic heresy." The Bishop further declared it to be his firm belief that some persons possessed the gift of healing, and he laid down the following rules for those thus endowed: First, those who thought they had these special gifts must never attempt to exercise them apart from the medical profession. In the second place, they should make it clear that they looked upon the healing art as in itself a sacred thing. Thirdly, they were to maintain the equal rights of the Christian minister and the doctor in the sick room.

Christian Science is making considerable headway in England, which, no doubt, was the main reason for the Bishop's discourse. The cult, however, has by no means the vogue that it has in the United States. Of course, it is an undeniable truth that the mind has a powerful influence over the body, and it is due to this fact that Christian Science has had a large amount of success in treating certain forms of disease. Indeed, what is known as autosuggestion has a distinctly curative effect on certain functional affections, as, for instance, on some forms of headache, on hysteria, and on imitative chorea. A Dr. Moll of Berlin wrote a pamphlet a few years ago in which he endeavored to trace the connection between Christian Science and Occultism, and concluded that there was an intimate relation between the two. The writer freely admitted that Christian Science treatment might improve symptoms even when serious anatomical changes were present, but he proceeded to point out that so might also ordinary psychotherapy and suggestion. It is manifestly absurd to term the cult Christian Science, for there is but little Christianity in connection with it, and there is most certainly no science. *The Lancet* some few years ago referred to this religious craze as "unchristian nescience," which phrase, if it be analyzed, will be found to be far more apt than the name given by the founder. That there are earnest and good Christian Scientists is assuredly true, but the so-called religion is based to a great extent upon fallacious reasoning.

If the Christian Scientists were not to go beyond the treatment of the thousand and one petty ailments which have their origin in the mind rather than in the body, nothing would be said against their efforts; but when, as the Bishop of London remarked, the truth is distorted and exaggerated, it is changed into a gigantic heresy—he might have said fraud. As, however, has been pointed out in the MEDICAL RECORD on many occasions, one of the most unpleasant features of the Christian Science fad is that it is in so large a degree a money-making scheme, engineered by wonderfully keen business brains. The people of education and culture who have joined the sect have been attracted probably by the craving, inherent in most people, for something new. It may also be noted that the majority of Christian Scientists are women of queer nervous constitution, when not strictly on the make.

## PHYSIOLOGICAL ACTION OF THE ELEMENTS.

EXPERIMENTS have determined that the physiological action of the elements corresponds to their motion and vibration, and that of the molecule upon the preponderance of a single component. Thus carbon has a paralyzing, hydrogen an exciting, and oxygen an indifferent action. The more carbon and the less hydrogen in a compound the greater its paralyzing effect, and vice versa. In groups which contain hydrogen and nitrogen, the exciting action of the former preponderates over the weakly paralyzing action of the nitrogen. In this way the hydrocarbons are paralyzing groups because of the overpowering influence of the carbon. In the hydroxyl groups the hydrogen has an exciting action because of the indifferent oxygen.

The experiments above mentioned marked an attempt to establish a connection between chemical constitution and biological action. Schmiedeberg followed up these interesting investigations and determined that the absorbability of a substance plays a most important part in its action; that which cannot be absorbed being clearly inert when taken into the animal organism. Further, volatility at body temperature will modify the action. The narcotic action of the alcohol groups is conditioned upon the number of oxygenations contained in the molecule. Combinations of the alcohol groups containing two or more oxygenations with a hydrocarbon group become largely or entirely inefficient. Very poisonous atomic groups lose the intensity and original character of their action upon the substitution of a hydrocarbon of the fatty series, while the efficacy of the hydrocarbon groups is weakened or abolished by combination with other atoms or complexes. The introduction of hydrogen into the cyclical bases will strengthen the physiological action and increase the toxicity.

Many poisons are rendered inert by the introduction of acids. This is explained by Nencki, chemically because of differences in oxidizability, but Ehrlich rather thinks that it is one—oftentimes at least—due to physiological conditions. For instance, all cocaines in a chemical sense cause the same pathological changes in the mouse's liver, but the anesthetic effect is limited to the benzoyl group, which is anesthesiophoric, while the methyl group is only anesthesiogenic, and herein is explained the synthesis of new remedies in the body. First, it is necessary to select a group which has an affinity for certain tissues, and in these substances to introduce various other groups which exert a toxic or therapeutic action. The recognition of the varied relations of different active series follows upon the study of the possibilities under which they act, especially upon the physiological and chemical study of substances which act in small quantities and chiefly on organs or tissues.

### SPIROCHETES IN YAWS.

AN interesting observation has recently been published by Dr. Castellani, who has done much work on the etiology of various tropical diseases. In a communication to the *British Medical Journal*, relating to parangi or yaws, which he is at present studying at Colombo, Ceylon, he announces that he has been able to demonstrate in the lesions of the disease several varieties of spirochetes, one of which is very delicate and closely resembles *Spirochæta pallida*. In preparations from ulcerated lesions various spirochetes are present, one form being identical with the *S. refringens* of Schaudinn. Two other types may be recognized and for these the author proposes respectively the names of *S. tenuis obtusa* and *S. tenuis acuminata*. In non-ulcerated lesions there may be found a spirochete which Dr. Castellani believes is identical with *S. pallida*. A significant feature is the fact that no spirochetes are observed in lesions which are healing. Of eleven cases of parangi examined seven revealed the presence of spirochetes, and in four cases peculiar oval, chromatin-containing bodies were seen which the author suspects may be a developmental stage of some possibly specific protozoon. Dr. Castellani states that he submitted one of his first specimens to Professor Schaudinn, who reported that he could differentiate three varieties of spirochetes, one of which resembled, but was not identical with *S. pallida*. While Dr. Castellani is not yet prepared to ascribe an etiological significance to the occurrence of these organisms in yaws, the observations he records are certainly of importance and will prove equally interesting to those who attribute purely saprophytic properties to the spirochetes, and to the adherents of the view that yaws and syphilis are related diseases.

### RADIOTHERAPY IN CHRONIC INFECTIOUS DISEASES.

THE report of a positive cure of three cases of leprosy, presented by Dr. H. B. Wilkinson to the Manila Medical Society, an account of which is contained in our special Philippine correspondence in another column, is interesting from more than one point of view. The fact of a cure, at least of the disappearance of Hansen's bacillus from the tissues, seems to have been demonstrated beyond gainsay, and it affords a promise that at last a means of arresting the course of this hitherto hopeless disease has been discovered. But it has possibly another and even deeper significance. If the theory advanced by Dr. Wilkinson of the manner of cure in these cases is substantiated, it is possible that radiotherapy will prove to be curative in other constitutional infections with superficial lesions. He assumes that the action of the *x*-rays is to attenuate or kill the bacilli present in the rayed lesion; these then become the prey of the phagocytes, and in the lytic process an excess of protective substance is formed which effects the destruction of the active bacilli elsewhere in the body, thereby establishing an immunity. If this is so other affections, notably syphilis in certain of its stages, may be amenable to a similar mode of treatment.

## News of the Week.

**Medical Society of the State of New York.**—The meeting of the Medical Society of the State of New York, which is to be held on the last day of January next and the two days following, being the Centennial meeting will be so largely devoted to papers written especially for the occasion, that the opportunity for the usual volunteered papers will be limited. Any members who wish to read communications of this sort should, without delay, make application for a place on the program, to the Business Committee, Dr. L. H. Neuman of Albany, Dr. A. T. Bristow of Brooklyn, Dr. H. U. Williams of Buffalo, or to any of the officers of the society. Those applying first will probably be assigned a place.

**Tuberculosis Exhibition.**—It has been decided on account of the increasing interest shown by the public in the tuberculosis exhibition in the Natural History Museum, to keep the exhibition open on Sunday, December 10, instead of closing on Saturday night. The attendance last week averaged 2,000 in the afternoon, with an increase in the evening, when lectures were given. The trades unions of New York held a convention on December 2 in the Natural History Museum to discuss tuberculosis and how the unions can aid in preventing it. Addresses were made by Health Commissioner Darlington, Herman Robin, secretary and official delegate of the Central Federated Unions, Prof. Graham Taylor, and J. W. Sullivan of Typographical Union No. 6, who said tuberculosis was the scourge of the printing trade. Thirty per cent. of the compositors die of tuberculosis, and thirty-two per cent. of the number are under thirty years of age. A circular of facts and statistics about consumption has been approved by the Committee on Sanitation of the Central Federated Union of New York, and is to be sent out to the various unions for distribution.

**New Free Bath Opened.**—The new city baths at 133 Allen street were opened on November 29, and are ready to furnish opportunity for cleanliness, free to all comers, who provide their own soap and towels. The building, of brick and granite trim, occupies two city lots, and cost $92,000. The hours are from 6 A. M. to 9 P. M., and a daily attendance of about 5,000 is expected. There are in all, 165 showers and dressing rooms and 16 tubs. Two new baths on East Eleventh street near First avenue, and East Seventy-sixth street near the John Jay Park, will be opened about the end of next month, and one on Sixtieth street near Eleventh avenue, will be ready about the close of January.

**Louisiana State Board of Health Resigns.**—After a more or less prolonged and unedifying series of accusations and recriminations on the part of the press and members of the board, the latter tendered their resignations to Gov. Blanchard on December 2. This action was taken on account of the popular expression of loss of confidence in the board, due to its failure to keep out the yellow fever. An appeal, headed by Lieut.-Gov. Sanders, has been made to the Governor to call an extraordinary session of the Legislature to confine itself exclusively to health matters.

**Illiteracy in the United States.**—A recent bulletin, issued by the Census Bureau, shows that about 100 out of every 1,000 persons in the United States, more than 13 years of age, are unable to write. The proportion for native white population is 46, foreign born whites 128, and negroes 445 in every 1,000. This shows a marked improvement over the conditions existing ten years ago, for in 1890 the illiterates of the United States numbered 133 per 1,000 for the total population; 62 for the native whites, 130 for the foreign born whites, and 568 for negroes, Indians, and Mongolians. International comparisons, restricted as far as possible to corresponding classes of the population, are, on the whole, favorable to this country, although the United States is still far behind Germany, Sweden and Norway, Denmark and Switzerland. Illiteracy is more prevalent among females than among males in the United States, the proportions being 112 for females and 101 for males per 1,000. There has been a greater gain in literacy among females than among males since 1890, when the figures for the sexes were 144 and 123 respectively. Commenting on this feature, the bulletin says: "Changes which are in progress point to the coming of a time when females of all ages will be less illiterate than the males. They also point to the coming of a time in the more remote future when illiteracy for all classes will have practically disappeared, and equality of the sexes in this respect will thus be restored in a millennium of literacy." Curiously enough there are fewer illiterates among the children of foreign born parents than among those of natives, and this is believed to be due to the fact that most of the former live in cities.

**Disinfection of Railroad Cars.**—In an editorial note in the MEDICAL RECORD, published a few weeks ago, reference was made to the urgent necessity for greater thoroughness in the disinfection of railway coaches. It was stated that an occasional cleansing was insufficient and that the cars should be purified at the end of each run. The Erie Railroad began week before last to sterilize the cars of the Chicago Limited after each trip with formaldehyde gas. The process will soon be extended to all the through trains. A deodorizing apparatus, which has been in use in about fifteen cars for several weeks, has also been devised and is placed under the seats over night. All the passenger cars will be fitted with it, though we must admit that the value of this innovation is probably more apparent than real. The laws of Texas and Kentucky require the sterilization of railroad cars, and an agitation for similiar laws is now going on in Ohio.

**Medical Organizations in Savannah.**—Working under the reorganization plan of the American Medical Association for only one medical society in each county of each State, the Georgia Medical Society and the Chatham County Medical Society, the two Medical Societies of Chatham County, came together a month ago and effected temporary organizations. At a subsequent meeting officers were elected. At the next meeting all these officers resigned and their resignations were accepted, owing to the fact that some members of both societies complained that they had no notice of the purpose of the meeting, and consequently had no voice in the election. While it appears that there is no disinclination on the part of the members of either society to amalgamation, the details of the process are giving rise to differences of opinion which were not reconciled at the last joint meeting, held on November 24. It is likely that one or more separate meetings will be necessary before a satisfactory plan of action can be decided on.

**Yellow Fever at Havana.**—The total number of cases under treatment on November 28 was 15. There have been 5 deaths. Five cases have been discharged as cured, making 27 cases to date.

This does not include 2 patients who died before their disease was recognized as yellow fever, and who were taken sick before the present outbreak. No new cases had been reported on December 1, though several suspects were under observation. Much adverse criticism has been caused by the fact that the health authorities at the request of certain local business elements have ceased publishing the names of patients or of the buildings from which they are taken.

**Patent Medicine Ruling.**—An order has been issued by Commissioner of Internal Revenue Yerkes and forwarded to all collectors of internal revenue, stating that peddlers who go about the country offering for sale patent medicines and other liquids containing alcohol, will, hereafter, be required to pay a special tax at every separate place where they make any sales.

**Thumb Imprint System.**—The New York city police officials have decided to introduce the thumb imprint system of identification into the methods of the police department. The detective sergeant, who is at present in charge of the Bertillon measuring system, is to be sent to Paris to study the French plan of finger-print registration, and will then instruct the local officers in its application.

**Essex (Mass.) South Medical Society.**—This society celebrated its one hundredth anniversary at Salem, on November 21, by a banquet, which was very largely attended. Dr. Frank Holyoke of Holyoke, read a biographical paper, relating to his own great-great-grandfather, Dr. Edward Holyoke, the first president of the society, and the first physician upon whom Harvard conferred the degree of LL.D.

**Tri-State Medical Association.**—At the twenty-second annual meeting of the Tri-State Medical Association of Arkansas, Mississippi, and Tennessee, held in Memphis in the last week of November. The following were elected as officers: *President*, Dr. Allen E. Cox of Helena, Ark.; *Vice-President*, Arkansas, Dr. Dickson of Paragould; *Vice-President*, Mississippi, Dr. E. J. Johnson of Yazoo City; *Vice-President*, Tennessee, Dr. F. J. Runyan of Clarksville; *Secretary*, Dr Richmond McKinney of Memphis; *Treasurer*, Dr. Marcus Haase of Memphis.

**Prize for an Essay on Epilepsy.**—The national Association for the Study of Epilepsy offers a price of $300 for the best essay on the Etiology of Epilepsy. Physicians in any country may compete for this prize. The award will be made in November, 1906, but all essays submitted must be sent in by September 1 of that year. Details as to conditions governing the award may be obtained from Dr. Spratling, Superintendent of the Craig Colony for Epileptics, Sonyea, Livingston County, N. Y.

**Demonstration of the Spirochæta Pallida.**—At Dr. Bulkley's lecture at the New York Skin and Cancer Hospital recently, Dr. Lapowski demonstrated under the microscope several specimens of the *Spirochæta pallida*, and gave a short résumé of the work that has been done to prove the etiological relationship of this organism to syphilis. This was, we understand, the first public demonstration of the *Spirochæta pallida* in this city.

**Removal of the "Illinois Medical Journal."**—The Council of the Illinois State Medical Society contemplates removing this journal from Springfield to Chicago in 1906, and it is said that the press work will be done at the office of the *Journal of the American Medical Association*.

**West Side Clinical Society of New York.**—The first meeting of this Society was held Friday, December 1, at the residence of Dr. Charles R. Jackson. Dr. George P. Shears discussed the subject of "Dystocia from Unsual Size of the Fetus," and Dr. J. C. Taylor that of "Salpingitis."

**Southern Surgical and Gynecological Association.**—The eighteenth annual session of this society will convene at Louisville, Ky., December 12, 13, and 14, 1905. Dr. W. O. Roberts is chairman of the Committee of Arrangements, and Dr. W. D. Haggard of Nashville, Tenn., is the Secretary of the association. All railroads will give one and one-third fare on the certificate plan. Membership blanks may be had upon application. Titles of papers or corrections should be sent at once to W. D. Haggard, Secretary, 148 Eighth Avenue, North Nashville, Tenn.

**The Report of the Evanston (Ills.) Hospital Association** shows that during the fiscal year 85 free patients were admitted, or more than 25 per cent. of the total number of patients received during the year. Twenty-two patients were admitted in the Children's ward, 14 of whom were free patients.

**The Illinois Commissioners of Public Charities,** in their quarterly report, ended September 30, gave the following as the per capita cost of the various State institutions: Illinois Western Hospital for the Insane, $26.21; Illinois Eastern Hospital for the Insane, $30.05; Illinois Hospital for the Incurable Insane, $30.32; Illinois Central Hospital for the Insane, $31.27; Illinois Southern Hospital for the Insane, $35.13; Illinois and Northern Hospital for the Insane, $38.67, and Illinois Asylum for Insane Criminals, $50.43.

**The Chicago Medical Society** has been asked by the Commissioner of Health to appoint a committee on nomenclature and classification of causes of deaths and the registration of vital statistics, authorized by the Society, to make a study of the methods and work of the department in these subjects, and if any defects are discovered to suggest remedies therefor.

**Bequests to Hospitals.**—By the will of the late Joseph E. Gillingham of Philadelphia, the sum of $50,000 is bequeathed to the Pennsylvania Hospital, $5,000 to the Maternity Hospital, $5,000 to the Bryn Mawr Hospital, $5,000 to the Charity Hospital, Norristown, and $5,000 to the Hospital of the Church of the Good Shepherd near Rosemont. The sum of $50,000 is devised to the Veterinary Department of the University of Pennsylvania, and $5,000 to the Women's Medical College of Pennsylvania for providing and maintaining a free scholarship.

**New Hospital Dedicated.**—The Chicago St. Bernard (Hotel Dieu) was recently dedicated by Archbishop Quigley. It has accommodations for 280 patients. Five operating rooms have been arranged for. The emergency room is to be on the first floor. Four operating rooms are on the fourth floor. There are five large wards, four small wards, and five wards for children.

**Dr. W. M. Late Coplin,** professor of pathology and bacteriology in Jefferson Medical College, has been appointed by Mayor Weaver of Philadelphia, Director of Public Health and Charities, in succession to Dr. Edward Martin, recently resigned.

**The Chicago Urological Society** elected the following officers at its annual meeting: *President*, Dr. Wm. L. Baum; *Vice-President*, Dr. Gustav Kolischer; *Secretary*, Dr. J. Allen Patton.

The society will hold its meetings on the last Thursday of each month, excepting July, August, and September. All regular practitioners in Cook County, who are in good standing, and who are interested in medical or surgical urology, are eligible to membership.

**A New Urological Society.**—On November 22 the New York Reno-Vesical Society was organized, for the purpose of studying the diseases of the bladder and kidneys. The officers for the ensuing year are: *President*, Dr. Ramon Guiteras; *Vice-President*, Dr. Winfield Ayres; *Secretary*, Dr. Robert R. Hollister. The meetings are to be held monthly. Membership is limited to fifty.

**American Electro-Therapeutic Association.**—The fifteenth annual meeting of this society was held at the New York Academy of Medicine on September 19, 20, and 21, 1905. The following officers were elected for the ensuing year: *President*, William Benham Snow, M.D., of New York; *Vice-Presidents*, William J. Herdman, M.D.,LL.D., of Ann Arbor, Mich., and Henry Finkelpearl, M.D., of Pittsburg, Pa.; *Treasurer*, Richard J. Nunn, M.D., of Savannah, Ga.; *Secretary*, Albert C. Geyser, M.D., of New York; *Members of the Executive Council*, Emil Heuel, M.D., of New York, and M. W. Brinkman, A.M., M.D., of New York.

**Presbyterian Hospital Report.**—The thirty-seventh anniversary of the Presbyterian Hospital was celebrated on December 2, in Florence Nightingale Hall, the school for nurses attached to the hospital. The annual report was made public and shows that during the fiscal year ended September 30 last 47,936 patients were treated in all departments of the hospital, an average of 606 a day.

**Dr. William J. Hammer**, who has been for the past few years First Assistant Physician at the Loomis Sanatorium, at Liberty, N. Y., has recently been appointed Resident Medical Director at St. Joseph's Sanatorium, Silver City, New Mexico. He will assume the duties of his new office at once. St. Joseph's is a young institution established a few years ago by the Sisters of Mercy.

**Neuralgic Grip.**—From the cabled reports it appears that this year epidemic influenza in Europe is largely of the neuralgic type. It is stated that attacks of neuralgic headaches and facial pains are now enormously prevalent in London.

**Plague in Japan.**—The plague is spreading in the vicinity of Kobé, and the authorities report that four districts are infected.

**Rockingham County (N. H.) Medical Society.**—The election of officers at the annual meeting of this society, held in Exeter, on November 9, resulted as follows: *President*, Dr. William H. Nute of Exeter; *Vice-President*, Dr. A. B. Sherburne of Portsmouth; *Secretary*, Dr. Walter Tuttle of Exeter; *Treasurer*, Dr. Alice M. Chesley of Exeter.

**Second District (Ohio) Medical Society.**—At the meeting of this society, held in Dayton, on November 21, the following officers were elected: *President*, Dr. John M. Buckinham of Springfield; *Secretary*, Dr. Daniel B. Conklin of Dayton; *Treasurer*, Dr. C. H. Minor of Springfield.

**Obituary Notes.**—Dr. Ambrose L. Ranney of New York city died suddenly on December 1. He was born in Hardwick, Mass., on June 10, 1848. He was graduated from the New York University Medical College in the class of 1870, and was one of six brothers, who were physicians. Dr. Ranney held chairs of anatomy and nervous diseases in several colleges and wrote a good deal on medical subjects.

Dr. Kate L. S. Sterling died on December 1, in the New York Hospital. She was graduated from the Woman's Medical College of Pennsylvania in 1886. Dr. Sterling had a clinic for some years in the New York Infirmary, in Livingston street, and served on the staff in the Babies' Hospital, Lexington avenue, and the Hospital for Ruptured and Crippled. She was a member of the Medical Society of the County of New York.

Dr. Augustus Choate Hamlin of Bangor, Me., and one of the best known men of the State is dead. He was widely known as an author, artist, and as an authority on tourmalines, of which he is said to have owned the best collection in existence. He was a nephew of Hannibal Hamlin, Vice-President of the United States during the Civil War. He was born in Columbia, Me., on August 28, 1829, and was the son of Elijah Livermore Hamlin. He was graduated from Bowdoin College in 1851 and from Harvard Medical School in 1855. He was attached to the Second Maine Infantry as assistant surgeon in 1861, and was made brigade surgeon the following year, attaining the rank of Lieutenant-Colonel and Medical Inspector of the United States Army in 1863. He served during several battles. After the war he practised medicine in Bangor. From 1882 to 1886 he was Surgeon-General of Maine. He had been Mayor of Bangor twice. He was the author of a book on Andersonville Prison and of numerous other works, many of them of a scientific nature.

Dr. John B. Sterley died at Reading, Pa., on November 24, at the age of sixty-nine years. He was graduated from the medical department of the University of Pennsylvania, in the class of 1857.

Dr. N. R. Jones of Norton, Kan., died on November 17. He was a graduate of Rush Medica College, Chicago, and came to Norton just twenty years ago. Dr. Jones was a member of the State board of medical examiners.

Dr. William A. Burns, a well-known colored physician of Dayton, Ohio, died on November 18 of typhoid fever. He was the only colored member of the Dayton Medical Academy, and is said to have accomplished much for the advancement of his race.

Dr. Michael Scannell of Worcester, Mass., died on November 16, at the age of forty-one years. Dr. Scannell was born in England, but came to this country when a young man. His family settled in Lawrence and Dr. Scannell entered Harvard college from that city, graduating fourteen years ago. He came direct to Worcester after graduating.

Dr. J. N. Reece of North Liberty, Ind., died on November 18, at the age of fifty years. He was graduated from Rush Medical College, Chicago, in 1888, and for many years served as president of the North Liberty board of education. He was, in 1898, elected representative of the lower branch of the Indiana legislature.

Dr. H. A. Bartran of Green Bay, Wis., died on November 22, at the age of sixty-seven years. Dr. Bartran was born in the town of Barton, N. Y., and was a graduate of the University of Michigan. He took an active part in State and city affairs, having been a member of the legislature of Wisconsin in 1873 and 1874, was mayor of Fort Howard shortly after, and was also county and city physician for twelve years. He was the oldest physician in Green Bay city, having practised there for upwards of thirty-three years.

Dr. Edmund Bennett of Barnegat, N. J., died on November 23 of heart disease. He was a native of Cape May Court House, where he was born in 1831. He moved to Barnegat in 1856, and had completed not quite half a century of active practice in this village.

Dr. F. W. Blair of Farmington, N. H., died on November 19, at Portsmouth, N. H., at the age of thirty-one years. He was graduated from Bowdoin College in the class of 1895 and from the Bowdoin Medical school in the class of 1898. After his graduation he began practice in Farmington, N. H., where he remained until obliged to give up work on account of a malignant tumor, which caused his death.

Dr. Benjamin Myers of Ashland, Ohio, died of pneumonia on November 28 at the age of sixty-four years. He was graduated from the Jefferson Medical College of Philadelphia in 1869, and began to practise in Ashland. He was prominent in politics and was at different times State representative, probate judge of Ashland County, delegate to the Democratic national convention, and mayor of Ashland.

## Correspondence.

### THE ROENTGEN-RAY TREATMENT OF LEPROSY.

(From Our Special Correspondent.)

Manila, P. I., October 19, 1905.

The regular monthly meeting of the Manila Medical Society was held at Saint Paul's Hospital at 8:30 P. M., October 12, 1905. An informal talk was given by Dr. Stitt, Lieut.-Commander, U. S. Navy, upon: "The Methods of Work, and Recent Work in the European and Colonial Schools of Tropical Medicine." Dr. Stitt recently visited the principal laboratories of Europe and America, as well as those of Cairo, Egypt, and gave a brief summary of his experiences, the essence of which may be found in recent literature.

The next number on the program was a paper by Dr. H. B. Wilkinson, physician in charge of the San Lazaro Leper Hospital, upon "Some Observations on Leprosy in the Philippine Islands, with an Account of its Treatment with the X-ray." It will be remembered that the results obtained by this method of treatment have been mentioned from time to time in these columns, since last December. He stated that the number of lepers in the Philippines were variously estimated from five to ten thousand, and that it was impossible to state whether leprosy was increasing or decreasing, nor was it possible to draw any conclusion as to the duration of the disease in any given individual that had come under his observation, because they did not come to the hospital early enough. In the classification, he divided leprosy into an atrophic and a hypertrophic variety, instead of tubercular and anesthetic, because he thought the latter terms caused confusion. Of the 230 cases which he reported, 97 were hypertrophic, 47 atrophic, and 92 mixed. Of the 230 cases confined at the hospital, the lepra bacilli were found in the skin scrapings of 213. The remaining 26 cases were repeatedly examined microscopically, with negative results. However, in several cases the lepra bacilli were found post mortem in the nerves that supplied the atrophic lesions. He began the treatment of leprosy with the *x*-ray during January, 1904, with a ten-inch spark machine, with which he used a bifocal tube. That portion of the patient which presented the greatest amount of infiltration was exposed to the direct rays of the tube at a distance of about ten inches. The exposure lasted about ten minutes and was repeated at intervals of several days. His object was to approach as nearly as possible to the burning point, without actually producing a burn. He called particular attention, however, to the fact that a cure resulted in the two cases which were accidentally burned. After two or three successive treatments, a blushing of the skin is often observed, which is later followed by scar formation. A tabulated statement of the thirteen cases treated showed that three were cured, seven improved, and three not improved.

He reported one case more or less in detail, because it was the first in which an apparent cure was made: Domingo Panol; male; Filipino; medium size; age 37; admitted July 29, 1904, to the San Lazaro Leper Hospital; clinical diagnosis, hypertrophic leprosy, confirmed microscopically by the Bureau of Government Laboratories, and by examination made by the author. Right side of face showed marked thickening of skin and superficial tissue, elevation being from ½ to ¾ inches. The thickening was so great that the right eye was nearly closed, and right ear about three times normal size. Large nodule over chin, about the size of a horse-chestnut. Many smaller nodules scattered over face and head. *X*-ray treatment was begun August 11 and repeated seven times between the latter date and August 23, when it was found that infiltration had disappeared somewhat, and the right eye could be partially opened. Owing to a burn on the right ear treatment was discontinued until September 4. September 8 treatment was again discontinued on account of burns. October 15 gradually improving; scar tissue becoming apparent on face. Pus taken from nodule on chin shows lepra bacilli. January 12, 1905, abscess detected in right groin and 8 ounces of pus evacuated. No lepra bacilli found in latter. Leprous lesions much improved but general health poor. February 2, microscopical examination of skin scraping from right cheek showed few apparently broken-up lepra bacilli. July 1, 1905, appearance normal so far as leprosy is concerned, but has considerable scar tissue on face. Microscopical examination of skin scrapings taken from previously affected area was negative, so far as lepra bacilli were concerned. Has general anasarca, with anemia and albumin in the urine. July 11, patient died of atrophy of the liver. Autopsy was made by Dr. Herzog, pathologist of the Bureau of Government Laboratories, who reported fatty degeneration of the myocardium and kidneys, with interstitial nephritis. Advanced atrophic cirrhosis of the liver, purulent abscess in anterior abdominal wall. Sections were prepared in Zenker's fluid and stained with hematoxylin, from the left side of the face, from the previously affected ear, from the kidneys, spleen, liver, heart and several peripheral nerves. No lepra bacilli could be demonstrated. In conclusion, Dr. Herzog stated that "the histological and bacteriological examination of this case furnished no evidence that the patient, at the time of his death, was suffering from leprosy, either cutaneous or internal."

In the next case reported as cured, the duration of the disease was two years. The patient received 52 treatments between January 7, 1904, and June 7, 1905, and is alive and well to-day. Repeated microscopical examinations made up to the present time have always been negative.

In the third case reported cured, the duration of the disease was two years and the patient received 14 treatments between May 8, 1905, and June 7, 1905. Microscopical examination made August 3, showed several doubtful acid-fast objects which appeared to be broken-up and degenerate lepra bacilli. Examinations on August 11 and 16 were all negative.

The author is inclined to believe that the cure takes place by the lepra bacilli in the lesion being "killed and their bodies absorbed by the system, thereby producing an immunity against the living organism." In support of his theory, he states:

"1. The treatment of one leprous spot on a patient produces improvement in spots at a distance from the one actually treated.

"2. The cure in the distant spots seems to progress parallel to and to be just as complete as that in the one treated.

"3. The best results seem to be obtained only when treatment is pushed to the point of killing or beginning to kill the tissues, which would also probably be to the point of killing the organisms.

"4. Cases in which there are massive localized leprous deposits as in case No. 5, are most rapidly improved, as in these cases we have an abundant culture on which to operate and thereby produce immunity more rapidly.

"5. In diffuse general involvement of slight degree or atrophic character where there are only a few scattered organisms we have had little success.

"6. In two well advanced cases where the amount of new leprous tissue was excessively great, the improvement was marked and rapid, but followed by loss of general health and rapid physical decline. This may be an over dosage, so to speak."

### OUR LONDON LETTER.

(From Our Special Correspondent.)

THE COLLEGE OF SURGEONS' MEETING—EXOPHTHALMIC GOITER—THE PARATHYROIDS—FITZPATRICK LECTURE—INJURY TO FEMUR—TEMPERANCE APPEAL TO THE PROFESSION.

London, November, 17, 1905.

Yesterday was again presented at the Royal College of Surgeons the farce which is officially called the annual meeting of the Fellows and Members. The gathering numbered 64 and the Council presented a report. But the meeting had no power to accept it or reject it. A resolution was moved in protest against the repeated neglect by the council of resolutions passed in previous years and declin-

ing to have the report laid before the meeting. It was said that parents with sons entering the profession would be well advised to avoid the college. An amendment was moved, but after a conversation with some councillors near him, the president declared both resolution and amendment out of order. Nevertheless he put the motion, as he said he "did not wish to appear discourteous." It was lost by the councillors voting against it, which a member called "a dirty trick" but withdrew the expression at the request of the president. Is it not a farce? Two dozen Councillors elected by 12,000 Fellows, refusing any form of representation to about 18,000 Members? The members ask but little —too little. They will get nothing until they organize themselves on new lines. A hint from trades unionists might help them—say a refusal to meet in consultation or refer a patient to any surgeon on the Council until the rights filched from the members are restored.

The Bradshaw lecture at the Royal College of Physicians was this year delivered by Dr. Geo. Murray of Newcastle, whose previous work excited expectation on the announcement of his subject—Exophthalmic Goiter. You may remember his Goulstonian lectures a few years ago were devoted to the Pathology of the Thyroid Gland, and as he devoted one of them to the pathology of Graves's disease it was only natural to expect he might have something of special interest to communicate concerning it. His present lecture is, from a clinical point of view, based on 180 cases that he has observed. Of these 170 were in women and only 10 in men, a relative frequency of 17 to 1. There was some enlargement of the thyroid in 172. In 5 there was none when first seen, but a history that there had been. In only 3 was there no evidence. Probably if all cases could be observed throughout their duration goiter would always be found, although some observers have reported a much larger percentage of its absence. A slight degree of enlargement may be unnoticed by the patient and is often found to her surprise for the first time by the doctor looking for it on account of other symptoms. On the other hand, it may be the first symptom the patient notices, often on account of some slight constriction or fullness about the neck which leads her to examine it by the looking-glass. Both the size and consistence of the enlargement vary. In 63 of the cases a murmur was heard over the thyroid, in 41 systolic, in 19 a continuous venous bruit which in 10 became louder at each systolic or was accompanied by a systolic murmur.

The tachycardia is very variable, may hardly excite the patient's attention, or may come on quite suddenly. It ranges from 90 to 200. In 101 of Dr. Murray's cases it varied from 120 to 150; in 47 from 140 to 150. Irregularity of the pulse occurred in only 12 cases, the action of the heart being such as is produced in a healthy person by violent exertion. Diffuse pulsation is visible all over the cardiac area, and the impulse on palpation extends further than usual.

The exophthalmos is often the most distressing symptom to the patient. In 170 of the cases it was present in 120, in 3 it had been present but had disappeared, in 47 there was none. It usually affects both eyes, but in a few cases only one. The extent varies from slight fullness to so marked projection that the eyelids cannot be brought together and the eyes remain open during sleep, and the conjunctiva is liable to attacks of inflammation in consequence.

The nervous condition is very marked. Dr. Murray described the mental state as one of subdued excitement, such as is seen in a person undergoing a trying ordeal. Some exhibit the restlessness of mind described by Russell Reynolds as "chorea of ideas." A few have hallucinations, visual or auditory. Actual insanity may occur, but is regarded as a complication rather than a part of the disease. Only 3 cases were noted in the 180. Some patients were quite optimistic, others melancholy, and all variations of temperament may be noticed. Intellectual work can be carried on in most cases, and one lady under Dr. Murray's case occupied herself by learning the Turkish language. The fine tremor of the hands which is so generally noticed was present in 163 cases, in 7 absent, and in 10 not recorded. It is often present in the legs: 21 of these patients complained of it, 5 of them could not walk on account of it, but fell down on attempting.

The moist state of the skin was observed in 113 and actual sweating in 92 of the cases. Pigmentation in 42.

Some alteration of appetite was noted in 20 cases, increased frequently of defecation (not diarrhea) in 20, but attacks of diarrhea are quite common. Intermittent albuminuria is now and then met with. In 30 cases tested it was found in 6. In 3 sugar was detected. Menstruation was affected in 45. Some loss of weight was marked in 67 cases.

Treatment naturally claims great attention, and Dr. Murray's experience in regard to this is less promising than some observers have asserted. It is easier to supplement a deficiency of thyroid secretion than to control excess. The general line adopted by most is confirmed, rest at times, outdoor life, and attention to the nutrition, with avoidance of undue mental effort or physical exertion. The faradic current has given much satisfaction when persevered with, and patients easily learn to apply it themselves in the way suggested by Victor Horsley. X-rays have been disappointing. Of drugs arsenic is one of the most useful. When the pulse is over 100 convallaria can be added in preference to digitalis or strophanthus. If nervousness is prominent bromides may be given for a few weeks. Iodides are unsuitable and often aggravate the symptoms, so does thyroid extract, which is still sometimes given under a mistaken view, and does harm. Suprarenal and thymus tablets have been of some service. The application of red iodide of mercury ointment of half strength benefited some cases.

Dr. Murray gave an account of the several sera that have been employed, but his own experience is not encouraging, although, as he acknowledges, it is limited.

With regard to rodagen (the dried milk of goats after excision of the thyroid) he related a case in which the patient, while taking drachm doses, became suddenly collapsed, cyanosed, with a systolic apical bruit, and a pulse fallen from 160 to 32. At a later period this patient took half-drachm doses with apparent benefit.

Dr. Murray has also experimented by preparing an antithyroid serum from rabbits and goats. In 2 cases in which he tried it he considered that some improvement occurred, but not more than under general treatment, and no special effect could be traced to the serum.

The risks of surgical treatment are so great that he does not consider it advisible.

The conclusion arrived at by Dr. Murray from the important facts he communicated is that at the present time the best results are obtained in most cases by the general hygienic treatment combined with the use of the faradic current and a few drugs, and that no serum offers us better results than these older methods.

Dr. Laurence Humphry of Cambridge this week contributes to *The Lancet* an important article on the parathyroid glands which appears very opportunely just after the Bradshaw lecture on Graves's disease. It is true that our knowledge of these little bodies is very limited, although many experiments have been made on animals by the physiologists. Dr. Humphry's object is to ascertain if there is evidence of any pathological change in the parathyroids in Graves's disease, particularly in the acutely fatal form. He relates 2 cases in which changes were found, chiefly extensive infiltration of fat, and remarks that to ascertain the significance of such changes it is necessary to examine the parathyroids in persons dying from various causes. He has himself dissected out these glands in 26 cases—no easy task considering their minuteness and the way in which they are usually imbedded in fat. He gives directions as to the best method of finding them. To make sure of their identity the microscope should be employed. Dr. Humphry has examined microscopically the parathyroids in 18 cases of death from various causes in addition to 4 of Graves's disease, of the 18 well-marked fatty infiltration was seen in 4 and some degree in another case—a girl of 14 who died from burns. In Graves's disease no sign of compensatory hypertrophy was discovered, nor any evidence of specialization by forming colloid. The hypothesis that these bodies are merely compensatory to the thyroid is certainly losing ground and Dr. Humphry remarks that the facts that they develop chronologically in advance of the thyroid, have an epithelial structure which somewhat resembles the suprarenal, and removal in the hands of most observers gives rise to definite severe symptoms suggest that they should be regarded as an independent essential gland. They may have some specific function in relation to the thyroid and its secretion. If it should be shown that pathological changes in the parathyroid are usual in death from Graves's disease, it would be important in reference to the acute toxic symptoms.

Dr. Norman Moore delivered his first FitzPatrick Lecture at the Royal College of Physicians on Tuesday afternoon. He took for his subject John Mirfield and Medical Study in London during the Middle Ages. Johannes de Mirfield, a contemporary of Chaucer and Bede, was described as laborious and high-minded, anxious to do all he could for his patients, and to instruct others. John de Paris wrote of him as an elegant scholar. He began study at Oxford when about 16 years old, probably went subsequently to Paris and Montpelier. Later he represented St. Bartholomew's Convent at inquests, and eventually became one of the Canons Regular. His principal work "Breviarum Bartholomei" treated of various diseases and injuries. He regarded leprosy as incurable and thought that bad seasons when crops were blighted and birds deserted their nests were conducive to epidemics and plague. He thought sea air injurious, and parts far from the coast best. He advised smelling of musk and aloes in cold weather as preservatives. In hot seasons he prescribed oils of sandalwood and roses, camphor, citric acid, and sour milk. Sweets made

with honey he disapproved, and advised fowls and partridges to be eaten with lettuces and vinegar. He recommended small quantities of warm new bread (rye or barley) and in default of it toast. He condemned gluttony in vigorous terms, counseled temperance in all things, and favored gymnastics with ropes fixed to the ceiling.

A comparative study of outbreaks of typhoid fever formed the subject of an address by Dr. Christopher Childs before the Medical Officers of Health last Friday.

He submitted as a conclusion that a community may use a grossly polluted water supply for a long time with impunity until by some combination of circumstances, little known, specific germs are introduced under favorable conditions for infection, and an explosive outbreak follows. He advocated exhaustive investigations, not merely into the primary cause of an epidemic but into the origin and relations of the cases by a specially trained staff of experts. Bacteriologist, chemist, and sanitary inspector, organized by an epidemiologist of high repute should form a section of the staff. In ordinary times this staff should assist in systematically investigating and stamping out endemic typhoid wherever it prevailed, and in an epidemic it should on short notice, if requested, visit the locality and assist the health officer.

Mr. Muirhead Little has reprinted from the Medical Society's Transactions his case of traumatic displacement of the lower epiphysis of the femur backwards, with an additional note. From this it appears that the fortunate youth can do everything he used to do before the accident. But there is some hallux rigidus on the opposite side which he thinks he hurt at the time of the accident. Mr. Little advises the routine use of the *x*-rays in such injuries to afford the opportunity of immediate proper treatment.

Professor Sims Woodhead has issued, by request, a weighty appeal to the medical profession on the objects of the British Medical Temperance Association of which he is the able and energetic president. In the address he says we doctors have a duty as regards the physique of the nation, and though we cannot give a man brains we can advise him how to give such as he has the best possible chance and can tell him that a brain, however weak, will work better without alcohol, and, however strong, will derive no benefit from its use.

## Progress of Medical Science.

*Boston Medical and Surgical Journal, November* 30, 1905.

**A Case of Diabetic Coma with Recovery Under Alkaline Treatment.**—The patient of G. N. Sears was a boy of thirteen years with the usual diabetic symptoms. When seen by the author he presented the usual comatose conditions incident to his disease. His breath smelled so strongly of acetone that the odor could be detected outside the door of his room. Urine in the first twenty-four hours after admission amounted to 156 ounces and contained over five per cent. of sugar. He was given stimulants, and eight ounces of sterile salt solution containing bicarbonate of sodium almost to the saturating point was injected under each breast. A teaspoonful of bicarbonate was dissolved in a glass of water which was given up to the limits of the patient's capacity. Large quantities of this solution were taken. His stupor rapidly decreased, but he remained drowsy for several days. Convalescence was interrupted by anemic convulsions, but the patient finally weathered the storm. In spite of large doses of alkali the urine remained persistently acid throughout. Sugar continued in the urine in varying amount. Suppuration occurred at the site of the hypodermic injections, and healing was slow. The author has collected a series of sixteen cases in which recovery from diabetic coma has been obtained and in which alkalies and various other remedies have been employed. Alkalies seem to have yielded the best results; generally the bicarbonate has been used. The intravenous route is undoubtedly the safest, and the stimulant effect may be of great advantage.

**Rupture of the Intestine.**—Nineteen cases of this class of injury are reported by F. B. Lund, they all having occurred at the Boston City Hospital. He thinks that rupture of the intestine from accident is caused by the catching of the bowel between the body causing the blow on the abdomen and one of the bony structures forming its posterior wall. The abdomen must be, as it were, taken unawares, delivered a rapid, violent blow before the muscles have time to contract, and the intestine compressed between the impinging body in front and the vertebræ or pelvic bones behind. There is no question but that the actual pinching of the intestine between the body which causes the blow and the bone may rupture it. There is also the probability that the catching of a distended coil of the intestine between the impinging body on the outside and the vertebræ or pelvic bones behind may suddenly cause the gas in that coil to burst out through the intestinal wall, thus rupturing the intestine in another way. Of the nineteen cases reported, fifteen were operated; in four the diagnosis was not made. In one there was no history of an injury, but autopsy showed that such an injury must have occurred. Of the fifteen mentioned seven recovered and eight died. All that recovered were operated on within fifteen hours of their respective injuries. The author's experience has been that the rupture is usually found directly under the spot where the blow was received. At this point there is an abdominal contusion and possibly a hematoma. The author contends that if there is a slight contusion to indicate where the blow was received, we should incise over the spot instead of in the median line. Blows below the umbilicus are, in the light of collective experience, more liable to rupture the bowel because the bony pelvis and spine offer counterpoints for compression.

*New York Medical Journal, December* 2, 1905.

**Sarcoma of the Undescended Testes.**—The patient of J. A. Wyeth was a man of thirty years. His left testis had never been felt on the inguinal canal, while the right had descended a short distance and had been complicated with an indirect inguinal hernia. A few days after marriage he was seized with a severe pain, accompanied by a swelling in the right inguinal region. The swelling was about the size of a hen's egg, was located in or anterior to the internal abdominal ring, and was tender to pressure. It was accompanied by a slight elevation of temperature which lasted for two or three days. Cold applications, with rest in the recumbent posture were prescribed, pain was relieved, and no further trouble was experienced until some four months later, when a similar attack came on with deterioration of the general health but without any distinct cachexia or other evidence of malignant neoplasm except the presence of the tumor occupying in part the pelvis and the right side of the lower abdominal cavity. Wyeth was convinced that the tumor was in the undescended testicle of that side, and performed a laparotomy for its removal. Upon opening the peritoneal cavity a mass which was oval in shape was encountered and easily brought up through the incision. Strong catgut was tied around the spermatic cord, which was divided close to the ligature. Further exploration revealed the presence of a second mass of the same general shape, occupying the floor of the pelvis upon the left side, resting upon the sigmoid flexure of the colon. This was removed in the same way. The covering of each tumor was white and smooth and was composed of the tunica albuginea. Examination showed both masses to be large round-celled sarcoma. Four months after the operation the patient was in the best of health.

**A Case of Acute Lymphatic Leukemia, with Consideration of the Pathology.**—The case is reported in detail by W. Mendelson and F. E. Sondern, their patient being a woman of thirty-five years, first seen by them sixteen days before death. Notable symptoms were swollen cervical lymph nodes, swollen tonsils, enlarged spleen, swollen gums, slightly enlarged liver, and buccal hemorrhages. Prostration was very marked, fever was irregular, pulse was rapid, but the respiration was not notably affected. The blood findings are given in full. The author's note that observation of such a case convinces them that some overpowering poison lies at the bottom of this malady. What it is we have as yet no means of knowing. Light on this point can come only from increased knowledge as to the histogenesis of the blood and the interactions which occur between the different bodily organs. With our present knowledge the most one can do is to ameliorate the sufferings of the patient by anodynes and meet the various indications as they arise. In this particular instance arsenic and bone marrow were given, but without appreciable effect. As to diagnosis, we must rule out typhoid, scurvy, the severe forms of purpura, and the morbus maculosus of Werlhof. Our decision must hang on the differential blood count. In chronic lymphatic leukemia the appearances of the blood are similar to those of the acute form, but the clinical history easily differentiates the two diseases, aside from the fact that in the chronic form the small lymphocytes predominate, while in the acute the large form is the more abundant.

**The Diagnostic Significance of Headache in Diseases of the Ear, Nose, and Throat.**—This subject is discussed by S. J. Kopetsky. Severe temporo-occipital headache may be due not only to acute middle-ear disease but also to chronic affections of this kind. Some ear cases cause reflex pain, appearing frequently as migraine. Nasal cases may be due to pressure on the lymph channels of the nasal mucosa, connecting as they do with the subdural lymph spaces and to a secondary interference with the removal of certain products of tissue metabolism from definite areas of brain tissue. Pathological conditions of the teeth may be expressed in pain in different regions of the face and head. Tendency to headaches occurs in

general hyperesthesia of the nasal mucosa. Inflammation of the inferior turbinate may cause unilateral headache. Sinus disease may cause a typical hemicrania. The pain from this general cause may be at times neuralgic or again diffuse. The former occurs for the most part in acute exacerbations of chronic sinusitis or in acute sinusitis. It often comes on daily at the same hour, but no cause for this periodicity has yet been discovered. The diffuse pains occur mostly in chronic cases. There is no reliable scheme for localization of pain for the respective sinuses. All such schedules are of relative value only. The author reproduces two schematic drawings showing regions of greatest intensity of pain in headaches due to ear, nose, and throat diseases, and in general and nervous affections.

*Medical News, December 2, 1905.*

**Etiology, Gross Pathology, Symptoms, and Surgical Treatment of Pyosalpinx.**—J. E. Carmaday gives a general description of this malady and summarizes the features of his own cases, thirty-eight operations with no deaths. He notes that so far as symptoms are concerned, chill, fever, and sweating run riot. In the acute stages the general systemic disturbances are pronounced. Nagging pain and general malnutrition are characteristic features of the chronic types. A careful study of symptoms makes diagnosis easy. The importance of gonorrhea as an etiological factor is due to the great frequency of that disease and to the rarity of cures in the male. The protective conservation of plastic peritonitis and the systemic and generally depressing effects of the disease are marked features. While complete enucleation and vaginal drainage are not by any means advocated as routine measures, the final results of those procedures are excellent, there is seldom a recurrence of the trouble, and if the work is carefully and skillfully done the mortality is low.

**Headache.**—J. N. Upshur calls attention to the headache "habit" and to the fact that large amounts of nostrums are sold to its victims. Many persons gradually become victims of chronic poisoning from the coal tar products which form the basis of all these remedies. He then notes the features characteristic of headache from some of the more common causes. Thus the headache from eye strain is situated over the brow and is persistent, extending in aggravated cases to the top of the head. Proper glasses continually worn give relief. The headache from gastric disturbances is diffused over the cranial vault, being most intense over the brow, gives a sense of tension and causes a distressing throbbing. Dizziness may result and there may be acid eructations. An emetic and free purgation relieve all symptoms. Renal headache presents a dull feeling over the entire cranium with more or less tendency to drowsiness, after scanty urine. Indications are plain. In acute lithemic states the pain is located in the temporal region, more commonly the left, the eyeball is sore to the touch and on movement in the orbit. The indications for treatment are dietetic and hygienic. Reflex headache from uterine and ovarian diseases is very common. It comes on during the latter part of a period or after the flow has stopped. The location of this form is in the occiput and down the back of the neck. The clavus hystericus located in the parietal region and more often on the left side is one of the intractable forms of headache. The area of pain is limited. Relief comes with the cure of the local uterine condition to which the pain is due. The climacteric is often characterized by a sense of fullness, tension, sense of weight on the cranial vault, and a condition of unusual nervous irritability. Headache from various blood conditions is very common. The outcry of the nervous system for more nutrition in cases of anemia causes pain in the head, persistent but not intense, extending all over the cranium, and disappearing finally when the condition of the blood is improved. The specific headache of syphilis is intense, boring in character, and nocturnal in period of occurrence; the history of syphilis aids materially the diagnosis. It may be due to bone caries, or the development of gummata; in the former the boring character of the pain points to the bone involvement; in the latter, when they have sufficiently matured, we have evidence of irregular paresis.

**Studies in Agglutination in Tuberculosis.**—From a limited experience with this reaction as a diagnostic agent, M. P. Ravenel and H. R. M. Landis do not believe that it is available as they obtained it in healthy individuals. Their phthisical cases included some treated with maraglianos serum, some advanced cases and some ordinary sanatorium patients. Their general conclusions are: (1) That the agglutination test is not available for diagnostic purposes. (2) The more advanced the disease the lower is the agglutinating power. (3) A low agglutination is of unfavorable prognostic significance. (4) That cases under favorable conditions, as at a sanatorium, have the agglutinating power distinctly increased.

*American Medicine, December 2, 1905.*

**Results of the Open-Air Treatment of Surgical Tuberculosis.**—W. S. Halstead reports a number of cases illustrative of the splendid results which can be obtained by the continuous out-of-door treatment in cases of surgical tuberculosis. Dr. Halstead is convinced that in these cases recovery will occur if the patients give a fair trial to the open-air treatment. He has the greatest confidence in the efficacy of massage in cases of surgical tuberculosis, but advises against over-feeding. Tuberculin, which for nearly fourteen years has been the main reliance for diagnosis, has never been of assistance in deciding when to discontinue fixation and to permit use of the affected joint. A definite reaction would probably be obtained to-day in all the "cured" cases. In no instance has there been failure to get this reaction when crutches were about to be discarded, and in two individuals it was prompter on release from the treatment than at its institution.

**Action of the Rontgen Rays Upon the Blood—An Experimental Study.**—Roger S. Morris studied the more immediate effects of moderately long exposures (three to five hours) to the Röntgen rays upon the blood of rabbits and rats. After reviewing the work of previous experimenters and detailing his own results, he arrives at the following conclusions: 1. The Röntgen rays cause a marked diminution in the absolute number of leucocytes in the peripheral circulation. 2. Preceding the leucopenia there may be a moderate rise in the number of leucocytes eight to twelve hours after the exposure, the increase being due largely to the greater number of polynuclears. 3. The lymphocytes are especially susceptible to the action of the rays. 4. Alterations in the histologic characters of the lymphocytes and polynuclear amphophiles may be found in the rabbit, similar to those described in the lymphoid tissue and bone marrow. 5. The harder the tube the more pronounced the changes produced. 6. No changes in the red blood cells or hemoglobin take place within the first few hours following moderately long exposures.

**Speech Training as a Factor in the Development of the Feeble Minded.**—Hudson-Makuen says defective speech is both a physical and a mental sign of feeble-mindedness, but it is by no means a pathognomonic sign, and it may be a cause and not a result of feeble-mindedness. Reference is made to the case of a boy who was thought to be feeble-minded, and who is now a successful business man, as a result of the removal of some mechanical obstructions to the normal development of the organs of speech and the correction by training of the faulty mental and speech habit. A child's educability depends more than anything else upon his desire to be educated. The desire to speak is inherent in every normal person, and if this desire is not gratified the desire to be educated will be diminished or blunted. Reports are given of five cases illustrating the difficulties of diagnosis and prognosis.

**Aseptic Management of the Umbilical Cord.**—J. Thompson Schell advises the following method for aseptic management of the umbilical cord: As soon as the child is born the umbilical cord is clamped with a hemostat about three inches from its abdominal attachment; another hemostat is then placed a short distance from the first one toward the placental end of the cord, and the cord is then cut between. The cord and abdominal wall immediately surrounding it are carefully washed in 1 to 4,000 mercuric chlorid solution. The hemostat is then grasped in the left hand, and a pair of scissors in the right hand follows the skin amniotic junction until this is severed completely in its entire circumference. Care must be taken not to cut too deeply, as the vessels of the cord are usually very close to the amniotic covering. So soon as the vessels have been exposed, the amniotic covering and the Wharton's jelly is stripped away in a direction from the abdominal walls and a ligature consisting of a piece of very fine (No. 0) sterile catgut is then thrown around the vessels, and the cord is severed close to the ligature. The stump is washed in mercuric chlorid solution, dried with a piece of sterile gauze, and dusted with any good antiseptic dusting powder. The baby should not be put in the tub for about a week, but should be given a lap bath; the stump must be washed frequently in a boric acid solution, and a small amount of dusting powder used with the usual sterile pad and the abdominal bandage.

*Journal of the American Medical Association, December 2, 1905*

**Pelvic Measurements in Women.**—Effa V. Davis analyzes and discusses the pelvic measurements of 150 women, 105 American and 45 foreign born. Over 82 per cent. were normal in their measurements, and somewhat over 17 per cent. (26) were deformed. Her general conclusions are: "Deformity occurs often enough to make pelvimetry a practical part of the examination

of pregnant women. Generally contracted pelves form by far the most common deformity in American women, though the rachitic pelvis is often present in those who have been artificially or imperfectly breast fed in infancy. Inebriety in the parents is the most constant element toward degenerate types in the deformities studied. The size of the infant can be regulated by diet and exercise if this be carried out strictly for a proper time during the last three or four months of pregnancy."

**The Non-Insane Phychoneuroses.**—J. Punton proposes the name "psychosomatasthenia" for a large class of morbid mental conditions, including certain hysteric, neurasthenic, and various other neurotic manifestations, which, often occurring after exhausting bodily ailments, fall under the care and observation of the general practitioner rather than that of the specialist, and the importance of which is liable to be misunderstood. He considers these as the forerunners of insanity, differing only in degree. Their fundamental nature he considers to be the same, a pathological lack of inhibitory control of the higher mental directive forces, with consequent nutritional cellular instinctive and physical defects, which seriously mar the power of the will, weaken the judgment and intellect, as well as excite or depress the emotional attributes in all degrees of intensity." Their causes are similar, being both congenital and acquired, while heredity, stress, and toxicity are the chief factors of each. The psychopathic manifestations dominate, direct the prognosis, and most urgently call for treatment. They are curable in their incipiency, but become incurable when neglected.

**Hypospadias.**—J. Coplin Stinson describes his method of operating for hypospadias anterior to the scrotum in the following steps: First, he performs an external perineal urethrotomy and inserts a large tube into the bladder so that all the urine will be drained away, permitting the later plastic operations to heal primarily. Next he corrects the incurvation by dissecting up the urethra and dividing all constricting fibrous bands by transverse incisions so as thoroughly to straighten the organ. The third step is to form a new urethra by taking flaps from the mucous membrane and submucous tissues of the glands, and if necessary from the skin and subcutaneous tissues also. To cover the raw surfaces thus left on the glands and body, the hood is utilized. Lastly, the hump and transverse constriction on the upper surface of the body is corrected by making an inch long incision backward through the skin and subcutaneous tissues in the median line. This incision is at right angles to the transverse one made in separating the hood, and is made long enough so that when its angle is dissected it can be drawn forward and sutured in the same line and continuous with the stitching of the preputial or transverse incision. This eliminates the convexity by diminishing the anteroposterior measurement of the penis and overcomes the existing lateral constriction in this region by increasing the transverse measurement to the normal condition. Each of these steps is described in detail, and the advantages claimed are: the surgery is done at one sitting, and takes but a short time, healing is durable in two to four weeks, the new canal retains its normal caliber and its coverings remain in their new positions. The preliminary urethrotomy and bladder drainage allow the plastic surgery to heal without the least trouble, and the results, Stinson claims, are better than those of any operation hitherto described. The deeper structures are sutured separately and accurately with buried absorbable sutures so as to get perfect union. Sterilized catgut is used for the buried sutures. A short account is given of the first operation thus performed and each step is illustrated.

**Cholesterin Stones in Brain and Cord.**—E. E. Southard reports an interesting case of a man aged fifty-six, suffering from general arteriosclerosis and cardiac disease without presenting during life any symptoms directly referable to the nervous system Death occurred unexpectedly after an apparent slight improvement in his cardiac symptoms. The autopsy revealed small masses of pure, or almost pure, cholesterin crystals in several parts of the cortical and central ganglionic gray matter and in the white matter of the cord. The largest of these, two centimeters in diameter, was found in the middle of the left lenticular nucleus and one or two others of considerable size were found in the gray matter of the temporosphenoidal and frontal convolutions. The deposits in the cord were not so obvious, attention was called to them by the findings in the brain. The masses were enclosed in thin capsules, due to fibrillary overgrowth of neuroglia. The author remarks that the case can hardly be unique and that a more careful examination of the spinal cord may bring out in other cases similar miliary or larger glioses in which the cholesterin may have been dissolved away, as seems to have been the case in some of these. The relation of cholesterin to miliary glioses in the spinal cord may readily escape attention.

**Blackwater Fever.**—F. C. Wellman remarks on a case which he reports, of fatal blackwater fever supervening on amebic dysentery and presenting malarial parasites in the blood, that it is the thirty-fourth case he has studied, five of them fatal, and the only one in which death occurred in a first attack. He thinks the dysentery brought about an explosion of latent malaria, and the two conditions combined were able to produce the physiological depression and hypotonicity of the blood that invited the intercurrent hemiglobinuria. He believes that there is a relation between blackwater fever and malaria, but that its precise nature has not yet been ascertained. In southern Angola, as he has previously shown, the geographical distribution of *Myzomia funesta*, Giles (the principal carrier of *Hæmamœba præcox* in West Africa), severe malaria and hemiglobinuric fever closely coincide.

**Climatic Treatment of Circulatory Disease.**—Louis Faugères Bishop finds the climate of the lower Maine coast especially beneficial in cases of secondary low arterial tension, even when accompanied by such accidents as hemiplegia. The climate of the lower Maine coast, he says, has a remarkable combination of dryness with sea air and low temperature in summer. It is beneficial in all cases of physical exhaustion and to patients who require a restoration of vitality after disease, but not to those suffering from purely functional nervous affections requiring rest. It is too stimulating for such cases. Still patients with a tendency to melancholia and depressed conditions are much improved. The physical effect of the change from the climate of New York to that of the lower Maine coast is remarkable, and many persons find a stay of over six weeks too stimulating, and therefore go inland for a few weeks during the middle of the season. His observations were made at York. Three striking cases of benefit from the climate in the conditions mentioned are briefly reported.

*Berliner klinische Wochenschrift, November 6 and 13, 1905.*

**The Relative Small Size of the Heart, and the Predisposition to Tuberculosis in Excessive Growth.**—Bouchard studied the relations of bodily size and the dimensions of the heart in a large number of cases of various diseases. He also compared the average size of the heart as determined in healthy individuals and those suffering from pulmonary tuberculosis, taking into consideration in each case the individual's height, thoracic measurements, weight, etc. As the result of these investigations he arrives at the conclusion that small size of the heart is particularly characteristic of tuberculosis, excepting only certain types of chlorosis. In some pathological states the heart may have normal dimensions, in all others excepting only tuberculosis it is enlarged either through hypertrophy or dilatation. Relative small size of the heart may be caused through errors of development such as the excessive growth that follows typhoid fever in young persons. In them the bones and muscles grow and attain a size out of proportion to the viscera, which do not take part in the sudden development. The heart and blood vessels therefore remain inadequate to subserve the bodily functions, so that the individual is pale, easily out of breath, prone to fatigue and with slight resistance to disease. Such persons easily succumb to a tuberculous infection, which in others might have been recovered from.

**Bilateral Empyema.**—Hellin states that this affection is not as rare as is usually supposed, and gives the outlines of 114 cases that he has discovered in the literature. The statistics show that children under ten years of age are most often affected, and 66.6 per cent. are males, as opposed to 33.4 per cent. of females. No notable difference existed in regard to the side which was first affected. The average time of illness was sixty-four days, though extremes of sixteen days and twenty-two months were noted. The mortality was 30.1 per cent., whereas that of unilateral empyema is given as 22.4 per cent. In reality the difference in mortality is greater than it appears, for usually only the cured cases of double empyema are reported. Taking the figures of the four authors having the largest number of cases, twenty-nine deaths are noted in thirty-seven cases, a mortality of 78.4 per cent. A double pneumonia often preceded the lesion. The time of opening the second pleura varied up to the one hundred and fiftieth day, and several cases of spontaneous absorption of the exudate have been reported. A double operation, consisting of aspiration or resection alone or the two combined was performed in a number of cases with excellent results. Both local and general anesthesia were employed, without perceptible difference of result. The shock of opening the second pleura is often less than that of opening the first, when both are done at

one sitting. The author concludes that bilateral empyema is commoner than is generally supposed, and the involvement of the second side is often overlooked. He also describes a case of his own in which recovery resulted.

**Experimental Observations on Cancer.**—Bashford, Murray, and Cramer in the last two and a half years have carried out 10,000 transplantations of malignant growths. The material used was obtained from twelve spontaneous and four transplanted mouse carcinomata, as well as from fourteen different spontaneous malignant growths from rats, dogs, cats, and horses. Although over nine hundred attempts with the other growths were made it was found that only carcinoma from mice was transmissible. Quite a number of instances of transplantation of malignant tumors from other animals have been reported in the literature, but the authors believe that in view of recent developments these observations cannot be regarded as trustworthy. Two sources of error are noted. One is that most observers have been unaware of the fact that the age of the animal is without effect on transplantation, so that the conditions favoring persistence of a growth must be distinguished from those necessary for its spontaneous appearance. Most workers have taken old animals for their experiments, with the idea of providing a more favorable culture ground, with the result that they have run the risk of being led astray by the spontaneous appearance of tumors in the animals which have simulated successful inoculations. Another source of error is the fact that in some animals growths occur that are infectious in nature and closely simulate malignant tumors, but are not really so. One of the observations made by the authors was that the mice tumors exhibited fluctuations in their transplantability and rapidity of growth, and they succeeded in plotting a curve for these factors which they found reached its maximum about once in two hundred days.

**The True Double Apex Beat.**—Doll believes that the phenomenon of double apex beat may occur under the most varied conditions, and be the result of a number of causes. Its presence, therefore, does not permit of generalizations, but is of significance only when judged in connection with the other attendant features of the cardiac picture. He also thinks that the condition is commoner than is generally supposed, and that it will be oftener detected if one makes a practice of simultaneously palpating the apex beat and radial pulse. Two cases are first described in which the phenomenon appeared temporarily in hearts that were organically sound and did not exhibit any subsequent evidence of damage. In another case the onset of double apex beat after overexertion was the first indication of a cardiac degeneration which in a comparatively short time led to the death of the sixteen-year-old patient. The author takes the stand that one of the causes of this form of disturbance of cardiac rhythm is some irritation of the left auriculo-ventricular junction. Strong evidence in favor of this view was afforded by observations on a classical case studied in 1882 in one of the Munich clinics. This woman's heart had been denuded in the course of an operation for a chondroma of the ribs, and after the skin had healed over the wound she was made the subject of numerous investigations on the physiology of the heart. Among other things it was noted that pressure over the left auriculo-ventricular septum caused a double systole.

*Münchener medizinische Wochenschrift, November 7 and 14, 1905.*

**A Case of Double Sepsis.**—Staubli in studying this case discovered what he considers a hitherto undescribed bacillus, which is, he believes, the smallest yet cultivated. He suggests that its discovery proves the possibility that various diseases which are now considered non-bacterial may be caused by similar organisms which have so far eluded observation by their minuteness and difficulty of cultivation. The patient was a man of twenty-six years who was supposed to have typhoid fever, and for a time he gave a Widal reaction at a dilution of 1 to 200. After about three weeks of illness, during which the picture of extreme sepsis was presented, the patient died, with a hemoglobin content of 20 per cent., 1,200,000 red cells and 13,000 leucocytes. Blood cultures showed the *Streptococcus longus*, and in addition a tiny gram-negative bacillus measuring only 0.4 μ., growing on ordinary media at first only in the depths, afterwards also on the surface, but always only in small numbers. Its first appearance in the plates was so much delayed that the author says that the plates of a blood culture should always be watched during at least six days, even if one germ has already been identified. The case also points out the unreliability of the Widal reaction, which the author considers is to be regarded only as a symptom and not as pathognomonic. The patient exhibited ten days before his death retinal hemorrhages which were apparently due to toxic degeneration of the walls of the blood vessels. The author believes that the unknown germ was the cause of the infection and that the streptococcus was a secondary commensal.

**Cytorrhyctes Luis.**—Jancke examined sixteen fresh placentas for the presence of the cytorrhyctes of Siegel. Ten of the cases were syphilitic and the others came from healthy women. The organism was found in every one of the ten syphilitic placentas and not at all in the others. The material was studied in the living condition, in spreads, and in sections, most of the examinations being on the latter sort of preparations. Apochromatic lenses of especially high quality, yielding a magnification of 2,250 diameters, were used. The author describes the precautions he took to eliminate all possible sources of error from artefacts, and states that it was hardly possible to differentiate the organisms with the ordinary immersion lenses. The size, shape, refractive power, mode of motion, and nature of the nuclei are pathognomonic of the cytorrhyctes.

**Suture of the Lung.**—Tiegel made a series of experiments on dogs in order to evolve if possible a method of suture which should prove practical for use in wounds of the lung or other friable organs, such as the liver, spleen, or heart. After numerous trials he hit upon a plan which appears to fulfill the two chief requisites of being firm enough to avoid secondary hemorrhage and air tight so as not to give rise to pneumothorax. Ordinary interrupted sutures are apt to be deficient in both respects, because the lung tissue is so friable, but if the sutures are passed around two deep sutures of some stiff material running on either side of the wound at right angles to the interrupted sutures, the latter may be pulled quite tight and will furnish efficient closure of the wound. Silk worm gut, catgut and wire were employed for the supporting sutures, but were found open to the objection of causing large stitch canals in the tissue, owing to the fact that a needle was necessary for their introduction. A perfectly satisfactory material for the purpose was finally found in magnesium wire. Arrows of this could be pushed through the lung without the aid of a needle, and wounded lungs sutured in this way could be inflated up to the normal distention without any leakage of air. It was found advantageous to saturate the suture material with ferric chloride solution just before use. The method would find its greatest applicability in cases in which the Sauerbruch pneumatic cabinet was used, but would also be of service in ordinary operating.

**The Ferments of the Placenta.**—Bergell and Liepmann investigated the ferment content of the human placenta. For this purpose they took fresh portions of the tissue, put it through a chopping machine, and expressed the juice, in some instances after a preliminary trituration with sand, by means of a Buchner's press. The fluid obtained was precipitated with alcohol, the resulting powder purified by washing with alcohol and ether, and dried. It was found that a diastatic ferment of considerable strength was present, though the iodine reaction did not altogether disappear. There was some evidence of a milk sugar splitting ferment, but there was no pronounced action resembling that of lactase, and it was certain that no saccharifying ferment was present. Evidence of glycolytic action could be demonstrated, and it was discovered that large quantities of an albumen splitting ferment existed in the placenta, as tyrosin was obtained from pepton solutions by the agency of the placental preparation. Ferments splitting fat or lecithin were not found. Other methods of investigation gave corresponding results. The authors conclude that there are contained in the placenta active ferment-like substances, which produce catalysis, but that synthetic process also probably takes place. These changes deserve closer investigation both as regards the physiology of the fetus, and maternal pathology.

**The Scopolamine-Morphine-Chloroform Narcosis.**—Roith reviews the literature of this subject and says that he believes about 4,000 cases of the use of this form of anesthesia have now been reported. Of the eighteen deaths noted he believes the majority were either wrongly attributed to the anesthetic combination or else were due to the use of too large doses. He advises the administration of either .5 mg. of hyoscine and 1. to 1.5 cgms. of morphine one-half to one hour before the operation, or .3 to .4 mg. of hyoscine and 1 mg. of morphine one and one-half and one-half an hour before. The action of the small divided doses is rather better than that of a single larger quantity. The patient's ears should be plugged with cotton and he should be disturbed as little as possible before the administration of the ether or chloroform is begun. The amount of chloroform needed is greatly reduced, the effect on ether being less marked, but in either case the author considers that the chief advantages of the method consist in the fact that the induction of anesthesia is facilitated and that the post-anesthetic sequelæ are nearly always absent. When carried out according to the method described there is

no risk; it is just as dependable as any other plan, but like all similar procedures it does not invariably yield ideal results. The principle is one that requires no practice to apply, and every one may obtain good results with it. The addition of the hyoscine is a distinct advantage, for the effect is much better if it is used than if the morphine be given alone.

*Deutsche medizinische Wochenschrift, November 9 and 16, 1905.*

**Observations on the Bactericidal Power of Serums.**—Bail says that it is generally accepted that in the process of bacteriolysis two especially developed substances take part, the thermostabile immune body, and the thermolabile complement. The first combines with the bacterial cells and then renders it possible for the second factor, the really active agent, to unfold its power. As doubts have been expressed as to the accuracy of this view, especially as expressed in the form given to it by Ehrlich, the author investigated the subject anew. The result of his work with cholera vibrios leads him to believe that a somewhat new point of view must be adopted. Both the theory of Ehrlich and that of Bordet postulate a direct action of the alexin or complement in the process of bacteriolysis, after the heat-resisting portion of the serum has paved the way. This, of course, involves a consumption and ultimate disappearance of the former. The author has found, however, that this disappearance is only apparent and that the alexin is not altered in any appreciable way. Certain phenomena take place which temporarily inhibit its action, but as soon as these are removed, the old properties return. The author's experiment in its simplest form consists in saturating a certain quantity of serum with bacteria, which are then centrifuged off. The serum will then be found inactive, presumably according to the current belief, owing to the consumption of all the immune body and complement, yet that this is not so is shown by the fact that if a fresh amount of immune serum be added the original strength of the serum is restored and may even be heightened.

**The Treatment of the Functional Psychoses.**—E. Mendel says that it is the duty of physicians to carry out the prophylaxis of mental diseases by restricting the marriage of those whose heredity in this respect is bad. Care must be taken, however, to analyze the conditions with sufficient care to determine the fact that the congenital taint really is present, and that outbreaks occurring in some distant member of the family were not dependent on ulterior causes. No person of unsound mentality should even be allowed to marry, and caution is necessary in permitting matrimony to one who was formerly a patient of this sort. The prophylaxis also involves particular care of the children of mentally weak parents, and in their education and choice of a calling reference must be made to their inherited tendency. If the existence of mental disease has been established the question of confining the patient must be considered. If the patient is violent, threatens his own life or that of his attendants, refuses nourishment, or commits acts prejudicial to the interests of others he must be confined, as also in many cases this measure is necessary for his better treatment. In carrying out the removal it is better to tell the patient he is to be taken to a hospital, but the necessary assistance should be at hand in case he should offer resistance, for it is better to act at once, using force if necessary, rather than to postpone the attempt and leave the patient in a state of dread and anxiety. Deceit is only rarely necessary, and if resorted to, those who are to have the future care of the patient should take no part in it. In carrying out plans of treatment one should avoid the error of attempting to elaborate a program, for many of the psychoses terminate in spontaneous recovery, and their course is but little affected by therapeutic measures.

**Cystoscopy and Lithotripsy in Different Positions.**—Ringleb recounts various conditions such as sacculation of the bladder, prostatic hypertrophy, intravesical bleeding, etc., which often render it difficult to obtain the results for which some procedure such as cystoscopy or lithotripsy is being attempted. The bottom of the bladder is frequently almost inaccessible to inspection under ordinary conditions, yet by suitably changing the position of the patient's body a great deal can be accomplished. It is always an advantage to have the patient rise from a reclining to a sitting position after the instrument is in place, and frequently by turning him from side to side, elevating the pelvis, etc., better views may be obtained, especially if there be a stone present which must be caused to roll to one side. The principal innovation introduced by the author is, however, his recommendation to conduct the examination with the patient lying on the abdomen. This is made possible by the use of a special table constructed so as to allow the genitals to hang down through a rounded gap at the end of the table, while the knees are supported in adjustable holders. The act of catheterization in this position is naturally difficult, but the author describes it in detail and states that the advantages secured by the maneuver in certain special cases more than compensate for the disadvantages.

**Acute Poisoning of the Oral Mucosa by Tincture of Iodine.**—Witzel who has already reported one death from this cause reiterates his warning against the local application of tincture of iodine as a remedy for toothache. There are certain cases in which the dilatation of the vessels of the gum acts beneficially in causing a corresponding depletion of the congested pulpa, but the haphazard recommendation to the laity to resort to this treatment is very dangerous. A case in point is described, in which the family physician gave this advice to a woman suffering from toothache and told her to consult a dentist. The iodine did good at first, so she thought she could complete the cure herself and kept repeating the applications. After three days the mucus membrane became necrotic, filling had to be removed, and finally an alveolar abscess developed, the whole constituting an inflammatory condition of no slight severity.

**Experimental Observations on the Influence of the Emotions on the Secretion of Gastric Juice.**—Bickel first rehearses the results of the classical experiments of Pawlow in feeding a dog with an esophageal fistula, the object of the demonstration being to show that the emotions, *i. e.*, appetite, may produce a great increase in the amount of gastric juice secreted. He then describes the effect produced when a very excitable Pawlow dog was infuriated by being teased with a cat in a cage before or after he had received his apparent meal. If the dog was angered before the stimulus of food was applied practically no gastric juice was secreted; if he was angered after the apparent meal and while the secretion of gastric juice was in full swing, its production was almost completely arrested with great suddenness, and only some time after the animal had become calmer did the secretion once more commence. It was only the quantity of the juice, however, and not its quality that was affected. The author considers this as a valuable demonstration of the fact that one psychical stimulus may entirely neutralize the effect of another.

*French and Italian Journals.*

**Vaginal Cysts.**—Voituriez reports a case of this nature. The patient, a woman twenty-five years old, had given birth three months previously to a well-formed child. The labor was normal. A month later the presence of a small tumor in the vagina was discovered. On inspection it was found that the vulvar orifice was filled up with a rounded swelling. The growth was semi-transparent, of a red color, and the visible part was as large as a nut. The base of the tumor was attached to the anterolateral wall of the vagina. The tumor was sessile. Under general anesthesia the cyst was removed. It proved to be the size of a pigeon's egg. The writer in giving a résumé of the characteristics of such growths states that they are generally found in young women after delivery. They probably develop during pregnancy. However, they have been observed in small children. The cause is generally attributed to the renewal of vital activity in the débris of the Wolffian body. These vaginal cysts are single or multiple. At times they are bilateral. The form is often elongated, accommodating itself to the axis of the vagina; these growths are always behind the vulva but they may project outside. The size varies greatly. There is discomfort in walking, and during labor the vaginal cyst presents an obstacle. There is no real pain except in cases in which the cyst is inflamed and suppurating. Diagnosis is made by direct examination. The patient often believes that she is suffering from prolapsus uteri.—*Revue Française de Médecine et de Chirurgie*, October 30, 1905.

**Pancreatitis in Relation to Mumps.**—M. B. Auché reports two interesting cases of this kind. The first patient was a boy twelve years of age. There was nothing of special interest in either personal or family history. The child contracted mumps during an epidemic of this disease. The pancreatic complication was evident on the fifth day. The patient complained of pains in the epigastric region. These pains were constant and severe, and at times they culminated in paroxysms which caused the child to cry out. Vomiting began about an hour after the pain was felt. The vomitus became bilious in character. The pain was localized between the umbilicus and the xiphoid cartilage, and under the left costal border. The rest of the abdominal cavity was not painful. Pressure in the region of the pain caused it to become very sharp. The stools and urine were normal. In five days the pain had ceased and recovery took place without further incident. This pancreatic complication, according to the writer, generally appears from the third to the sixth day after the beginning of the parotid swelling.

The most important symptom is pain. It manifests itself most often spontaneously. Its beginning is often brusque. Its intensity is variable. Nausea and vomiting are very important symptoms. The occurrence of pancreatitis in relation with mumps appears to be infrequent. The prognosis is favorable. *Journal de Médecine de Bordeaux*, October 29, 1905.

**Pneumonic Pseudo-Appendicitis.**—Méry observed this patient, a child ten years old, which was carried to the hospital with a diagnosis of appendicitis. The child complained of pain at McBurney's point. But this pain increased toward the diaphragm. There was no muscular rigidity, the abdomen being soft. The temperature was higher than that noted in appendicitis. In this case it was from 40° to 41° C. The facies was not typical of any abdominal trouble. On examination the presence of generalized bronchitis and pneumonia were detected. The face was red. When the diagnosis of pneumonia was made the treatment for this disease was instituted and the child soon became convalescent. The writer calls attention to the necessity in such cases of paying careful attention to the leading symptoms. A high fever, absence of muscular rigidity, and a congested facies ought to put the physician on his guard. Careful examination of the lungs will clinch the diagnosis, and the physician will avoid gross errors in the treatment of the case, for there are cases of this nature on record in which operation for appendicitis has been performed.—*Journal des Praticiens*, October 28, 1905.

**The Treatment of Joint Tuberculosis.**—Among the conclusions presented by A. Bier as a result of his experience in this line of work are the following: Articular tuberculosis is an affection essentially curable. Systematic ablation of tuberculous foci is an absurd method of treatment. Treatment of the general condition plays a certain role in the amelioration of the local lesion. Immobilization is one of the best local measures. Iodoform, tuberculin, ignipuncture, and chloride of zinc are useful adjuvants. The method of passive hyperemia by venous constriction is the most efficacious and simple means of conservative treatment. Even in open tuberculous lesions the method of hyperemia should always be tried. The cold abscess should be evacuated by incision, puncture, or aspiration. The following are counterindications to hyperemia: Amyloid degeneration, severe pulmonary tuberculosis, and vicious attitudes which after recovery will give a worse result than resection. Hyperemia allows the ambulatory treatment of patients. The average duration of treatment is less than nine months. The writer has made use of this method for fourteen years.—*Archives Médicales Belges*, October, 1905.

**Clinical and Histological Studies of Endothelioma of the Pleura.**—Giuseppe Siragusa has made an exhaustive study of tumors of the pleura. He states that primary tumors of the pleura are much more frequent than has been supposed. In some cases the tumor is limited to the pleura, in others it is diffused to the lung. The difficulties in diagnosis are not only clinical but anatomical. The best clinical criteria are involvement of the neighboring glands, irregular dilatation of the thorax, narrowed intercostal spaces, and enlarged veins; marked thoracic resistance, boardy resonance, especially on the right; hemorrhagic exudate and presence in it of neoplastic elements; rapid reproduction of the pleural liquid after removal. The most frequent form of tumor is endothelioma, arising from the endothelium of the lymphatic spaces. It is accompanied by small-celled infiltration, new formations of veins, and gives rise to glandular metastases as well as those in other organs.—*Giornale Internazionale delle Scienze Mediche*, October 15, 1905.

**Alterations in the Urine After Operative Traumatisms.**—Guidolerda examined the urine of 265 patients, sick with febrile and afebrile diseases, and subjected to bloodless or bloody operations, either with general or local anesthesia. His purpose was to add to literature a certain number of correct observations of the reaction of the urinary organs in such cases, and to separate as far as possible the results of anesthesia from the other results of operation. A rigorous asepsis excluded post-operative sepsis. The anamnesic and somatic conditions were taken into account, especially the condition of the heart and kidneys, age, nature, and duration of the operation, etc. Kidney diseases were excluded. The urine was examined as to quantity, specific gravity, albumin, reducing power, hematic and biliary pigment, and urobilin. A certain number of cases had the microscopic examination of the sediments made. Two hundred cases were under narcosis by chloroform, and sixty-five cases were operated on under five centigrammes of cocaine hypodermically. In 167 cases of afebrile diseases, after operation there was a diminution of urine secretion, increase of specific gravity, acidity, and pigment. Urobilin was frequently present. In 15 cases there was albuminuria. In 20 cases examined microscopically six showed granular casts and four of them had albumin. In 23 febrile patients, eight albuminous before operation the albumin was increased. The increase of albumin in febrile patients is noteworthy. —*Ospedale Maggiore di Torino 1905*.

**The Antitoxic Power of the Thyroid.**—Daniele Bajardi, in order to demonstrate whether thyroidectomy is sufficient to modify the resistance of animals to experimental intoxications, and whether there is any foundation to the theory that the thyroid exercises a neutralizing function against poisons of both endogenous and exogenous origin, began a series of experiments on animals. He injected toxins into the thyroid substance; injected a mixture of toxins and poisons with thyroid juice; gave contemporaneous injections of toxins and thyroid juice; injected a mixture of toxins and poisons with nucleoisotonics of the thyroid; and lastly, gave injections contemporaneously of toxins and nucleoisotonics of the thyroid in different parts of the body. He concludes that we cannot attribute to the thyroid any antitoxic function for exogenous poisons, whether bacterial or chemical. The hypersecretion of the thyroid in infective diseases is purely reactive.—*Giornale della Regia Accademia di Medicina di Torino*, Vol XL., fasc. 5–6

**Cysts of the Vagina.**—Alessandro Vaccari presents the histories and microscopical examination of four cases of cyst of the vagina, observed by him in order to show that there are reasons for believing that these cysts are not always of embryonal origin. He does not exclude the possibility of the origin of these cysts from embryonal remains, but believes that this is not the usual manner of origin. Much more frequently there is an adhesion of folds of the mucous membrane of the vagina, due to a true pathological process, the result of traumatism or of mechanical agents producing a more or less deep desquamation of epithelium, or to the sinking in and isolation of a portion of the mucosa of the vaginal wall, which, endowed with a certain proliferative activity, goes on growing in the substance of the wall.—*Annali di Ostetricia e Ginecologia*, August, 1905.

**The Genesis of Pulmonary Lesions in the Tuberculous.**—Vallée has recently made a most important communication concerning this subject. He declares that in an animal with discrete tuberculous lesions of the intestine or of the mesentery the predominance of pulmonary lesions does not authorize one to admit that the affection was not contracted through the digestive tract. This opinion which the author already held in 1903, he has confirmed to-day by new experiments on twenty tuberculous calves. Twelve of these animals were infected through the nasopharynx, two by intratracheal inoculation, and the others through the digestive tract or by direct inoculation of a mesenteric ganglion, or of a branch of the mesenteric vein. Of all of these modes of infection, that of the intestine was the one which resulted the most quickly and the most surely in the infection of the ganglia connected with the lungs. The penetration of the intestine by the tubercle bacillus may be effected without producing apparently appreciable lesions of the intestinal mucosa or of the mesenteric ganglia. It must be admitted then at least from the experimental point of view, that the ingestion of tuberculous material plays a most important role in the development of the disease; and that a tuberculous adenopathy may exist without the least lesion of the corresponding viscera. Tracheo-bronchial adenopathy in particular may be due to the direct invasion of the ganglia by the bacillus of Koch. It is not a necessary consequence, at least from the experimental point of view of pulmonary tuberculosis.—*Gazette des Hôpitaux Civils et Militaires*, October 10, 1905.

**Spirochæte Pallida and Syphilitic Infection.**—A. Risso and A. Cipollina draw attention to the spirochete observed in syphilitic cases, a spirillum, very motile, having a length of 4-10, and difficult to stain. The authors have carried out a series of examination in syphilitic cases of different kinds, and especially of the glands. The glandular juice was examined in each patient derived from the inguinal glands, seven observations having been made. Two of them presented typical ulcers and enlargements of the glands, but had not yet had any secondary symptoms. The other five were in the secondary period, and one had already had mercurial treatment. Four other patients had inguinal syphilomata, and one had tertiary manifestations. The spirochetes were found in the glandular juice in five out of seven patients. The examination of various mucous patches showed this typical form of spirochete, as did also a papulohypertrophic condyloma. They were not found in two initial lesions, nor in an ulcerated gumma of the leg, or the fluid from a closed gumma of the forehead. Two facts that have been demonstrated go to show that this germ is the specific cause of syphilis: their presence in the swollen glands of the secondary period, and in the internal organs of infants suffering from hereditary syphilis. At the same time, it has not been demonstrated in the blood in secondary cases. Yet this blood is contagious.—*La Riforma Medica*, August 26, 1905.

# Book Reviews.

Medicine and the Public. By S. Squire Sprigge, M.A., M.D. (Cantab), London: William Heinemann, 1905.

This work was for the most part published in the form of a series of articles in the *Lancet*. As Dr. Sprigge states in a preface to his book, in the first instance the intention has been to place before the medical profession its present position in regard to the general public, more especially with respect to the present conditions of society, and secondly to interest the population at large in the same question. It is pointed out that although the people generally are directly concerned in the quality of their medical service, yet the ordinary individual takes but a languid interest in medical practice, regarding it, except on those occasions when he himself has need of a medical man, as outside his province; and he fails to grasp the undoubted fact that the higher the standard of medical education and training, and consequently the status of the physician, the better must it be for all. Dr. Sprigge contends, and rightly, so we think, that legislation might greatly aid the medical profession, if only the public would take an intelligent interest in the matter and insist upon the right remedies being applied. Of course, the conditions in regard to the medical profession in America are widely different from those in Great Britain. However, they have these points in common, that the public in both countries regards medical practice with apathy, and that until the population at large becomes interested in the subject the scope of medical endeavor and the status of the physician cannot be advanced. Dr. Sprigge (who is an editor of the *Lancet*) strongly insists upon the above points, and as the general tenor of his remarks apply with almost as much force to the situation in America as in Great Britain, his book should amply repay a perusal in this country.

International Clinics. A Quarterly. Edited by A. O. J. Kelly, A.M., M.D., Philadelphia, U. S. A. With the Collaboration of William Osler, M.D., Oxford, and others. Volume II. Fifteenth Series, 1905. Philadelphia and London: J. B. Lippincott Company, 1905.

The contributors, beginning with Bellin, the Paris otologist, and ending with Wilson of the Philadelphia General Hospital, form a list of well-known names. Among the many interesting articles are Acute Nephritis in Children, by Morse; Adrenalin in Pulmonary Hemorrhage, by King; Neurasthenia, by Edes; *X*-ray Treatment of Tinea Tonsurans, by Sabourand; The Plague, by Williamson of India; Enlargements of the Testes and Epididymis, by Eisendrath, etc. The general fields of medicine and surgery are covered by able writers, as usual, but there is missing the abundance of good illustrations of former days.

Currents of High Potential of High and Other Frequencies. By William Benham Snow, M.D., Professor of Electro-Therapeutics and Radiotherapy in the New York School of Physical Therapeutics. New York: Scientific Authors' Publishing Company, 1905.

On running over the pages one is at first struck by the cheap inadequacy of the full-page illustrations. On reading the text, one finds the author a firm believer in his subject and adequately equipped to handle it. The use of the *x*-ray has given a wonderful stimulus to medical electricity in general. The truth about its worth is coming to be known. Too much is apt to be claimed by enthusiasts. The author has given in the main a temperate statement of the methods as they exist from his standpoint. He gives as a synonym of convective discharges the *effleuve* of the French, and throughout the book it is always thus spelled. Scientific accuracy would seem to require that even such details receive attention.

A System of Physiologic Therapeutics. Edited by Solomon Solis-Cohen, A.M., M.D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic; Lecturer on Clinical Medicine at Jefferson Medical College; Physician to the Philadelphia Hospital, etc. Vol IX. Hydrotherapy, Thermotherapy, Heliotherapy, and Phototherapy. By Dr. Wilhelm Winternitz, Professor of Clinical Medicine in the University of Vienna; assisted by Dr. Alois Strasser and Dr. B. Bunbaum, and Balneology and Crounotherapy, by Dr. E. Heinrich Kisch, Professor in the University of Prague. Vol X. Pneumotherapy, including Aërotherapy and Inhalation Methods. By Dr. Paul Louis Tissier. Philadelphia: P. Blakiston's Son & Company, 1904.

The information derived from the title pages of these important volumes scarcely gives an adequate idea of the scope of the work and the ground covered. There are, besides the various chapters on technique and methods in the use of water externally and internally, supplemental chapters on saline infusions and irrigations by Harvey Cushing; balneotherapeutic indications for the individual forms of chronic disease as well as the physiological basis of hydrotherapeutic measures in general. The part devoted to the uses of light has been supplemented by chapters on heliotherapy, phototherapy, and thermotherapy by Dr. Kellogg, of Battle Creek, so that we have a volume of over 550 pages, carefully prepared and quite abreast of the times. The translation of Winternitz's work has been done by Augustus Eshner in his characteristic style. While complicated measures requiring special apparatus have been fully considered, simple every-day uses of packs, baths, douches, etc., are by no means neglected, and the home treatment, no less than that of institutions, is presented in a clear way. Crounotherapy will be a new name for most readers, meaning the internal use of mineral waters, or drink cures, as distinguished from balneotherapy or bath cures. Dr. Pearle, of the National Museum, has contributed to the classification of mineral springs, which will make this volume one of useful reference. Air as a therapeutic agent has received too little attention, and the editor has done well to present this subject in its various bearings in an attractive form. Compressed-air baths, the pneumatic chamber, differential pressure measures, respiratory gymnastics, pneumatometry, spirometry, inhalation of vapors, atomization, nebulization, insufflation of powders, and many other chapters go to make up a most instructive book. The general features, illustrations of apparatus, and make-up are in keeping with the previous volumes which have received favorable comment.

Static, High Frequency, Radio-, Photo-, and Radium-therapy. By William Harvey King, M.D., LL.D., Head of Clinic of Physical Therapeutics at the Flower Hospital. New York: Boericke & Runyon, 1905.

This is a small, unpretending volume, dealing with elementary medical electricity, with chapters on the newer forms of radient energy. It is in the main carefully prepared matter, but the repeated use of the term "effleuve," which is neither English nor French, but which is so spelled in a recent work on high frequency would indicate a certain amount of borrowing without full investigation. The illustrations of diseases treated are not convincing. On page 77 is a cut taken from Allen's Phototherapy, but without credit, and erroneously labeled. In the same way the picture of a protecting shield on page 183 has a faulty description. Aside from such evidences of carelessness, the work presents the uses of the various curative forces in a fair, unbiased manner.

Allgemeine Fieberlehre. Von Dr. Eduard Aronsohn. Berlin: August Hirschwald, 1905.

This interesting little work opens with an introduction in which the various "fever theories" are discussed, after which the author considers the pathogenesis and etiology of this condition. The basis of his presentation of the subject rests on experimental observations made some years ago in conjunction with Sachs, as the result of which it was determined that a temporary increase of temperature may be produced in animals by puncture of the corpus striatum. This phenomenon is considered by the author to represent the simplest type of fever, which in the presence of an infection is complicated by the effects of the bacteria and their toxins. Clinically, these simple types of fever are to be found in such cases where the cause is a purely thermogenic one, which involves only the heat center and its tracts. Included in this category are traumatisms, brain tumors, epilepsy, tabes, paralyses, hysteria, etc. In the remaining chapters he considers thermometry, the site and the manner in which fever is produced, the clinical course, and the effect on other body functions. In the concluding chapters he presents in a fairly complete fashion the various methods for treating fever. The book is evidently an attempt to popularize what information is at hand on the subject of body temperature. It is written in an entertaining fashion, but contains many references which defy accepted theories to such an extent that its value as an authoritative work of reference will be lessened thereby.

Cleft Palate and Harelip. By W. Arbuthnot Lane, M.S., F.R.C.S., Surgeon to Guy's Hospital, London. London: The Medical Publishing Company, Limited, 1905.

The operation for cleft palate, known by the writer's name, has been employed by him in several hundred cases, and the publication here reviewed contains a résumé of the various papers written by him on this subject from time to time. After tracing the development of these buccal deformities, he discusses the indications for operation, and claims that the latter should be done as early as possible—if practical, on the day after birth. At this time the tissues are much more vascular and the arch of the palate is still unmodified by the effects of the deformity or the growth of the teeth. There are a number of excellent illustrations.

# Society Reports.

## THE PRACTITIONERS' SOCIETY.

*One Hundred and Ninety-eighth Regular Meeting, Held Friday, November 3, 1905.*

The President, Dr. T. Mitchell Prudden, in the Chair.

**On Certain Forms of Ocular Tuberculosis.**—By Dr. Charles Stedman Bull. (See page 925.)

Dr. W. Gilman Thompson said the only cases of this kind that came under the observation of the general practitioner were those in which the eye lesions were secondary to a meningitis, generally the result of a miliary tuberculosis, and in that connection they were of considerable advantage as an aid to diagnosis.

Dr. Bull said that tuberculosis of the palpebral conjunctiva was usually rapid in its development, especially where the margin of the lid was also involved. *Per contra*, he could recall only three cases which involved the ocular conjunctiva, the lids being free, and in those instances the disease was of very slow growth. They were all unilateral. The only cases that were pretty certain to be bilateral were those of choroidal tuberculosis.

Dr. John Winters Brannan inquired whether local treatment in these cases of tuberculosis was regarded as more important than general hygienic treatment, such as was now so universally recommended in the treatment of pulmonary and other forms of tuberculosis. He stated that at the Sea Breeze Hospital for tuberculous children there was one case that had been there since last autumn. Besides a tuberculous rib, the child had on entrance a tuberculous sinus at the outer angle of the orbit, as well as a patch of ulceration on the cheek. All of these lesions had healed satisfactorily under the influence of sea air and good food, in addition to some local applications.

Dr. Bull said it had been his experience that local treatment was not necessary in the treatment of these tuberculous lesions of the eye. It was only comparatively recently that the prognostic value of tubercles in the choroid had been recognized. He recalled a case of tuberculosis of both lungs, with rapid deterioration of the general health, where the patient's eyes were repeatedly examined under the influence of a mydriatic, and it was not until a week before the patient's death that the tubercles of the choroid were visible. In reply to a question as to whether he thought that fifty per cent. of cases of miliary tuberculosis showed choroidal tubercles, Dr. Bull said he had seen quite a number of cases of intraocular tuberculosis where the choroidal tubercles were, at the time, the only symptom. He thought it probable that fifty per cent. of the cases of miliary tuberculosis would show the choroidal tubercles in the later stage of the disease. The history of his cases had shown the complete uselessness of tuberculin as a remedial agent. It produced a general reaction in eighty-five per cent. of the cases in which it was employed, and in some of them a marked local reaction. In cases of tuberculous meningitis, choroidal tubercles were present in only twenty-five per cent. of those examined, so that much value could not be placed upon them in the recognition of that disease. Single observers saw comparatively few instances of ocular tuberculosis: personally, Dr. Bull said, he had seen less than one hundred cases, in both private and hospital practice, in living subjects. In reply to a question as to whether the presence of choked disk would make the examination for choroidal tubercles any more difficult, Dr. Bull said it would not, as the tubercles were scattered all over the fundus. There was very little interference with the vision in choroidal tuberculosis in cases where the optic nerve was not involved.

**Cases of Typhoid Fever with Malaria.**—Dr. W. Gilman Thompson said he had reported the first three cases of typhoid fever with demonstration of the plasmodium malariæ in 1894, and since then many such had been placed on record. In the majority of these cases it seemed that the plasmodium remained latent until the typhoid fever ran its course. An example of this had recently come under his observation. The patient was a man who had lately returned from Panama, and when he entered the Presbyterian Hospital, with the history of an acute illness dating back three weeks, his symptoms pointed more to malaria than to typhoid fever. It was expected that the estivoautumnal type of malarial parasite would be found in the blood, but three successive examinations gave negative results, although the patient had had no quinine. In the meanwhile, symptoms developed which led to the diagnosis of typhoid fever, and an examination of the blood gave the Widal reaction. Subsequently, he had several hemorrhages from the bowels, and on the fifty-third day he developed a small perforation, for which an operation was done. An examination of the blood at this time revealed the malarial parasite of the simple tertiary variety, although one could not tell from the temperature chart that the case was one of mixed infection. The case resulted fatally from general peritonitis. Dr. Thompson said he had seen cases of this mixed infection where the presence of the plasmodium would give rise to decided interruptions in the course of the fever. There would be a sudden rise and fall, indicating a definite malarial paroxysm, which would temporarily entirely supplant the usual typhoidal temperature wave.

Dr. Brannan recalled one case coming from Cuba in which the presence of this mixed infection had been recognized by Dr. Alvah H. Doty at the Quarantine Station. No plasmodium could at first be found in the blood, but after the patient had recovered from a typical attack of typhoid fever, as well as a relapse, he developed an attack of malaria which persisted for a long time. The plasmodia were not found until late in the course of the disease, and the malarial symptoms did not manifest themselves distinctly until after the typhoid fever had run its entire course.

**Spontaneous Fracture of the Humerus.**—Dr. Robert Abbe reported this case, and showed a number of *x*-ray pictures of the affected bone. The patient was a lad of eleven, who, while throwing a stone into a chestnut tree, felt his right arm suddenly give way. The first physician who saw him regarded the condition as a sprain. Subsequently, another physician was consulted, who detected motion and crepitus, and upon having the limb skiagraphed observed that the medullary space above the fracture was cloudy. This led to the suspicion of a central sarcoma of the bone, and the patient was referred to Dr. Abbe. Examination of the affected limb showed that the bone was apparently uniting firmly five weeks after injury. Several *x*-ray pictures had been taken, which revealed a fusiform swelling of the shaft above the fracture, the medullary space being filled with a cloudy substance. While the appearance of the expanded bone and contents was suspicious, still the fact that the bone was uniting militated against the diagnosis of osteosarcoma and it had been decided, after consultation with Dr. Robert F. Weir, to postpone exploratory operation for two weeks. If the lesion proved to be a sarcoma, it would necessitate amputation at the shoulder. In this case there was no history of pain in the limb prior to the injury. The Röntgen pictures were shown because of the beautiful evidence of tumor growth, while good union of the fracture was the only evidence against malignancy—justifying a short delay.

Dr. Joseph D. Bryant said that while he was not inclined to believe that the growth outlined by the *x*-ray was a sarcoma, still it was open to that suspicion, and he thought it would be wiser to decide the question by an immediate incision rather than to wait even two weeks, as no one could estimate exactly when sarcoma or other malignant disease would begin to spread. With sarcomatous growths, the danger of infection through the circulation was well recognized.

## NEW YORK ACADEMY OF MEDICINE.

*Regular Meeting, Held November 16, 1905.*

DR. CHARLES L. DANA IN THE CHAIR.

THE meeting was held under the auspices of the Section on Surgery.

**The Surgical Treatment of Cirrhosis of the Liver Associated with Ascites.**—DR. FORBES HAWKES said that a sufficient number of cases had been reported by various operators to show that in properly selected cases the operation of Talma of Utrecht offered such distinct hopes of a fairly permanent improvement that the medical practitioner should keep it constantly in mind and be ever ready to suggest it as an early alternative to those patients with ascites so great as to require repeated tappings. Its advantages might well reach to those cases also of cirrhosis associated with intestinal, gastric, or esophageal hemorrhages, or even to those where there were gastric symptoms without hemorrhages. The Talma operation comprises the following procedures, after the opening of the general peritoneal cavity and the evacuation of the ascitic fluid: Roughening or scarifying the peritoneal coat of the liver, spleen, and great omentum and the opposed peritoneal surfaces, so that intimate vascular adhesion might be brought about between these organs and the opposed peritoneum. Next the fixation of the great omentum to the tissues in the anterior abdominal wall, so that the vessels might be inosculate, all of these procedures contributing to the establishment of the desired collateral circulation. Certain precautions, both operative and postoperative, which seemed to be essential to the establishment of an ample collateral circulation, he noted as follows: (1) A very thorough denudation of the surface of the vascular planes which were to carry on this collateral circulation. (2) The accurate coaptation of the large denuded surface of omentum to the anterior abdominal wall. (3) The keeping in apposition of all prepared surfaces until intimate adhesions could occur between them. This meant that no ascitic fluid should be allowed to collect between them. This was best obtained by adhesive plaster compression of the upper abdomen after the operation, and by ample pelvic drainage continued for some time, the drain issuing just above the bladder. (4) The prevention of too much compression of the newly formed blood vessels by a subsequent accumulation of ascitic fluid in the abdomen; keep up pelvic drainage for some time, probably three or four weeks or more after the operation, guarding against infection most carefully, and later tap the abdomen as often as may be necessary and before distension became even moderate. Many of the cases of reported cures had required several tappings after the operation and an immediate cessation of the ascites should not be expected. Dr. Hawkes then detailed a recent case of his own, one of atrophic cirrhosis with very rapidly accumulating ascites and which, though not entirely cured as yet, had been very much improved by the operation, although the complete Talma operation could not be carried out in this case. The consideration of this case, and the facts he mentioned warranted him in expressing the hope that even in the very bad, almost moribund, cases of atrophic cirrhosis with ascites, even such a procedure as a simple omentofixation might be followed by marked alleviation of symptoms, if not absolute cure, and that they were justified in holding out such hope to such a patient.

DR. GEORGE E. BREWER said he had been interested in this subject for a number of years, although his experience with it had been an unfortunate one. At the same time he recognized the value of this operation, because he considered it to be founded on correct principles. Dr. Brewer's cases numbered four, and all were seen at the Charity Hospital. In all in addition to the ascites and cirrhosis there was Bright's disease. Three of these patients died as the result of the operation, and it occurred to him at the time that the drain might have been responsible for these deaths, especially in one case. In the fourth case the drain was omitted and the wound sewed up. A good operative recovery followed. The fluid though accumulated and reaccumulated at increasing intervals and it seemed to be a favorable case. He said that a certain number of cases did recover spontaneously after ascites supposed to be due to liver cirrhosis. He reported an instance of a man who was admitted to Roosevelt Hospital with an enormous abdominal distension, one of the greatest he had ever seen. This patient was about 40 years old, and had been a confirmed alcoholic for 10 or 15 years. Ascites slowly developed, and he was tapped a number of times. The distension was so great the man could not stand, and cyanosis was very marked, the pulse weak; he was anemic and emaciated. The first tapping withdrew 48 quarts, and even that did not empty the abdomen. Only temporary relief followed removal of these large amounts, and he decided to leave the hospital. Dr. Brewer supposed he would live no longer than 10 days. One and a half years later he was apparently well, and when asked what cured him he answered "Christian Science." He believed that if these cases were taken at an early period the death rate would be a comparatively small one and the best chances would be offered in cases of ascites from cirrhosis.

DR. FRANZ J. A. TOREC said that the condition of the patient requiring the Talma operation was frequently such that such an extended operation was impossible, and he referred to the publication of an operation in which the transposition of the omentum was performed in a similar manner. The incision was made in the median line between the sternum and umbilicus, and a pocket was formed in the abdominal wall by dissecting away the skin and fascia from the deeper layers, and placing the omentum in this pocket and closing the abdominal parietes so far as the omentum would permit without constriction of the circulation. This procedure seemed to him to be well worth trying. Three weeks ago he performed this operation upon a patient whose condition was very low, and to-day the collateral circulation could be observed as being established by this simple method.

DR. C. A. MCWILLIAMS said that eleven patients had been operated upon at the Presbyterian Hospital, and all but four had died. All of these patients were in bad condition. Of the four, one was operated upon four years ago and was now apparently well and with no ascites. The second was operated on 18 months ago and was also apparently cured. The third received not the slightest degree of benefit, there being prompt recurrences of the ascites, and this patient died six months after the operation. The fourth patient was still in the hospital, and was operated on six weeks ago. From the literature he learned that there had been 267 cases operated on with a mortality of 30 per cent. or 40 per cent. The presence of jaundice seemed to contraindicate operation. Where there was a marked degeneration of the liver cells the ultimate prospects as regards life and even prolongation of life seemed slight. Kidney involvement was another contraindication.

DR. GEORGE M. EDEBOHLS said he had only four more cases to contribute, and one of these was a very unique one and opened up a new field. The first of these patients was operated upon four years ago, and died within four or five weeks after operation. The second was relieved of the ascites while in the hospital, but left at the end of six weeks and he had been unable to trace this patient since. The third case was a successful one done two years ago. This patient had been a hard drinker, and six weeks prior to operation both the abdomen and pleura had been tapped. He was brought in delirious and partially comatose and his physician asked if something could not be done. Both pleural cavities and the abdomen were emptied. The same afternoon the typical Talma operation was performed with a striking result. He recovered from the delirium and coma within two days. The fluid reaccumulated in both abdomen and pleura and was again tapped. That patient to-day was in business in Wall street and considered himself a

well man. Dr. Edebohls said that such a result in one out of ten operations showed that it should be more often adopted. The fourth case was a very unique one. This patient was sent to him seven or eight months ago from the country with a diagnosis of Addison's disease. There was the bronzed skin, cachexia and emaciation, with an intense itching all over the body. There was felt a fairly large tumor in the right hypogastric region. His attending physician diagnosed enlargement of the suprarenal capsule, or Addison's disease, or tuberculosis of capsule, and the patient was sent to him for the purpose of seeing whether the suprarenal capsule could be removed. The tumor turned out to be a hypertrophied liver, both kidneys and suprarenal glands being found to be normal. The liver, though, was in a state of hypertrophic cirrhosis without ascites. Thinking of what had ben done it seemed to him that if the Talma operation relieved the ascites it might relieve the hepatic cirrhosis, and therefore he performed the Talma operation. Within one week after the operation the itching ceased and had never returned since. In the course of five weeks the tumor gradually diminished in size, and this patient was doing very well. The point he raised was that one might occasionally operate in the precirrhotic stage with happy results. Dr. Edebohls was convinced that the Talma operation was a valuable addition to one's therapeutic armamentarium, and that it should be tried in every case of hypertrophy of the liver complicated by ascites.

Dr. George D. Stewart said that he had operated upon three cases. He did not believe it was possible in many cases to do the typical Talma-Morrison operation; when it could not be done one should then fasten the great omentum to the peritoneum. His experience with the three cases was an unfortunate one, all of them dying after two, three, and five weeks, and until he could hear of more successful results, and until he was taught to properly select cases for operation he did not propose to operate upon any more of these cases.

Dr. Arthur L. Fisk referred to two cases that had been operated upon, both dying within two or three months after. He called attention to an article that appeared in the *Boston Medical and Surgical Journal,* which made a thorough review of the subject under discussion. Here it was stated that most of the cases of cirrhosis of the liver were associated with chronic interstitial nephritis and general arterial sclerosis. Therefore, the first operation of Morrison-Talma he did not think to be justifiable. Until they were able to properly select their cases the operation should be undertaken with great care and consideration. In patients between 45 and 50 years of age, with kidneys affected, with a general arteriosclerosis, he believed it was a better plan to leave alone than to operate.

Dr. Samuel Lloyd said he had done this operation seven times, four of the patients dying in a comparatively short time, three to eight weeks after. The first case was operated upon when the method was first suggested; this patient was still living and the ascites had entirely disappeared and she was in as good a condition as she ever was. This was undoubtedly a very successful case. In his second case the technique was varied; here he took out a large portion of the parietal peritoneum and then attached the omentum directly to the abdominal wall over the denuded area. This patient had an atrophic cirrhosis. The caput medusæ rapidly appeared, the veins being tremendous ones. The ascites decreased for a number of months and then began to increase again, and the patient was operated upon the second time. This patient became septic as the result of abdominal drainage, and finally died. The third case he operated upon he thought had disappeared entirely, but showed up at the dispensary ten days ago, reporting well. This patient had been tapped after the operation a few times in the dispensary, with decreasing frequency, and it was at the present time several months since this was necessary. The patient was having now some trouble with considerable irritation of the stomach, and he thought that the probabilities were that there would be a relapse, as did the second case reported. Dr. Lloyd did not think that jaundice contraindicated the operation unless it was a prolonged jaundice with a saturation of the tissues with bile and when the condition was reached in which one might expect hemorrhages from any operative procedure, a sort of pseudo-hemophilia. But in the ordinary cases of jaundice it really was indicated.

Dr. Forbes Hawkes closed the discussion.

**Cholecystectomy, with a Report of Twenty-seven Cases.**—Dr. John F. Erdmann presented this communication and said that it was a well-known fact that one could exist without a functionating gall-bladder, and this had been proven many times by the autopsy and operating table findings. In many gall-bladders the cystic duct was occluded by stone, exudate, kink, etc., so that the storehouse function of this organ had not been carried on for months or years. Therefore, when one had a case of cholecystitis, or disease of the gall-bladder in which time as a curative agent could not be relied upon, or when the condition was a menace to life, judgment should demand the removal of the organ. Cholecystectomy had been, and was yet considered the operation of choice only when marked gangrene, or malignancy of the bladder was present. Personally he was not in accord with these views, and he had not selected his cases for the operation by limiting himself to these two conditions. Primary operations only were considered in his paper, and he reported results in 27 cholecystectomies, complicated or not with other diseases and conditions (two being pregnant), and drawing attention to the fact that no waiting time for subsidence of infection, etc., was given any of these cases by doing a previous cholecystotomy, nor was any local treatment advised. He also called attention to the fact that the worst cases of infection and most active invasions did fully as well, if not better, than those of lesser, or practically no inflammatory activity. The argument that it was not good surgery to do a cholecystectomy during an active invasion was not supported by the results in his cases. He said he was a firm believer that active interference in these cases by complete removal was as good practice as appendectomy was now considered to be. The time of repair and convalescence was shortened very markedly when cholecystectomy had been done, as compared to that of cholecystotomy and the possibility of secondary operation when the latter had been done was great, while following cholecystectomy it was rare. Twenty-two out of the 27 cases occurred in females, the youngest being 27, the eldest 66. Four of the entire number were over 50 years of age. About 20 per cent. gave histories of a previous attack of typhoid fever. It was more than probable that by closer questioning of the families a larger percentage of typhoid would have been in evidence. Two deaths occurred in this series, both in non-suppurative, but not uncomplicated cases. The appendix was removed in 16 of these cases, in several instances being markedly involved. Eight had gangrene of one of more coats of the bladder; one was doubly perforated, contained two stones and a large abscess walled off. In five cases the common and hepatic ducts, or both, were opened for stones. History of jaundice was obtained in 12 cases. Twenty-two of the cases were operated on for acute inflammatory conditions, and all recovered. Marked adhesions were present in 22, slight in three, and in the remaining two there were none present. Stones were present in all except one. The following were the indications for operation: Perforations by trauma, ulceration other than due to abscess or gangrene, obliteration or stricture of the cystic duct, chronic cholecystitis with thickened walls, atrophy, gangrene, acute suppuration, enlargement by dilatation, marked adhesions, hour-glass contractions, chronic or recurring cholecystitis, or cholelithiasis, and malignancy. The following contraindications were given: Apparently healthy bladder in cholelithiasis and pericholecystitis, perforations into other viscera when difficulty of closure of the anastomosis was

great, perforations in the suppurative variety when adhesions were extensive and where life would be jeopardized by such radical interference, malignancy when extensive, and those cases where hurried operation was indicated to save life. After considering the technique of the operation and relating the histories of some of the 27 cases he said in conclusion that the operation was advocated for its simplicity, diminution of post-operative convalescence, elimination of secondary operation, and that it dispensed with a viscus, dangerous to the owner when once infected. He did not advise the operation in all cases, but riper judgment, as now was exhibited in appendiceal surgery, should be exercised in this branch of surgery.

Dr. Forbes Hawkes said that he had been interested in cholecystotomy *versus* cholecystectomy, and he reported the case of a woman upon whom he operated about one and a half years ago who had previously been operated upon for gall-bladder pain, two stones being removed from the common duct, being melted out, with a perfect convalescence. Over a year later she began to have gallstone colic with jaundice; two months later the jaundice was quite marked and there was distinct tumefaction which could be felt under the liver. This turned out to be a distended and dilated gall-bladder. The common duct looked like an old strictured urethra.

Dr. C. L. Gibson said that the operation, cholecystectomy, antidated the operation for appendicitis. Six or eight years ago he presented two specimens, cholecystectomy having been done for the gall-stones, and he then was severely criticised for doing such an operation. Cholecystectomy was now rather the rule than the exception. A marked advantage followed the removal of the offending viscus. This operation he considered a comparatively easy one if uncomplicated. If done properly there would be no sinus left; but if a cholecystotomy be done one was apt to have a persistent mucous sinus left, not a biliary one. Another objection to cholecystotomy was that if a secondary operation was necessary it was performed with difficulty and was attended with more or less danger.

Dr. W. Gill Wylie said that whenever he opened the abdomen below the umbilicus, if large enough to admit the hand, he invariably examined for stone in the gall-bladder, and he was very often surprised to find stones. Those cases after abdominal section that suffered so much from nausea and vomiting he found had, as a rule, distended gall-bladders.

Dr. Charles A. Elsberg said that 80 cholecystectomies had been done at the Mt. Sinai Hospital during the past three years for acute and chronic disease; of these 80 cases, over 50 had been done for acute disease. They had come to the conclusion that in the majority of the cases when the gall-bladder had been found but mildly diseased that its extirpation was indicated.

Dr. Alex V. Moschcowitz said that he had gone through three stages, as follows: A few years ago he did cholecystotomy, with poor results, many cases dying, and those that survived had for a long time fistula, etc. In the second stage he did cholecystotomy, but here he sutured the drainage tube in the gall-bladder by the method that is frequently used in gastrostomy. The results were better. Later he adopted the operation, cholecystectomy, and now did it exclusively. In all the cases of cholecystectomy all but one case recovered. Personally he believed this to be the ideal operation.

## NEW YORK COUNTY MEDICAL ASSOCIATION.

*Stated Meeting, Held November 20, 1905.*

Dr. Francis J. Quinlan in the Chair.

**General Infection Through the Tonsils.**—Dr. Isaac Adler read this paper. He said that it was now generally conceded that the faucial tonsils might serve as portals of entry of infection for a number of diseases, as acute articular rheumatism, pleurisy, acute osteomyelitis, various forms of general sepsis, nephritis, and tuberculosis. It had even been suggested that typhoid fever might possibly originate here. The purpose of his paper was merely to emphasize a few points which might possibly be of some practical value, avoiding all theoretical speculation. That the tonsils offered, under certain conditions, a convenient passage for all sorts of infectious material into the lymph and hence into the blood current might now be considered a certainty. If one considered that an abundant flora of pathogenic and non-pathogenic bacteria was normally found to cover the tonsils, that the crypts and lacunæ usually contained more or less disintegrated and decomposing material, and if one considerd also the intimate connection between the tonsil and the lymph channels it became quite obvious that all the necessary factors of an infection were given. It was evident that there must be some powerful defensive apparatus, but what it was nobody as yet knew, although there was no doubt that powerful factors were the resisting power and disposition of the epithelium and the reactive vigor of the leucocytes. By far the most frequent infection of tonsillar origin was rheumatic, and it had been satisfactorily proven that acute articular rheumatism at least was a bacterial disease depending upon an infection. At present it was a generally accepted fact, based upon a large literature and much accurate experience, that this infection entered the system in probably the majority of the cases through the tonsils, and that acute articular rheumatism, endocarditis, pleurisy, and many other forms of streptococcic disease were thus introduced. He wished particularly to emphasize the fact that the rheumatic infection need not necessarily be introduced by the common form of follicular tonsillitis with more or less high temperature, considerable swelling of the tonsils, great pain on deglutition, etc. On the contrary, it very often appeared as if an intense inflammatory reaction served somewhat as a preventive of general systemic infection. It had been demonstrated that under favorable circumstances even quite virulent microbes could pass through the tonsillar portals without reactionary or inflammatory changes in the tonsillar tissue. The thin layer of epithelium in the interior of the crypts was most easily and most frequently damaged and afforded a ready passage for infection into the lymph channels, and, therefore, one found that very slight tonsillar irritation was the precursor of more or less severe rheumatic or septic systemic infection. Dr. Adler was convinced that muscular rheumatism was also a bacterial infection depending upon some microbe, possibly a highly attenuated streptococcus; also that many of these cases were of tonsillar origin. It was a fact not sufficiently appreciated that the muscles of the neck and, to a large degree, of the shoulder, were the favorite localization of a chronic muscular rheumatism. The acute onset was almost invariably preceded or accompanied by an attack of tonsillitis. It was quite possible that certain forms of pneumonia, streptococcus pneumonia, as well as the pneumococcus pneumonia, might have their origin in infection through the tonsil. General and severe septic infection might take their origin from tonsillar disease, and he cited a case to illustrate the fact that the gravest general septic infection might take its origin from the tonsils without the formation of tonsillar or peritonsillar abscesses and without any great anatomical tonsillar lesion. He called special attention to the relation of tonsillitis to nephritis, the form usually designated as desquamative nephritis, with no edema, no vomiting, no headache, in fact, no subjective or objective symptoms except those contained in the urine. In the overwhelming majority of the cases the nephritis disappeared simultaneously with the tonsillitis or soon thereafter. Sometimes it persisted long after the disappearance of the tonsillitis. He was convinced that chronic nephritis in the train of an ordinary tonsillitis was of much more frequent occurrence than was generally believed. It was the unquestioned duty of the physician to permit no case of nephritis following tonsillitis to reach the chronic, that

was to say, the incurable stage, and more attention should be given the urine during and after every attack of tonsillitis. The real function of the faucial tonsils was unknown, but they might act as valuable defensive mechanisms. However, it was certain that the organism could get along very well without any appreciable loss of function without the tonsil. No matter what its normal functions might be, they were transformed into abnormal ones on very slight provocation, and the slightest abnormality in the tonsils constituted a very serious menace to the entire system. Under such conditions one was almost led to feel about the tonsils as many felt about the appendix, that the body would be better without them. He did not mean to urge the methodical eradication of every tonsil, healthy or otherwise, but to urge unhesitating radical measures wherever the tonsils showed signs of disease. Enlarged and hypertrophied tonsils should always be removed except in few instances where there were positive contraindications. Wherever there was any tendency to even slight attacks of follicular tonsillitis, and particularly of the fosscular form, the slight inflammation of the crypts was a serious menace to the system and should be placed out of harm's way *before* any serious trouble occurred. For many years, he said, he had advised burning over the surface of the tonsil either with a broad Paquelin burner of with a galvanocautery. It was not wise, in his opinion, to pick out the crypts one by one for cauterization, but the best results were obtained when the entire surface of the tonsils down to a considerable depth was destroyed and converted into scar tissue.

Dr. Alexander Lambert thought that every man who was in general practice was struck with the fact that most cases of tonsillitis were distinctly intoxications, and if the paper read did nothing more than call attention to the marked difference between acute articular rheumatism and many of the conditions included under that head it certainly would bear fruit. With regard to the nephritis following attacks of tonsillitis, and the clinical description given by Dr. Adler, this explained many cases of Bright's disease which he had long puzzled over. Usually such a condition was entered as a "cold." Vigorous cutting into these tonsils would, he believed, in a great many instances be attended with very uncomfortable hemorrhages if done by the ordinary general practitioner.

Dr. Emil Mayer said that the enlarged tonsils made the child a "mouth breather," and the picture presented by Dr. Adler clearly emphasized the necessity of removing that obstruction. More than ordinary care should be taken in the examination in order to ascertain the nature of the trouble as well as what the treatment should be. To determine whether the epithelium was abraded or not an applicator covered at the end with cotton should be drawn over the suspected denuded surface; if it showed that it was saturated with blood one could feel confident that there was abraded epithelium. There were dangers in making these incisions into the tonsils, and he believed the galvanocautery to be the prime method for the relief of these conditions. It could be applied in an absolutely painless manner and the crypts could be destroyed readily.

Dr. William K. Simpson said that he was struck forcibly by the fact that Dr. Adler, who was a general practitioner, saw systemic infections occurring through the tonsils, while he, a specialist, rarely saw it except as a mere prodromal or febrile condition which existed with cases of ordinary tonsillitis. Since he saw so many cases of tonsillitis he asked why he did not see more cases of systemic infection. Why could not other portions of the respiratory tract act as portals of entry? Systemic infection did not follow the presence of adenoids. Basing his remarks upon his own personal experience, he said he could not look upon tonsillitis other than as a purely local affair. If bacteria entered the system through the tonsils they then were there, and he did not see how incising the tonsils, or slashing them, or cauterizing them, was going to prevent that infection. All patients that came to him with tonsillitis were asked if they ever had rheumatism, and his experience showed they seldom did have it.

Dr. Morris Manges, replying to Dr. Simpson's remarks, said that the family doctor first got these cases and later on they were sent to the specialist. He referred to a case seen by him 12 years ago of purpura rheumatica which had resisted all methods of treatment. This was one of the most painful forms and hemorrhages occurred into the peritoneal cavity, with intense attacks of colic, with a great deal of distress, etc. The attack lasted over two months. The only positive findings were the streptotoccus in the throat, and this then was treated with nitrate of silver. Then the purpura rheumatica yielded at once and no recurrences followed. Two other cases were reported to corroborate the position taken by Dr. Adler.

Dr. Wolff Freudenthal said he had devoted much time and thought to the matter of infections of the upper air passages, especially tuberculosis and rheumatism. He had seen many cases of acute articular rheumatism following acute attacks of tonsillitis. The tonsils were only one part of the tonsillar ring, and he considered the upper part of the pharynx as a portal of entry as being even more important than the tonsils. It seemed to him that many cases of rheumatism first had their origin in the upper part of this lymphatic ring. When the tonsils were small and soft he did not like to burn them with the cautery, but he preferred to open the crypts and scrape them out, then using a mild caustic. If hypertrophied he did not always remove them; he did not advocate the removal of tonsils that were but slightly hypertrophied.

Dr. S. J. Meltzer continued the discussion, which was closed by Dr. Adler.

**Diarrhea and Its Diagnostic Significance.**—Dr. James P. Tuttle read this paper. H said that diarrhea was a symptom and not a disease, and consisted in abnormal frequency and fluidity of the alvine passages. He said that Foster defined 101 different diarrheas but that all might be classified under one of the following types: 1. *Simple diarrhea.* This consisted of an abnormal frequency and fluidity of the alvine discharges, the stools containing no undigested food or pathological elments, being normal in reaction, and unaccompanied by tenesmus or burning pain, and they rarely disturbed the patient at night and caused no progressive loss in weight or strength and were not associated with any digestive disturbances. This type was more a habit than a disease, and occurred in large eaters and drinkers, especially those who drank much beer or dry wines. The condition was of no diagnostic importance. 2. *Serous diarrhea.* This followed any great mental strain and often occurred in the crisis of acute diseases. It occasionally occurred in chronic nephritis as a vicarious offering on the part of nature to relieve disabled kidneys. It was said to occur in hysteria. It was usually associated with a relaxation of the sphincters, and the patient was often unable to reach the toilet before the discharge occurred. They presented no evidence of gastroenteritis but pointed directly to some derangement of the nervous system which caused an outpouring of serum into the intestinal canal, the mucous membrane of which was rendered more susceptible to stimulation by the same cause. 3. *Lienteric diarrhea.* This was a condition in which undigested particles of food in the stools first pointed to too much or imperfectly masticated food, and secondly to impairment of the digestive processes. Lienteric diarrhea might point to more serious organic lesions. It was difficult to realize what serious involvement of the stomach might exist without any marked gastric symptoms. The import of such diarrhea while generally simple was sometimes very serious. 4. *Toxic diarrhea.* This was due to the ingestion of decayed or poisonous substances whether inorganic or bacterial, and included such specific diarrheas as cholera, cholera morbus, cholera infantum, dysentery, etc., and those of ptomaine, arsenical, strychnine, mercurial, and other

poisons. It began with nausea and vomiting, with loose fecal stools gradually running into the serous type and terminating, if protracted, in bloody mucopurulent discharges. The simpler types were relieved by thorough cleansing of the alimentary tract, but the more serious ones were not so easily controlled and their significance was, therefore, more important. Ptomaine, fermentative diarrheas, and those due to corrosive substances were usually profuse, painful, and associated with nausea and vomiting and could be usually associated with some ingested substances. Dysentery could not be so associated. Briefly sudden, painful, profuse diarrhea associated with nausea and vomiting and great relaxation, indicated some toxic ingestion and not inflammatory affections. These cases might run into chronic purulent diarrheas and when seen for the first time in this stage their origin became obscure unless one carefully examined into the type of the commencing diarrhea. 5. *Mucopurulent diarrhea.* This always indicated some lesion of the mucous membrane, usually of the colon. When it was periodic and accompanied by great griping and tenesmus, the subsequent stools being largely composed of coagulated membranous mucus, this diarrhea indicated a simple or reflex mucous colitis. He made bold to state that it was not a neurosis but a hypertrophic catarrh, probably of infectious nature or due to autointoxication from retained fecal material at some point. This condition was sometimes due to constrictions of adhesive bands, to gallstones, to chronic appendicitis, and possibly to floating kidney. When the diarrhea was persistent and more or less profuse and accompanied by much griping it pointed to ulceration high up in the small intestine. If the stools were scanty, composed chiefly of glairy mucus, pus and fresh blood with aching pain in the sacral region and not much griping they pointed to lesions of the rectum or sigmoid. The character of such lesions could always be determined by proctoscopical examination. Such cases might have a perfectly normal stool in the morning preceded by small mucopurulent stools and this invariably pointed to lesions in the upper part of the rectum. A very nagging diarrhea with increased peristalsis, desire to go to stool without satisfactory results, and the occasional passage of a little mucus was one of the earliest symptoms of carcinoma of the intestine. 6. *Reflex diarrhea.* This might probably come under the head of nervous affections, but they were really rarely so. They occurred in such conditions as enlarged prostates, stone, uterine and abdominal tumors, appendicitis, gallstones and painful affections in almost any part of the body. A diarrhea that followed marked constipation was always to be looked upon with suspicion. It was very often caused by the lodgment of hard fecal particles in sacculi or diverticuli and by fecal impactions around or through which the fluid feces passed. Such cases were always associated with autointoxication which might be mistaken for anemia or chlorosis. He had seen such a case result in acute mania which was promptly relieved together with the diarrhea by cleansing out the mass which was arrested in the sigmoid.

Dr. Samuel G. Gant discussed the significance of diarrhea as regarded disease of the colon, sigmoid, and rectum, and said that this was not sufficiently recognized and was very often overlooked. Among the common diseases which he discussed were ulcerations of the bowel, prolapse, invagination, fecal impaction, enteroliths, adhesions by bands, tumors from without the bowel which produced obstruction and cancer; and he presented specimens of an enterolith and a vesical calculus, the latter pressing upon the bowel and producing symptoms.

Dr. Max Einhorn said that diarrhea from digestive disturbances formed a very important group, and it was quite characteristic that no mucus or blood was to be found in the stools. It was astonishing to see some of these cases take such a severe course and last for years, so that the condition of the patient made one think possibly malignant disease might be present. In such cases the abnormal condition of the stomach was accountable for the diarrhea, especially achylia gastrica. A study of the diet and food conditions would check the diarrhea. Too much acidity in the stomach would cause a very severe form of diarrhea and could readily be cured by the use of alkalies. In those forms of nervous diarrhea the will power had much to do with it. In such diarrheas the patient had frequent movements but the feces were of good consistency. To cure such cases it was necessary to have them exercise a restraining inclination and not respond to the call so often.

Dr. William C. Lusk wished to emphasize an important point, that in chronic diarrheas an examination of the lower bowel should always be made with the protoscope. He related the histories of three cases, one of ulcerative proctitis and two of mucous colitis, all very severe, and all having suffered about one year, and before appearing at the dispensary had never been examined with care. The use of the proctoscope was a very simple matter and could be used with great ease if the anus was not too irritable.

Dr. James P. Tuttle said in closing the discussion that he did not attempt to enumerate all the diseases that caused diarrhea but he merely wished to call attention to the direction of research in the different types of diarrhea. If a patient had a serous diarrhea he saw no use in introducing the protoscope; the cause was further up. In a mucous or a mucopurulent diarrhea it was one's obligation to look into the bowel and see just what the conditions were. He emphasized the importance of testing the reaction of the stools; he believed this to be as important as testing the reaction of the urine when one suspected bladder trouble. An alkaline stool irritated the rectum as did an acid one, and was usually associated with disturbances about the liver, pancreas, or small intestines; whereas an acid stool was associated with fermentation occurring in the large intestines.

## Philadelphia Pediatric Society.

At a stated meeting held November 14 Dr. Eleanor C. Jones exhibited "A Case of Atypical Hemiplegia." The patient was a child eight years old who, following a febrile attack at the age of 18 months, attended with vomiting and convulsions, presented left hemiplegia with flaccidity of the affected upper extremity. Convulsions recurred for a time, the paralyzed members failed to develop equally with the healthy, and mental backwardness was evident. The affected hand was the seat of athetoid movements, and the reflexes were increased on the paralyzed side. The conditions were believed to be dependent upon an encephalitis and it was suggested in the discussion that there might have been also a coincident poliomyelitis. Drs. W. G. B. Harland and T. H. Weisenburg exhibited "A Case of Latent Hemiplegia Made Evident by Etherization in a Child of Eight Years." The patient had been born at term, the delivery being instrumental. Nothing abnormal was noted until after the administration of ether for narcosis in the performance of an operation upon a suppurating mastoid process of the left temporal bone. Following the operation symptoms of left hemiplegia were observed. Further operation being required at a later date, symptoms of right hemiplegia additionally supervened, and at the time of demonstration the child presented the features of a spastic diplegia. Dr. J. H. W. Rhein exhibited "An Infant of Eight Months with Bell's Palsy." A previously healthy child developed paralysis of the right side of the face following an incision for the evacuation of an abscess below the chin on the right side. The occurrence is rare so early in life, and it was suggested that facial paralysis complicating middle-ear disease during early life is as uncommon as it appears to be because of the spongy character of the petrous portion of the temporal bone at this time and the greater freedom of the nerve in its bony canal. Dr. Robert S. McCombs reported "A Case of Multiple Exostoses," and he exhibited skiagrams illustrative of the condition. The swellings to the number of 49, were distributed with a cer-

tain symmetry and they seemed to make their appearance in the sequence of traumatism of some sort or other. There was no history of similar disorder or of syphilis or alcoholism in the family. Dr. Hubley R. Owen exhibited "A Case of Rickets with Marked Deformity of the Clavicles." The patient was a child 21 months old presenting characteristic bone-changes of rachitis, the chest being depressed laterally and chicken-breasted, with enlargements of epiphyses of long bones and square head with prominent parietal eminences. The most striking feature, however, was the deformity of the clavicles, which were symmetrically bent upon themselves at the junction of the inner third with the outer two-thirds. The overlapping was so marked as to be suggestive of a fracture with faulty coaptation and union, but the symmetry of the lesions and the absence of a cause of fracture seemed to exclude this condition. Dr. Courtland Y. White exhibited "Card Specimens of Miliary Tuberculosis." The organs were derived from the bodies of three children and they exhibited characteristic lesions, in one associated with tubercles in the spleen and in another with solitary tubercles in the kidney. Dr. C. H. Lefkowitch reported "A Case of Diabetic Purpura in a Boy of Three Years." The case appeared at first to be one of alimentary glycosuria complicated by purpura, but the sugar did not disappear from the urine although improvement took place on restriction of the diet. Dr. J. P. Crozer Griffith exhibited specimens of various forms of leguminous foods, the proportions of whose proteid and carbohydrate constituents was designated. These may be used as adjuncts in infant feeding when animal proteid in the form of the casein of milk is not well borne. Dr. C. F. Judson and C. D. Camp presented a communication entitled "Final Report with Post-mortem Findings in a Case of Cerbebellar Tumor." The patient was a child presenting characteristic gait, with a tendency to deviate to one side, with choked discs, and other symptoms of cerebellar tumor. Post-mortem examination disclosed the presence of a large glioma within the body of the cerebellum.

### Philadelphia County Medical Society.

At a special meeting held November 15 Dr. A. C. Abbott, President of the Board of Health, delivered an address entitled "The Essentials of Successful Public Health Administration." He pointed out that the problem of public preventive medicine is not to be solved by means of specific laws and the appointment of Boards of Health empowered to enforce their observance. Such a combination is merely the nucleus around which are assembled the various accessories that collectively constitute the machinery that in accordance with the perfection of its organization and the smoothness of its running determines the failure or success of the undertaking. For the purpose of collecting the data essential to a full understanding of prevailing conditions the cooperation of the medical profession is required to the extent of the prompt notification of all matters bearing upon the public health that comes under its notice. Experience has shown that where there exists a close and intelligent cooperation between the medical profession and the body in authority the interests of the community are best subserved by giving to those in authority absolute power and by holding them rigidly accountable for the judicious exercise of such power. The regulations formulated by the body in authority should have the force of laws and it should be possible promptly to amend, modify, or repeal them as conditions dictate. The primary object of a modern public health organization is to safeguard the public health by direct attention to preventable diseases. Any disease transmissible from person to person should be preventable, particularly if the exciting factor and the manner in which it is disseminated be known. In order that appropriate preventive measures may be employed it is necessary that all cases of transmissible disease should be regularly recorded at some Central Bureau, and the notification should be made by practitioners of medicine in the community. The public must be made to understand the importance of the end to which public health officials and physicians are striving and to appreciate the relation of all measures directed toward that end. The campaign for the health of the people is a campaign of education.

### College of Physicians of Philadelphia.

At a stated meeting held November 1, Drs. Wm. G. Spiller and Chas. H. Frazier presented "A Case of Athetosis Treated by Nerve-transplantation Nine Months After the Operation." Dr. Wm. J. Taylor reported "A Case of Hypernephroma; Recovery from Operation, but Death from Recurrence of the Disease." Dr. Alfred Gordon presented a communication entitled "On Auto-suggestion in Hysteria, apropos of a Case, with Remarks on the So-called 'Hysterical Insanities.'" He reported the case of a young woman who presented convulsive seizures whose nature was at first obscure, but subsequently appeared to be in part hysterical, in part epileptic. In addition there were evidences of mental aberration of varied character. The patient was extremely suggestible, relating as events in her own life occurrences that she had read of in novels and the like. Dr. W. W. Keen presented a communication entitled "A New Method of Operating on Dupuytren's Contraction of the Palmar Fascia, Together with the Successful Use of Neural Infiltration in Such Operations." In the case in question a rectangular flap was made in the palm, with its attached margin nearest the wrist. The flap was reflected back and the palmar fascia beneath the skin dissected out. As the patient had a serious heart-lesion cutaneous anesthesia was induced by infiltration of the skin and thus beta-eucain was injected into the sheath of the radial and ulnar nerves. This proving unsuccessful a four per cent. solution of cocain was injected into the sheath of the nerves and the operation could be proceeded with without pain.

## Books Received.

*While the* Medical Record *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

Memoranda on Poisons. By Dr. Thomas Hawkes Tanner. Tenth Revised Edition. 32mo, 171 pages, muslin. P. Blakiston's Son & Co., Philadelphia.

Disorders of Metabolism and Nutrition. By Professor Dr. Carl von Norden. 8vo, 211 pages, muslin. E. B. Treat & Co., New York.

Neurotic Disorders of Childhood. By Dr. B. K. Rachford. 8vo, 432 pages, muslin. E. B. Treat & Company, New York.

Faulty Diction, or Errors in the Use of the English Language and how to Correct Them. By Thomas H. Russell, LL.B. George W. Ogilvie, Chicago. Price, leather, 50c., cloth, 25c.

Operative Surgery. By Dr. John J. McGrath. Second Edition. 8vo, 617 pages, muslin, illustrated. F. A. Davis Company, Philadelphia.

Experimental Psychology. By Dr. Edward Bradford Titchener. Second Volume. 8vo, 416 pages, illustrated, muslin. The Macmillan Company. Price, $2.50.

Treatise on Diseases of the Skin. By Henry W. Stelwagon, M.D. Fourth Editon. 4to, 1,109 pages, illustrated, muslin. W. B. Saunders & Company, Philadelphia and London.

A Text-Book of Physiology for Medical Students and Physicians. By Dr. William H. Howell. 8vo, 886 pages, illustrated, muslin. W. B. Saunders & Company, Philadelphia and London.

Anatomy and Physiology for Nurses. By Dr. Leroy Lewis. 8vo, 302 pages, illustrated, muslin. W. B. Saunders & Company, Philadelphia and London. Price, $1.75.

A Manual of Diseases of Children. By John Ruhräh, M.D. 12mo, 392 pages, illustrated, leather. W. B. Saunders & Company, Philadelphia and London. Price, $2.00.

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 2, 1905.

| | Cases | Deaths |
|---|---|---|
| Measles | 438 | 11 |
| Diphtheria and Croup | 285 | 34 |
| Scarlet Fever | 157 | 6 |
| Smallpox | 1 | ..... |
| Chickenpox | 154 | ..... |
| Tuberculosis | 421 | 174 |
| Typhoid Fever | 71 | 10 |
| Cerebrospinal Meningitis | 15 | 15 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | ..... |
| Totals | 1,542 | 250 |

**The Treatment of Ringworm of the Scalp by the X-Rays.**—Walter Charles Oram declares that it seems probable that in the *x*-rays we have an agent which, when carefully and judiciously used, will reduce the treatment of ringworm of the scalp from years to months with the smallest possible trouble and inconvenience both to patient and physician. His patients have four treatments a week. He has two masks made of fine-meshed wire gauze and covered with lead foil, so that they may be opaque to the rays. In one of these the openings are back and front, while in the other they are at the sides. These masks are used on the alternate days, Monday and Thursday, Tuesday and Friday. In this way each area receives two exposures weekly of ten minutes' duration. By the end of the third week the scalp begins to show some erythema. The hair has as a rule entirely fallen off by the end of the fourth week, leaving the scalp bare and free from fungus. As to the position of the tube, the anticathode must be placed directly opposite the area to be treated, so that the rays fall perpendicularly on the skin. The tube must be placed not less than six inches from the skin. The writer uses the current that is given by three or four ampères running in the primary of a 12-inch coil, interrupted by a Mackenzie-Davidson mercury motor break. A storage battery of twelve elements giving twenty-four volts is used. He thinks that a soft tube gives the best results. Now and then slight folliculitis develops. This is superficial, and disappears on appropriate treatment. The writer has never treated a child less than four years old. The hair takes about three months to grow again. There is little reason to think that any untoward results will follow this method. The writer believes that a milliampèremeter should always be used when the *x*-rays are employed for therapeutic purposes.—*The Dublin Journal of Medical Science.*

**Acute Rheumatic Fever as Treated by the O'Connor Surgical Treatment for Acute Articular Rheumatism.**—J. Benjamin Dennis reports this interesting case. The patient was a white man, twenty years old, by occupation a coal passer. He became ill in April, 1903. The first symptoms were a slight cough, husky throat, and malaise, followed by pains in the right hip and shoulder. The temperature was 100° F. Salicylate of sodium was administered. The pain became worse, and the temperature became higher. The tongue was coated, sweats occurred, and the patient suffered from anorexia. The knees and ankles became involved. The heart action was labored. Six days after his admission to the hospital, a double arthrotomy was done on both knee joints, which were irrigated with normal saline solution under aseptic conditions, and drained by the insertion of rubber drainage tubes. Several ounces of serous fluid were removed from each joint. Both ankles were incised in three places, the joints opened and drained by three gauze drains. The right shoulder joint was opened, irrigated with normal saline, and drained by a gauze drain. All medical treatment was discontinued. The patient began to improve at once, and in two days had no pain, and was able to move his joints. For over a year he has had no rheumatic trouble whatsoever, and has been able to work laboriously. This case was the twenty-first upon which O'Connor has operated. In none of these has there been any secondary involvement of the heart, in which it was not present prior to the operation. The writer thinks that this treatment, to be most efficacious, should be done immediately on diagnosis in the acute stage.—*Journal of the Association of Military Surgeons of the United States.*

**Treatment of Enuresis and Polyuria by Epidural Injections.**—W. T. Freeman has obtained beneficial results in a number of cases, of which he gives the histories, by the use of epidural injections of physiological salt solution, into the sacral canal. The fluid passes into the space between the periosteum of the vertebræ and the membranes of the cord. There is plenty of room in the canal, but the passage for the needle is quite small in young children. From the age of nine years upward the operation is easy, and can be done without any anesthetic. The fluid seems to act upon the nerve roots of the cauda equina, rather than on the spinal cord. The effect is a stimulation of the nerve roots, which spreads up to the lumbar controlling center, and reflexly excites its corpuscular elements so as to produce inhibition. The fluid injected does not seem to matter, and a good effect is obtained after one injection, but it should be repeated two or three times to get permanent effect. A large needle is required, from 1½ to 3 inches long. The landmarks are the sacral cornua and the tip of the coccyx, keeping in the middle line, and the needle should be pushed home upward and forward, and when it has entered it will be felt that there is plenty of room in the canal.—*The British Journal of Children's Diseases.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended December 2, 1905:

| | | CASES. | DEATHS. |
|---|---|---|---|
| **SMALLPOX—UNITED STATES.** | | | |
| California, Los Angeles | Nov. 11–18 | 3 | .. |
| District of Columbia, Washington | Nov. 12–18 | 1 | .. |
| Florida, Jacksonville | Nov. 11–18 | 3 | .. |
| Kentucky, Covington | Nov. 18–25 | 8 | .. |
| Maine, Westport | Nov. 21–23 | 2 | .. |
| Michigan, Kalamazoo | Nov. 12–18 | 3 | .. |
| Missouri, St. Louis | Oct. 1–31 | .. | 12 |
| Ohio, Springfield | Nov. 17–24 | 2 | .. |
| **SMALLPOX—FOREIGN.** | | | |
| Africa, Cape Town | Oct. 1–7 | 4 | .. |
| Brazil, Rio de Janeiro | Oct. 15–22 | 7 | 2 |
| Canada, Toronto | Nov. 11–18 | 4 | .. |
| Chile, Iquiqui | Oct. 14–21 | 7 | 2 |
| Ecuador, Guayaquil | Oct. 24–Nov. 7 | .. | 9 |
| France, Paris | Oct. 20–Nov. 4 | 8 | 1 |
| Great Britain, Sheffield | Oct. 29–Nov. 4 | 1 | .. |
| Italy, Catania | Nov. 2–9 | .. | 3 |
| India, Calcutta | Oct. 1–14 | .. | 2 |
| Madras | Oct. 14–27 | .. | 9 |
| Mexico, Mexico | Oct. 22–Nov. 4 | 3 | 6 |
| Spain, Barcelona | Nov. 1–10 | .. | 6 |
| **YELLOW FEVER—UNITED STATES.** | | | |
| Louisiana, New Orleans | Nov. 21 | 2 | .. |
| Mississippi, Vicksburg | Nov. 24–29 | 3 | .. |
| **YELLOW FEVER—FOREIGN.** | | | |
| Brazil, Rio de Janeiro | Oct. 15–22 | 2 | 2 |
| Cuba, Habana | Nov. 10–20 | 25 | 2 |
| Matanzas | Nov. 25 | 1 | .. |
| Ecuador, Guayaquil | Oct. 22–Nov. 7 | .. | 7 |
| Honduras, Choloma | Nov. 13 | .. | 1 |
| Guatemala, Gualan | Aug. 20–Nov. 9 | Estimated 200 | |
| Zacapa | Aug. 8–Nov. 9 | Estimated 700 | |
| Mexico, Cordova | Nov. 5–8 | 1 | 2 |
| Tezonapa | Nov. 5–8 | 1 | 3 |
| Tierra Blanca | Nov. 5–8 | 2 | 1 |
| Tuxtepec | Nov. 5–18 | 4 | 3 |
| Vera Cruz | Nov. 5–18 | 3 | 3 |
| Nicaragua, Managua | Sept. 29 | 3 | .. |
| Panama, Colon | Nov. 8–15 | 1 | 1 |
| Panama | Nov. 8–15 | 1 | .. |
| **CHOLERA—FOREIGN.** | | | |
| India, Bombay | Oct. 17–24 | .. | 1 |
| Calcutta | Sept. 23–Oct. 21 | .. | 178 |
| Madras | Oct. 14–27 | .. | 123 |
| Russia, Lodz | Oct. 22–25 | 4 | .. |
| Vistula Territory | Oct. 22–25 | 6 | .. |
| Lomja | Oct. 22–25 | 1 | .. |
| Warsaw | Oct. 17–24 | 2 | 4 |
| Straits Settlements, Singapore | Oct. 1–7 | 3 | .. |
| **PLAGUE—INSULAR.** | | | |
| Honolulu | Oct. 7–Nov. 4 | 8 | 8 |
| **PLAGUE—FOREIGN.** | | | |
| Brazil, Rio de Janeiro | Oct. 15–22 | 9 | 1 |
| Egypt, Alexandria | Nov. 8 | 1 | 1 |
| India, General | Oct. 14–21 | 4497 | 3336 |
| Bombay | Oct. 17–24 | .. | 19 |
| Calcutta | Sept. 30–Oct. 21 | .. | 32 |
| Karachi | Oct. 15–22 | 22 | 23 |
| Japan, Kobe | Nov. 20 | Present | |
| Osaka | Nov. 20 | Present | |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 25.
Whole No. 1832.

New York, December 16, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### INHIBITORY AND ANESTHETIC PROPERTIES OF MAGNESIUM SALTS.*

By S. J. MELTZER, M.D.,

NEW YORK.

I INTEND to report to you to-night, in very brief outline, the results of several series of experiments which Dr. John Auer and I have carried out with magnesium salts. The facts which came to light are new and indeed somewhat surprising, and some of them have the advantage of already having been, to a degree at least, subjected to a practical test. These investigations, however, were undertaken on a purely theoretical basis with a view of testing a far-reaching biological hypothesis. Before proceeding to report the various experimental results I shall, therefore, state briefly the theory which gave the impulse to these investigations.

This theory deals with the question of inhibition, a subject which I have already twice had the honor to discuss from the platform of the Academy. The meaning of inhibition is easily understood when it is illustrated by the well-known action of the vagus nerve upon the heart. The contractions of that ever-beating organ are stopped, inhibited, when the peripheral end of the vagus nerve is stimulated by induction currents or otherwise. It is generally assumed that stimulation of a living organ, a nerve, for instance, will produce an active state: for instance, stimulation of a sensory nerve will produce a sensation, and stimulation of a motor nerve will produce a contraction. But here in the experiment upon the vagus we see that the stimulation of a nerve, instead of increasing the automatic contractions of the heart, stops them. This clean example of inhibition is, however, not an exceptional phenomenon in the functions of the animal body. In my former papers I collected a great number of well-established facts showing the ubiquity of inhibition in the various manifestations of animal life. I entertain and defend the view that the phenomena of life are not simply the outcome of the single factor of excitation, but they are the results of a compromise between two antagonistic factors, the fundamental forces of life—excitation and inhibition. I cannot think for a moment, in the short time at my disposal, to enter now into the particulars of this theory, of which, by the way, I am profoundly convinced that it contains a great truth which will be recognized in a future not far off. However, for the better understanding of what is going to come, I wish to say this: In the domain of motor phenomena the normal movements of the body present the physiological, and tetanus presents the pathological predominance of the factor of excitation, while the various forms of bodily rest present the normal, and paralysis the pathological predominance of inhibition. In the sensory sphere pleasant sensations present the physiological and unpleasant and painful sensations the pathological predominance of the factor of excitation, while the absence of sensation in the visceral sphere presents an instance of the physiological, and anesthesia in any part of the body exemplifies the pathological predominance of the factor of inhibition. Finally, in the sphere of consciousness the normal consciousness presents the physiological, and excitation mania exemplifies the pathological predominance of the factor of excitation, while sleep shows the physiological and narcosis and coma the pathological predominance of inhibition. I beg you not to quarrel with me over the particulars in this statement.

Now the conditions and substances which might influence the phenomena of excitation have been studied extensively. What constituents of the animal body might be specially concerned in the processes of inhibition? To this question another query was joined in my mind. Four substances are the main inorganic constituents of the animal body; they are sodium, potassium, calcium, and magnesium. The effects of sodium, potassium, and calcium upon muscle and nerve have been studied very extensively. But not so with the effects of magnesium; they have hardly been touched upon. May this inorganic constituent of the body be indeed of no importance to the vital processes? Or may not magnesium be just the substance which favors the process of inhibition? For years the last-mentioned possibility was more than a guess to me. In studying the effects of intracerebral injections of various substances which produced the immediate onset of characteristic convulsions, I made the observation that the injection of magnesium sulphate produced no convulsions at all, but, on the contrary, a state followed which was similar to that of paralysis—a state of general inhibition.

That is the hypothesis upon which Dr. Auer and myself have conducted for the last eight months in the Rockefeller Institute various studies of the effects of magnesium salts upon the animal body. Several series we have completed, others are in progress. But so far all our results had one general feature in common: we have not yet come across one single fact which could be interpreted that magnesium salts favor excitation; but, on the contrary, all the found facts point unmistakably to the conclusion that these salts produce inhibitions, depressions; and beyond all expectations these depressions proved to be of a very profound character.

So far, then, our experiments have indeed sustained our theory. But we did not come forward to ask you to accept our hypothesis. We wish to communicate to you our facts, and we have told you of the hypothesis which was the means of bringing these facts to light. As to the hypothesis, wise men look sometimes upon theories simply as tools to dig out hidden treasures, and, if you wish, you might with reference to my pet theory be as generous as

*Read at a meeting of the Academy of Medicine, December 7, 1905. From the Rockefeller Institute for Medical Research, New York.

Fiesco, and say, "The Moor has done his duty, the Moor can go."

Now to our results, which we shall state in the briefest possible way:

In one series of experiments we have injected intravenously solutions of magnesium sulphate or magnesium chloride. The main result of that series is that a very small dose of these salts is sufficient within a few seconds after injection completely to abolish respiration and inhibit all movements of the body. Without artificial respiration the animal would die without the struggles of asphyxia and without any sign of sensation. The animal lies there perfectly limp without any outward sign of life except for the nearly normal heart-beat and blood pressure which are affected only by larger doses. Artificial respiration restores the animal, but sometimes only after an hour's continuous work. If injected very rapidly, 0.1 of the salt will produce a profound toxic effect, but in a very slow injection nearly 1.5 of the salt can be administered within one hour without any visible poisonous symptoms. This last fact possibly explains the daily experience that thousands of people are frequently enough taking large doses of sulphate of magnesium without any other than a purgative effect. Some absorption surely takes place, but it may be so slow as to render it harmless.

In another series we have applied solutions of magnesium salts directly to the nerve trunks. When a 6 per cent. solution of sodium chloride is applied to a motor nerve the muscles belonging to it will soon begin to contract; the concentrated salt stimulates the nerve. The application of a 25 per cent. solution of magnesium sulphate, however, produces no such effect when applied to a motor nerve, and apparently causes no pain when applied to a sensory nerve. But it causes a complete block in the nerve, it abolishes conductivity and excitability. When the sciatic nerve of an animal is stimulated it causes effects in the central direction and contractions of the muscles of the leg. But when a solution of magnesium salts is applied to some part of the nerve it causes there a complete block; stimulations central to this block will cause central effects but no contractions of the muscles of the leg, and stimulations peripheral to the block cause contraction but no pain or other sensations. The same was observed in other nerves of various functional characters. Magnesium salts act here like the local application of cocaine. But by washing out with physiological salt solution, or still better, with Ringer's solution, conductivity and excitability can be completely restored.

In a third series we studied, in seven different species of animals, the effects of subcutaneous injections of solutions of magnesium salts. By this method in all animals a state of complete narcosis can be produced from which they can completely recover. There is complete anesthesia with perfect relaxation of the muscles, without impairment of the vital reflexes. The narcosis can last two or three hours. Larger doses of the salt are fatal also by subcutaneous injection.

In a fourth series of experiments we have injected solutions of magnesium salts in the subarachnoidal space of the spinal cord, mostly by lumbar puncture. The anesthetic effect of this procedure was clearly seen in the experiments on dogs, cats, and rabbits, but it is difficult to carry out lumbar puncture in these animals, and the results are not always beyond some doubt. It is different with monkeys; in them lumbar puncture can be carried out with the same ease and reliability as in human beings. The results were uniform. The injection of magnesium sulphate in a dose of about 0.06 per kilo animal in the third lumbar space will cause, within a minute or two, complete anesthesia and paralysis of the tail and posterior extremities. Within an hour the anesthesia will spread upward, reaching neck and head, and soon a sort of paresis of the entire animal appears. The monkey, who an hour before was fighting and biting every one coming near him, now lies perfectly limp, offering no resistance. The lid reflexes are never abolished, there seem to be some hyperesthetic areas around the ears and head, the heart-beats are hardly changed, but the respiration is slowed. It is not easy to decide how much perception and consciousness are impaired. The animal would remain in this state for many hours, but the following morning would be found completely recovered. Three animals stood such injections a few times, at comparatively short intervals, apparently without any after effects. A dose four times as large as the above proved to be fatal to the animal within a few minutes, apparently due to paralysis of the respiratory center. The horizontal position of the animal apparently hastens the spread of the anesthesia and paralysis towards the head.

To recapitulate: intravenous injections of very small doses of magnesium salts inhibit the respiration and cause paralysis of the entire body; local applications to nerve trunks block the conductivity and abolish the excitability of the nerves; subcutaneous injection produces deep narcosis with complete muscular relaxation, and subarachnoidal injunction produces nearly immediate anesthesia and paralysis of the posterior extremities. All these inhibitory and anesthestic phenomena may completely disappear again. To these statements we may add, from some of the series of investigations which are now in progress, that intravenous injections of magnesium salts stop almost instantaneously all intestinal peristalsis, and that a severe tetanus and opisthotonus produced in monkeys by tetanus toxin can be completely relieved for many hours by subarachnoidal injection of magnesium sulphate.

These facts are surely new and surprising, and they concern a substance in such common use as Epsom salt.

Now a few remarks regarding the practical test I have mentioned at the beginning of this paper. The effects of intraspinal injections were so prompt, so striking, and so harmless, that I felt encouraged and prompted to induce some of my surgical friends to test it in proper cases of human surgery. Twelve patients have so far been operated upon under the sole or essential influence of the intraspinal injection of magnesium sulphate. Seven operations were performed by Dr. Haubold at the Harlem Hospital, two by Dr. Blake at the Roosevelt Hospital, and three by Dr. Willy Meyer at the German Hospital. I wish to express here my deep obligation to these gentlemen for their readiness to give a trial to this method, and to-night I hope to hear them tell of their experience. I shall permit myself, however, to give a brief survey of the experience gathered so far from that small number of cases.

As I have stated above, the dose employed in monkeys was about 0.06 of the magnesium sulphate per kilo animal. The highest dose employed so far in human beings was about one-third of that amount, 0.02 of the salt per kilo, or rather one c.c. of a 25 per cent. solution for each 20 pounds of body weight of the patient. At first I did not expect to obtain a complete effect from the salts alone on account of the smallness of the dose, and I have, therefore, advised that it be aided slightly by general anesthesia. But we have learned from our cases. Only in the first eight some chloroform was administered;

in the last four cases no general anesthetic was given. We have learned that the best time for operation is about three to four hours after the spinal injection.

Of the four patients who received no general anesthetic, three were operated upon after such an interval, and although the amount injected in these cases was less than in any of the others (perhaps not more than one c.c. to 26 pounds body weight), and although two of the operations were very painful ones, the patients, nevertheless, felt practically no pain at all. One other patient who, through some miscalculation, received one c.c. of the 25 per cent. solution to about 16 pounds of body weight, was operated upon in the leg one hour after the injection without the aid of a general anesthetic; but two and a half hours later this patient passed into a deep, general anesthesia, in which he remained for about five hours. The pulse varied between 70 and 80 during the entire time, and was of good quality; but the respirations fell to 10 per minute. A spinal puncture in which some of the spinal fluid was let out and the spinal cavity treated by repeated irrigations with sterile physiological saline solution soon restored the respirations to normal.

In one case of rectal fistula the spinal injection seemed to have very little effect, and about two hours after the injection the patient had to be operated upon with the aid of one ounce of chloroform, which he took very badly. Nevertheless, soon after the operation paralysis of the legs sets in which lasted a few hours. It is probable that even in this case the patient could have been operated upon three to four hours after the injection without a general anesthetic. In the other cases which were operated upon early with the aid of a general anesthetic, the amount of the anesthetic used varied between 1.5 c.c. and 15 c.c. of chloroform. In a complicated case of appendicitis, the operation on which lasted 47 minutes, the patient received 7.5 c.c. of chloroform. Pulse, respiration, and blood pressure remained perfectly normal, and the lid reflex was present throughout the operation, which was carried out without the slightest resistance on the part of the patient.

To sum up the experience as far as I could gather from these twelve cases: One c.c. of a 25 per cent. solution of sterile magnesium sulphate to 25 pounds body weight causes, in three to four hours after intraspinal injection, paralysis of the legs and the region of the pelvis, and analgesia, which is sufficient to permit the performance of any operation upon these regions. Sensation and motion return within 8 to 14 hours; retention of urine and the necessity for catheterization may be present for one or two days. There is, however, one case in which only a moderate dose of magnesium sulphate was used, but the after-effects were very prolonged. Retention of urine lasted for about twelve days, and the paresis improved only very slowly; for days there were also irradiating pains into the legs. It is too premature to discuss the causes for the protracted after-effects in this particular case. I am inclined to believe that it was due to some of the incidents of lumbar puncture, and was not specifically an effect of the magnesium sulphate. I feel quite confident, however, that an irrigation of the intraspinal cavity soon after operation will shorten or do away with all after-effects.

A dose of one c.c. to 20 or 18 pounds body weight would permit, a few hours after the injection, the performance of extensive operations on the abdominal cavity, and probably even higher up without the aid of any general anesthetic. However, from what I have seen I am of the opinion that it is preferable not to wait so long, but rather to operate about two hours after the injection with the aid of a very small quantity of chloroform. But in this case I would urge that a lumbar puncture be made again immediately after the operation, and a quantity of spinal fluid be let out at least as large as that of the injected solution of magnesium sulphate, and then that the canal be irrigated several times with sterile salt solution, finally leaving some of this fluid in the canal.

Of two patients who had the same dose of magnesium (1 c.c. to 20 pounds), and who throughout the prolonged operation were under complete anesthesia with the aid of chloroform, the one who had only 7.5 c.c. of it, but on whom no lumbar puncture was made after the operation, remained in a state of general anesthesia for some 20 hours, and had some other after-effects for about 4 days after the operation, while the other patient who had about 15 c.c. of chloroform, but in whom lumbar puncture and irrigation were carried out immediately after the operation, had practically no unpleasant after-effects at all.

I shall not dwell on this occasion on many of the interesting particulars incidental to the spinal injections of magnesium sulphate in human beings. I shall only point out especially the scientifically important observation, already mentioned, that with a dose of 1 c.c. of a 25 per cent. solution to about 16 pounds body weight a state of deep general anesthesia followed which lasted many hours. In this case the circulation remained normal, but the respiration sank to 10 per minute. In other cases, with somewhat smaller doses of the solution, but with the addition of small quantities of choloroform, the general anesthesia lasted even longer. In these cases circulation and respiration remained perfectly normal, but there was some slight vomiting, or rather a little regurgitation, after the awakening of the patient.

Before closing the subject of anesthesia I wish to add the following remark: The immediate dangers of anesthesia concern the function of the heart, blood pressure, and respiration. The dangers of heart failure and shock are almost beyond our control. Not so with respiration. As long as heart and vasomotor system are not profoundly affected we can overcome nearly every case of failure or respiration, at least in animals, by properly conducted artificial respiration. The dangers of anesthesia by magnesium sulphate come practically only from respiration; heart and pulse remain normal. But the usual methods of artificial respiration employed in human surgery are absolutely insufficient in emergency cases. I wish to urge most emphatically that hospitals should be provided with a Fell-O'Dwyer apparatus* for artificial respiration, and I would especially urge this as a prerequisite for the employment of magnesium sulphate as an anesthetic.

Finally, I feel a special delight in being able to report that at the Roosevelt Hospital a desperate case of tetanus was cured. After the employment of 115 c.c. of antitoxin without any avail the first injection of a solution of magnesium sulphate afforded great relief for 36 hours, and after a few more injections the patient seemed to be cured. Dr. Blake, in whose service this happy incident occurred, will tell you the particulars.

Obviously, there are many other conditions in which the inhibitory and anesthetic properties of magnesium sulphate could be tested, but I do not wish to enter here into a vague discussion of untried possibilities.

107 West One Hundred and Twenty-second Street.

*See Motar, Intralaryngeal Insufflation.—*Journal of the American Medical Association*, June 9, 1900.

# REMARKS ON THE TREATMENT OF CERTAIN AFFECTIONS INTERESTING BOTH THE PHYSICIAN AND THE SURGEON:

## TUMORS OF THE BREAST, MOVABLE KIDNEY, FRACTURES OF THE PATELLA, FLAT FEET, ECTOPIC PREGNANCY, CIRRHOSIS OF THE LIVER WITH ASCITES, AND ENLARGED PROSTATE.*

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In casting about in my mind for a suitable subject with which to address this Society, it occurred to me that it might prove interesting and instructive to discuss the treatment of certain common affections with which the general practitioner is brought frequently in contact, and for an opinion upon which he is consulted. While the physician rarely has the desire or perhaps the technical skill to perform the operation, at the same time he is expected by the patient to advise correctly as to whether anything had better be done or not, and if so, what? From this standpoint then let us take up a few subjects, and, in passing, let me remark that the principles of practice here described are those commonly held at the Presbyterian Hospital, New York. There is no intention to be dogmatic about the many controversial points touched upon. Each person must make up his mind for himself about these questions, but in doing so the experience of others is very helpful.

**Tumors of the Breast.**—While we shall speak specifically of tumors affecting the female breast, at the same time it must not be forgotten that the male breast likewise may be the seat of tumors both benign and malignant. Any tumor in the female breast should be looked upon with the greatest suspicion and distrust, for it is a well-known fact that 85 per cent. of all such tumors are malignant. A small tumor in a young girl may be closely watched for any increase in size or other physical change. Sooner or later, however, it should be removed, as it may undergo malignant change. In older women no one by physical examination can say whether a given tumor, when small, is malignant or not—only the microscope can then differentiate. There should be no waiting in order to make the diagnosis by physical examination. For the purpose of microscopical examination, the small nodule should be excised under cocaine or a section removed. Should the growth prove to be malignant, then the radical operation ought to be at once performed. Patients with larger tumors, the diagnosis of which is uncertain, are prepared as for the radical operation. Ether is then given and a section of the growth is removed, which is handed at once to the waiting pathologist, who makes a frozen section on the spot, and thus determines the nature of the tumor. The patient is maintained under light etherization during the ten minutes required to make this examination. Should the report be that it is a benign growth, then the tumor alone or the whole breast is removed, depending upon the amount of disorganization of the breast. Should the growth be malignant, then the radical operation is at once proceeded with. This consists in the removal of the entire breast, the excision of the skin going wide of the growth, both pectoral muscles, and the lymphatics and fatty tissues of the axilla. In one hundred operations for cancer of the breast at the Presbyterian Hospital there were four deaths as the immediate consequence of the operation. At the end of three years there was no recurrence in 34 per cent. of the cases (*Medical News*, April 28, 1900). It is the duty of the medical profession to impress upon the laity the fact that malignant tumors of the breast when small are rarely painful, that the smallest nodule in the breast may become the source of the greatest danger to life, and that the only hope of a cure lies in an early and radical operation. Disability after such an extensive operation is surprisingly small, there being under my observation at the present time a woman who had both breasts and all four pectoral muscles removed, who, notwithstanding, is now earning her living at the washtub. *X*-ray treatment should never be applied to a patient in whom the tumor is still operable. Recurrences that are inoperable should be treated by the *x*-rays, or radium. In operable recurrences in menstruating women life has been prolonged by the performance of double oophorectomy (*Lancet*, July 11, 1896, *Münchener medizinische Wochenschrift*, 1898, No. 24, also Sept. 5, 1905).

**Movable Kidney.**—This condition has proved a stumbling block in the path of all of us, I am sure, for nothing is more difficult to successfully handle than patients with this complaint. The first requisite is to determine just how many of the symptoms are to be referred to the loose kidney, as a cause, with its attendant prolapse. It is a very familiar fact to all of us that many women have very movable kidneys with no symptoms from them whatsoever. Many have in addition prolapse of the other abdominal organs, liver, stomach, intestines, etc. To take cognizance of the kidney alone, leaving out of consideration the remaining viscera, would be to make a very fatal error.

The symptoms referable to prolapsed kidneys, either with or without general enteroptosis, may be divided into three classes: 1. Those with pain alone. This is apt to be a dull, aching backache, situated at the upper lumbar vertebra, and radiating transversely around the waist. There is nothing characteristic about it which would differentiate it from the innumerable causes of backache in women, hence the frequent lack of appreciation of its importance as a symptom. In the recumbent position this pain disappears. It may be absent. There may also be attacks of actual renal colic, due to twisting of the renal pedicle. 2. Those patients with gastrointestinal disturbances, with or without the pain as just described. 3. Those with nervous, neurasthenic, and circulatory symptoms with or without gastrointestinal symptoms, with or without pain. It is exceptional to have symptoms referable to the urinary apparatus, and for this reason the underlying cause of the trouble is often overlooked. These disorders when present are manifested by irritability of the bladder, which is pronounced in the day, and disappears at night in the recumbent position. In this respect it differs from irritation of the bladder due to uterine disease, which is more often complained of at night, causing the patient to get up a number of times during the period of rest.

In considering the treatment, I may say, at the outset, that there are two extremists who hold very divergent views: the one believes and teaches that an operation should never be performed in these cases, and the other holds that an operation should always be done. Needless to say, each view is extreme and unreasonable. It seems to me that the proper attitude lies between these radical opinions. The result of considerable study of these patients

*Read at a meeting of the Orange Medical Society, N. J., October 20, 1905.

at the Presbyterian Hospital has led us to adopt the following line of treatment, the indications being, first, to elevate and maintain the prolapsed viscera in their proper positions, and, second, to correct functional derangements and improve general nutrition. Let us consider first movable kidney, which is not complicated by prolapse of other viscera. We may hold this in place in one of two ways, first, by mechanical support, *i. e.* by a belt or by a corset, or, second, by open operation. Mechanical support should always be tried before operation is resorted to, and I feel confident that it will suffice in about 75 per cent. of the patients. The belt is the less expensive, the cheapest properly constructed one, made to order, costing about $6.00. The ordinary laparotomy belt is not to be used for these cases, for it is not successful. The movable kindey belt should be made tight over the hips, exerts maximum pressure over the suprapubic area, fits snugly at the waist, and extends to just above the umbilicus, the region above the waist being free. On the inside of the belt a pad is placed which should exert pressure just below the lower pole of the kidney, thus supporting it by obliterating the space immediately below the kidney, into which it might otherwise sink. The pad should not press upon the kidney itself. The belt is put on in the recumbent position, the knees being flexed and the hips elevated, and it is tightened and fastened after the viscera have been crowded toward the diaphragm by the hand. The wearing of a belt in addition to their ordinary garments, including a corset, is distasteful to fastidious women. This fact led Gallant to endeavor to so adapt the ordinary corset, made in a particular way and according to definite principles, as to serve the same purpose as the belt. It has proved most satisfactory in our hands and is highly to be recommended. It is made to reach down to the pubic bone, it exerts the greatest pressure over the pubis, curves in gracefully at the waist line to support the kidney. It fits tightly over the hips and suprapubic area, snugly at the waist, and loosely above that point. The ordinary corset fits most tightly over the lower ribs, which are pressed in, while the movable kidney corset is loosest at this point. The usual corset by its area of pressure forces the viscera downward into the pelvis, while the kidney corset forces them upward, by pressure from below, into a space beneath the diaphragm, which is left free. The corset must be laced and put on according to definite rules, about which the patient must be carefully instructed. The corset laces are put in as follows: Beginning at the sixth eyelet from the bottom, lace downward, carry lace through bottom holes twice, insert top lace from upper eyelets down to waist line, leaving the back open five or six inches. Wrap the corset around the waist, lie down upon the bed, pull the corset well down over the hips, draw up the knees, raise the hips well up from the bed, crowd the viscera toward the diaphragm, and fasten the corset in front, beginning with the lowest hook, and proceed upward. While the hips are still raised draw in the lower laces, closing the corset as snugly as possible before rising. The top lace must be left loose, for if tightened it will cause distress after eating and pain in the pit of the stomach.

The corset thus made has the great advantage of not adding another garment to the ordinary woman's apparel. Its costliness, however, the cheapest being made at $12, debars our poorer patients from its use.

Constitutional treatment combined with such a support is all that is required to cure the great majority of these patients. Are these measures unavailing, then operation should be seriously considered. Should the movable kidney be only one element in a general enteroptosis, then one should only operate when persuaded that the kidney itself is responsible for most of the trouble, *i. e.* when there is the characteristic dragging pain relieved by holding the kidney in place. Should pain be the only symptom, then the operation is almost certain to cure, but a very guarded prognosis should be given in patients who have complicating gastro-intestinal and nervous symptoms.

There should be practically no mortality as a result of the operation. In following 45 unselected patients for some time after operation at the Presbyterian Hospital, it was found that 52 per cent. were cured of subjective symptoms, 35 per cent. were benefited, and 10 per cent. were unimproved. Recurrence of the movability occurred in 16 per cent. (*Medical News,* Oct. 4, 1902.) Sir Frederick Treves in *The Practitioner* of January, 1905, describes a particular kind of truss which he has devised to hold the kidney in place. He speaks as follows: "Of its efficiency (the truss) I can speak very definitely, for since 1895 I have abandoned the operation of nephrorrhaphy except in the following examples: Cases in which there were torsion symptoms, some cases in which the patient would be residing in the tropics, many hospital cases in which the patient had to work for her living and could neither indulge in a long-sustained rest nor properly manage a truss requiring some delicacy in its adjustment. In 95 per cent. of the cases the truss has proved absolutely efficient; the kidney has been kept in place, and the distress that has existed has entirely vanished." From personal experience, I may say that the same results are obtained with the corset.

**Fractures of the Patella.**—Our practice is to operate openly in almost all cases where age or some constitutional dyscrasia do not contraindicate, provided there be considerable separation of the fragments, *i. e.* one-half inch or more. Our reasons, briefly, are a much speedier recovery with a better anatomical and functional as well as a stronger result as a rule. Bony union is almost always obtained with the open operation, and almost never with conservative treatment. The reason why conservative treatment does not produce bony union is not because of the blood effused into the joint, nor because of the spasm and pull of the quadriceps extensor muscle, for each of these can easily be overcome without operation, but because of the fibrous aponeurosis stretched across the front of the patella, which, as the fragments separate, is drawn out into a ragged fringe which falls down between the fragments, thus preventing any close bony approximation, regardless of whether adhesive straps are used or whether a subcutaneously passed suture without an open wound is employed. The sole objection to the open operation is the danger of infection of the joint, but this has never happened in any of our cases. Powers in the *Annals of Surgery,* 1898, reckoned the mortality in 711 cases as about ¼ per cent., surely a very low death rate. Compound fractures of the patella, if they be seen at once after the accident, are thoroughly cleaned and the joint drained. The fragments are then sutured, if there has not been too great soiling of the joint, in which case the wound is allowed to heal before the fragments are sutured. Old compound fractures with infected wounds are cleaned up and allowed to heal before any attempt is made to suture the bone. Refracture of the patella may occur after either conservative or operative treatment. It has been reckoned at 27 per cent. of all the conservatively handled fractures. After open operation with suture refracture is much less frequent. We do not

operate in simple fracture of the patella until at least five days have elapsed after the injury, because infection has been shown to be eight times more liable to occur if the operation be done immediately after the injury when one must deal with acutely inflamed tissues, than if one operates at an interval when processes of repair are well established.

The operation is conducted under the most strict asepsis. The hands are always gloved, and, if it be possible, are not allowed to come in contact with any part of the joint, only instruments touching the joint surfaces. The transverse incision of the skin is used so as to expose the fibrous expansions of the capsule on the sides of the patella, which are usually torn, often to a considerable extent. The joint is first thoroughly irrigated with salt solution to remove the effusion of blood and then the frayed-out tags of aponeurosis, hanging down over the fractured surfaces, are cut away. The fragments are approximated and sewn together by interrupted sutures of chromicized catgut which pass through the firm, fibrous aponeurosis covering the anterior surface of each fragment. The torn fibrous expansions of the capsule on the sides of the patella are likewise sutured. The skin alone, and not the joint, is usually drained. A plaster-of-Paris splint is applied, extending from the ankle to the groin, a window being cut in the splint over the joint for the purpose of dressing the wound. At the end of sixteen days the plaster splint is removed daily for the purpose of massage, not only of the muscles, but also of the patella itself, which is grasped as a whole and very gently moved from side to side, the idea being by this maneuver to prevent the adherence of the patella to the femur. At the end of three weeks the plaster splint is removed permanently, and is replaced by a posterior wooden one, and the patient is then allowed to walk about with this splint in position. At this time also the joint is begun to be gradually and carefully passively flexed when the daily massage is given. At the fourth week all splints are removed and the patient is encouraged to walk about and to bend the joint. In six weeks the patient is ready to leave the hospital with a very serviceable knee. Conservative treatment requires from four to six weeks longer time. This operation should never be performed except by those who have had experience in operating, who have formed the habit of taking the utmost precautions, and who have the aid of careful and skilled assistants. Flint, in the *Annals of Surgery*, October, 1905, page 575, reports 150 operations for simple fractures of the patella. Seven of these became infected and required subsequent operations, *i. e.* one out of every 21 or 22, or about 4.66 per cent.

**"Rheumatism of the Feet."**—Very many patients come to us complaining that they suffer from pain in the feet, for which they have been treated medically for a long time without the slightest benefit. They have all been treated for rheumatism, and they usually say that the pain is becoming steadily worse. Many declare that the trouble came on without ascertainable cause, or that it resulted from much standing on the feet, to which they were unaccustomed; others attribute it to a contusion, or to a sprain, or to an increase in bodily weight. It affects persons who have to stand a great deal rather than those who walk a great deal. In making a diagnosis in these patients the last thing to be thought of is rheumatism, for it is a very rare affection. The following conditions should be kept in mind while making an exact and careful examination: flat feet, including the weak foot, anterior metatarsalgia or Morton's toe, gonorrheal arthritis or periarthritis, tuberculosis of the ankle or tarsus, the result either of an old fracture or sprain of the tarsus, tabes, etc. Morton's metatarsalgia is a neuritis or neuralgia of one of the metatarsal nerves, usually that between the third and fourth toes, caused by compression of the nerve between the two metatarsal bones, which come together by reason of the breaking down of the anterior transverse arch under the ball of the foot. This condition is usually easily remedied by placing a small pad in the center of the ball of the foot, held in place by a transverse piece of adhesive plaster, which prevents the metatarsal bones from spreading apart. Time prevents my speaking of any of the remaining difficulties save that of flat feet. This very frequent trouble is of easy diagnosis when the pathological changes are well marked, *i. e.* flattening of the arch with abduction of the foot, but the time of greatest pain is really when there are no evidences of flatness or abduction, for which reason rheumatism is most frequently and erroneously diagnosed. It is when the ligaments, holding up the arch, first begin to weaken and to stretch that we are apt to find the greatest suffering. It produces the so-called weak foot, which is the first stage in the production of the flat foot.

There is no constant relation between the amount of flattening and abduction and the symptoms of pain and discomfort, for we see feet at times so flat that the whole arch rests on the ground, yet without pain. The sole criterion is the presence of pain. The weak foot causes pain and weakness in the instep, under the malleoli, under the soles, or in the calf, without any physical signs except possibly some tenderness, and without deformity. For pains in the feet without physical signs, treat as for flat feet, instead of giving the salicylates and alkalies, and the patient will get well speedily. When untreated the weak foot develops into the flat foot with the physical signs of prominent head of the astragalus, flattening of the arch, and abduction at the midtarsal joint, together with pain as in the weak foot.

Treatment of the weak foot consists in supporting the weakening plantar fascia, and in developing the tibialis posticus muscle, whose tendon passes immediately beneath the fascia, thus strengthening the latter. To accomplish the first object, the foot being held forcibly in adduction and dorsal flexion, a strip of two-inch adhesive plaster is started at the external malleolus and carried under the sole and up the inside of the leg almost to the knee. A second strip is passed similar to the first and just in front of it, the object of these strips being to hold the foot in adduction and to take off the tension from the weakened fascia. To develop the tibialis posticus muscle, the patient is instructed to go through the exercise, morning and night, of raising himself on his toes, and then, throwing out his ankles, to come down on the outer border of his feet to his heels again. The patient should be told to walk with the feet held parallel to each other, and to remain in this attitude when standing. If the above adhesive inversion strips do not support the ankle sufficiently, as evidenced by the continued presence of pain, then in addition to the inversion straps, the ankle may be strapped with a one-inch figure of eight, each turn overlapping the preceding by about half an inch. This strapping goes down the outer side of the foot, under the sole, up the inner side, around the leg and down again. The sole of the shoe may also be built up one-third of an inch on the inner side of its exterior. When the foot has become actually flat, in addition to support we shall have to lift up the arch, which must be done gradually, and we shall also have to overcome the adduction. In many patients to lift the arch up to its full height suddenly and at once by a flat-foot

plate causes torture and is entirely unnecessary. Felt pads are used, such as I show here, cut to fit each individual foot, the highest part of the pad being placed under the prominent head of the astragalus. This pad is elevated in height gradually in each successive one. Inversion and adduction straps are used as already described over this pad. We continue to elevate the arch until there is a cessation of pain, and no further than that point, for this indicates the normal height of that particular arch, and to still further elevate it would only continue the pain. We may now fit a flat-foot plate into the shoe, but the plate should be no higher than the already elevated arch. The same exercises are employed as before. At the time of applying each pad the foot should be massaged and gradually twisted into its proper position, *i. e.* into adduction.

When the flat foot is so fixed in its deformity as to be immobile then there is no way but to give ether, forcibly correct the deformity, and after the foot has being forced into inversion and adduction, it is put up in a plaster splint for a month, after which it may be treated as an ordinary flat foot.

The result of treating all these varieties of flat feet is most satisfactory both to the surgeon and to the patient, but it requires patient study and attention to details. The almost certain cure, however, amply repays all efforts.

**Ectopic Pregnancy.**—The possibility of this condition must always be kept in mind in attempting to diagnose the etiology of obscure pelvic discomfort and pain. Pelvic masses should be carefully watched, and if there be a suspicion that extrauterine pregnancy may be present, then operation should be urged and insisted upon, for the danger of sudden rupture of the tube with death from internal hemorrhage is very great. Nothing is more trying than to be called to a case of acute rupture of an ectopic sac, evidenced by collapse, shock, intense pelvic pains, with signs of intraabdominal bleeding. The life of the patient will often depend on the rapid diagnostic acumen of the physician and the promptest operative measures. There should be no waiting for shock to become less before operating, for if the bleeding continues, as it is prone to do, the shock will only deepen. In these patients a laparotomy is almost always performed by us, except in a few cases of low bulging masses into the cul-de-sac, where a vaginal section may be made. Pelvic hematoceles are always the result of extrauterine pregnancies.

A short time ago it interested me to ascertain the after-history of our patients upon whom operations for ectopic pregnancies had been performed. I succeeded in tracing twenty-four patients. Four of these had had vaginal operations, most of them probably being instances of tubal abortion. Three had normal pregnancies following the operation. None had a recurrence of the ectopic pregnancy. Twenty of the patients had had laparotomies for extauterine pregnancies, the affected tube and ovary being usually removed. Five of these afterward had full term children, while two required subsequent operations for second sudden acute extrauterine pregnancies, with recovery in each case. Thirty-three per cent., therefore, in this series had subsequent normal pregnancies, and 8 per cent. had secondary acute extrauterine pregnancies requiring immediate operation.

**Cirrhosis of the Liver, with Ascites.**—The deplorable condition of these patients when ascites has once made its appearance appeals to us all constantly. The ascites yields to no medical treatment for any length of time, and we are forced to resort to tappings which relieve but for a short time, and which must be repeated at constantly shortening periods. There has been considerable discussion in medical circles as to the advisability of submitting these patients to the operation of suturing the omentum to the abdominal wall, combined with freshening the surfaces of the liver and spleen by rubbing, these two latter procedures being done with the hope of forming adhesions between these viscera and the diaphragm. In this way an attempt is made to form a collateral circulation between the portal system and the systemic one, thus affording a channel in the adhesions by which the blood may get around the obstruction in the portal circulation in the liver. It may be interesting to consider briefly the results of ten of these operations performed in the Presbyterian Hospital, this being the total number thus treated. The mortality has been exceedingly high as a direct result of the operation, seven of the patients having succumbed thereto. This is an appalling death rate, and one well calculated to make one hesitate to advise the operation, notwithstanding the forlorn and hopeless condition of these patients. In explanation, however, it is only fair to state that all of them were in a most unfavorable condition for any operation, which was only resorted to as a last desperate hope, most of them being worn out after innumerable tappings. To reduce this excessive mortality, it will simply be necessary for the medical attendant to send his patients to the surgeon at a much earlier date, *i. e.* on the first appearance of the ascites. The ultimate results of the operation are not as yet quite definitely determined. Of the three patients who recovered from the immediate effects of the operation at the Presbyterian Hospital all have been traced since the operation. One man, sixteen months after the operation, was wonderfully benefited, being practically cured. His digestion was perfect, he had gained much weight, and there had been no reformation of the ascites since the operation, previous to which he required tapping every five days. The second patient, four years after the operation, is earning his living as a day laborer. There has been no recurrence of the ascites and his general nutrition is excellent. The third patient, a woman, received no benefit whatsoever. She returned to the hospital in two months much distended, requiring frequent tappings thereafter. She steadily depreciated in health.

In a recent article the mortality of the operation is placed at 15 per cent. in hypertrophic cirrhosis, and at 40 per cent. in atrophic cirrhosis. In another article, containing a list of 224 hitherto reported operations, 70, or 35 per cent., are said to have resulted in a complete cure.

The fairest conclusions on the subject of operation and its contraindications seem to be expressed by Lord and Sears (*Boston Medical and Surgical Journal*, Vol. 147, No. 11, p. 235), in saying that the "conclusion seems reasonable that operative measures are never justified in the presence of jaundice, and rarely with a history of hemorrhages from the digestive tract, since the fibrotic changes in the liver are probably so far advanced as to cut off expectation of greatly prolonging life. But, when practically sound heart and kidneys exist, and the general nutrition is so well maintained as to show that sufficient glandular structure still remains in the liver to maintain its function, and when competent medical treatment has failed, operation may be considered." I could only add to this the admonition to operate early.

**Enlarged Prostate.**—In the brief time left to my disposal I must of necessity treat this important topic somewhat superficially. The views regarding the proper treatment of hypertrophied prostate are

undergoing rapid development, so much so that the opinions here expressed represent merely the current ideas on the subject which perhaps may have to be shortly changed. As to the diagnosis, I can do no better than to quote C. H. Mayo (*Medical News*, April 26, 1902) as follows: "Every male over fifty years of age who complains of frequent micturition of small amounts, sudden stoppages of flow, the symptoms extending over some time, or who reports that total retention has occurred, requiring catheterization or aspiration, leads the surgeon to think at once of prostatic hypertrophy, or of stone. The diagnosis is completed by rectal examination, sounding of the bladder, and the examination of urine passed, which latter determines the question of cystitis and its character. By passing a catheter while one finger is inserted in the rectum, the depth of the prostatic urethra can be estimated by the distance traversed in the prostatic portion before the urine flows. The quantity of residual urine is now ascertained, the condition of the bladder muscle is determined, also the size of the bladder by irrigation. The next important step is the general examination of the patient with regard to the condition of the nutrition, heart, arteries, kidneys, general appearance, and age." It must be borne in mind that urethral strictures are extremely rare in men of the prostatic age, and almost all cases of so-called stricture in old men are cases of prostatic impediment in the posterior urethra. Dribbling of urine is a symptom of overdistension and not one of incontinence.

The symptoms are obstructive and inflammatory, the latter usually being dependent on the decomposition of residual urine. I shall not go into them further, but shall take up the question of treatment, which is a difficult one to formulate in the present state of the subject. The views expressed are my own individual opinions on the matter. It seems to me that it will be necessary at the outset to divide these patients into two distinct classes, first, the well-to-do patient who has time enough and sufficient intelligence to properly take care of himself; second, the average working man who, even should he have the intelligence, will rarely have the necessary time to give to his treatment. Treatment in the working man should consist at once in the operative removal of the prostate, provided there be no constitutional contraindication to the same, because the placing of a catheter in his hands will likely be but the preliminary to signing his death certificate. In the well-to-do man we may apply at once either palliative or operative measures. Each patient may be studied by himself, and no plan of treatment is applicable to all. Palliative measures consist in treating any posterior urethral inflammations by massage, sounds, instillations, etc., and insistence upon having the bladder emptied, as soon as the desire is felt, to prevent overdistension of that viscus, the occasional passage of urethral sounds to straighten out the posterior urethra, the building up of the general nutrition, the avoidance of excesses in eating and drinking, hot rectal enemata to relieve the prostatic congestion, hyoscyamus may be given for urinary discomfort as well as the use of hot sitz baths at night, santal oil, salol, or urotropine to keep the urine sweet, and lastly, and most important, the careful use of the catheter. It seems to me that it is important to have a surgeon supervise these cases of prostatic hypertrophy in conference with the attending physician as soon as it is necessary to resort to catheterism, for then cases that will ultimately require an operation will be early recognized and permanently relieved with comparatively little risk, and thereby much unnecessary suffering will be prevented. The mortality of the operation would then drop to a very low percentage. The surgical world is of the opinion that the danger to the patient commences as soon as it is necessary to resort to the daily use of the catheter, because of the cystitis which, sooner or later, is apt to be the result. All our energies should be bent to prevent infection of the bladder. The patient must be thoroughly instructed as to its use and the precautions to be taken to render it sterile before its introduction. The catheter should be used only when there is residual urine, the amount of which will determine the number of catheterizations. If the residuum is less than two ounces, no catheterization is necessary. When the residual urine runs between two and four ounces, the bladder must be emptied every evening by the catheter, for without this the nocturnal distress cannot be relieved. A residuum running from four to six ounces provokes symptoms in the daytime and requires the catheter twice a day, morning and night. If there are more than six ounces of residual urine, add one more catheterization a day for every additional two ounces present until the catheter is used six times in the twenty-four hours, and never oftener. It should always be used at stated and regular intervals. The catheter should be made of soft rubber and elbowed, or doubly elbowed. At times a stiffer catheter may be necessary, when it can be made of woven silk, but a metal catheter should never be placed in the hands of a patient to use himself, for fear of trauma to the urethra and prostate. Cystitis is benefited by bladder irrigations, etc., also by leaving a catheter continuously in the bladder for a few days.

Such is the palliative treatment of this trying disease. When shall we operate? We may answer this in general by saying that operation is called for only when palliative treatment is a failure. If the symptoms grow constantly worse, if the suffering becomes severe, if the patient cannot urinate without the use of an instrument, if catheterization is painful or impossible, if the patient is too ignorant or careless to trust with a catheter, if only a catheter of very small size can be introduced, if attacks of obstinate retention occur, if there is persistent or recurring cystitis or hematuria, if there are signs of beginning infection of the kindey, if the residual urine gradually increases in amount, and if stone be present, the bladder should be opened. Operation should not be postponed until the patient becomes really sick. Give palliative measures a reasonable trial, and when they show signs of becoming ineffectual, then urge operation while the patient is yet in good condition, for it is neither fair to the surgeon nor to the patient himself to delay until the operation is only held out as a last despairing resort.

The development in the treatment of prostatic hypertrophy in the future will be along the line of earlier operation. The question to be decided is whether the dangers attendant upon the catheter are not greater than those of a radical operation performed at the onset of the symptoms caused by the obstruction? If this can be proved to be true, is not the proper time to perform a radical operation reached as soon as it becomes necessary for the patient to resort to daily catheterization?

In early operation the results are most satisfactory, recovery rapid, the mortality varying between five and seven per cent. In complete prostatectomy in elderly patients with long-standing obstruction and secondary complications, the prognosis is grave, the mortality ranging between fifteen and eighteen per cent. Even though the operation be survived, if the bladder in these advanced cases happens to be

hopefully disabled, dilated, atonied, infected, the results obtained by the operation are negative.

The perineal operation of Young is the one almost always performed at the Presbyterian Hospital. In ninety per cent. of all cases the gland can be readily removed by means of a median perineal incision. Young's prostatic tractor is found to be of inestimable help. Castration, vasectomy and allied operations have been given up, as they afford no permanent relief and fail to justify their statistical mortality.

50 East Fifty-third Street.

## ROUTINE PROCEDURE OF THE CLINIC FOR THE TREATMENT OF COMMUNICABLE PULMONARY DISEASES OF THE DEPARTMENT OF HEALTH.

By JOHN S. BILLINGS, Jr., M.D.,

NEW YORK.

The treatment of tuberculosis in sanatoria and dispensaries is attracting a great deal of attention at the present time. For that reason a description of the routine procedure followed at the Tuberculosis Clinic of the Department of Health may be of timely interest and value.

The clinic is located at 967 Sixth avenue, New York City, adjoining the Department of Health, in a building especially designed and erected for the purpose. It was opened March 1, 1904, and has been a success from the start.

The clinic is open daily, except Sundays and holidays, from 9 A.M. to 4 P.M. and from 8 to 9 P.M., classes being conducted morning, afternoon, and evening. The class on Tuesday, Thursday, and Saturday evenings is limited to colored patients, colored physicians being in attendance.

All the floors and metal furniture are cleaned every morning and the building is disinfected with formaldehyde gas weekly. The gowns supplied to physicians and employees are disinfected at the same time.

The officers of the clinic are: the Director, Executive Associate Director, Medical Associate Director, and Chief of Clinic; twelve attending physcians; two being on duty for each class; six assisting attending physicians available in case of absence of attending physicians; three attending laryngologists; a physician in charge of the *x*-ray room; five nurses (a nurse in charge and one each in the men's clinic, the women's clinic, the registration room, and in the throat room); one drug clerk; one watchman and three scrubwomen.

The name, address, age, sex, nationality, employment, history number, and clinic class of each new patient is entered in a daily journal, also the history number, sex, class, and diagnoses of all patients returning for treatment. An admission card numbered to correspond with history, with its envelope, a sputum jar, and handkerchief, are supplied to each new patient, together with instructions as to the care of expectoration. The information required on the front of the primary history card is then obtained by the registration room nurse. All histories, with their attached later histories, throat histories, and district nurses, reports of home conditions are filed by number, in the registration room. The following system of filing is used: (1) "Active" cases under observation; (2) Cases in hospital; (3) Cases "not found at address given"; (4) Discharged non-tuberculous cases; (5) Inactive, tuberculous cases; (6) Dead cases (obtained from daily tuberculosis death list). All histories are submitted to the Chief of Clinic before filing. A name index card and an address index card are filed alphabetically for each case. In all cases referred to the Clinic, a report is mailed to the physician or institution referring the case, giving the result of examination.

All recommendations by the attending physician for the admission of cases to Metropolitan, St. Joseph's, Lincoln, Seton, and St. Vincent's (S. I. Branch) Hospitals are referred directly to the Department of Charities. In each case a report of such action is made to the Division of Communicable Diseases and the patient is given a card, giving his name, date, age, address, the diagnosis, and the name of the hospital preferred by the patient, which he presents at the Department of Charities. Arrangements for the admission of patients to Riverside, Raybrook, and other sanatoria are made by the Chief of Clinic through the Division of Communicable Diseases.

Each Monday a report is made by the Chief of Clinic to the Division of Communicable Diseases, giving the number of patients seen during the previous week, classifying them as old, new, male and female, the number of prescriptions issued, and the number of cases referred to hospitals and charitable organizations.

All deaths from tuberculosis, as reported daily by the Bureau of Records, are looked up in the Clinic records; such histories are filed separately.

Sputum and urine specimens are sent to the Diagnosis Laboratory of the Department at the close of the day's classes, the slip accompanying each being numbered to correspond with the patients' history number. All results of examination are noted in the sputum record book and on the patients' history card. (If an applicant for examination is apparently not tuberculous, a skeleton history is made out and sent to the physician who decides as to the final disposition of the case.)

All new cases of tuberculosis are reported by card one week after their visit, to the office of the Division of Communicable Diseases of the Borough in which they reside. Doubtful cases, later proving tuberculous, are similarly reported. All the records of the Clinic are filed in the registration room, and from there all reports and recommendations are forwarded. In the examining rooms the patients at their first visit are weighed, the body temperature, pulse, and general condition noted on the history; a complete physical examination made, the results noted, and a record is made of treatment ordered or of recommendations for *x*-ray examinations, extra diet (milk and eggs), admission to hospitals, or discharge.

The patient receives thorough instruction from the attending physician as to diet, mode of living, and exercise; special effort being made, where hospital care is indicated, to induce the patient to enter an institution; in addition, a circular of instruction printed in the language that the patient speaks is supplied—German, Hebrew, Italian, Russian.

Medicines, when ordered on prescription from the Clinic formulary, are supplied from the drug room; special prescriptions, for medicines not in the formulary are obtained from the drug laboratory. Every new case is referred to the throat room for examination and treatment. Cases in which the diagnosis is doubtful are referred to the *x*-ray room for a report from the attending physician in charge of that room, a radiograph being made and kept on file. Every patient continuing under treatment is visited by a nurse. Her report of the home conditions when returned, is attached to the patient's history card for the information of the physician, who indicates how frequently her

visits should be repeated (except in urgent cases, this is not oftener than once in ten days). If visits are to be repeated, suggestions as to diet and general treatment are noted by the physician for the nurse's information.

In connection with the examination and treatment of cases the following points are observed: Each new patient is carefully studied, and at the first and subsequent visits an earnest effort is made by the physician to gain that confidence, and to exercise that moral control of his patient, which are so necessary to good results. To this end, whenever it seems advisable, the patient is frankly told the nature of the disease, the result of the sputum examination, the weight, and the general prognosis. This information is, however, given only to the patients themselves or to those accompanying them.

The great importance of proper and sufficient food, fresh air, and hygienic daily living is emphasized.

The result of the physical examination is dictated to the Clinic nurse by the physician, the following abbreviations being used (Dr. S. A. Knopf). Only the extent of the lesion is shown on the diagram of the chest.

I. *Mensuration.*
As indicated.

II. *Inspection.*
Expansion: Normal ~~
Diminished —
Absent ○

III. *Palpation.*
Fremitus: Normal ~~
Increased ≠
Diminished —
Absent ○

IV. *Percussion.*
Normal ~~
Slightly dull ///
Dull ##
Flat ▰
Hyperresonant ≠
Tympanitic ⊕

V. *Auscultation.*
Respiration: Normal ~~
Harsh ≠
Diminished —
Absent ○
Broncho-vesicular *br v*
Bronchial *br*
Amphoric or Cavernous *a cv*
Cog wheel *cg*
Expiration: Prolonged *Epr*
High Pitched *Ehpt*
Voice: Normal ~~
Increased ≠
Diminished —
Absent ○
Bronchial or Tubular *br tb*
Ægophony *aeg*
Râles: Crepitant
Subcrepitant
Creaking *ck*
Friction sounds
Cavity ©

A temporary, tentative diagnosis is made for each patient and written in black ink in the proper space on the history card. The final diagnosis is added as soon as possible thereafter.

At each subsequent visit of the patient, the body temperature, weight, pulse, medication, and general condition are noted on the history. A complete reexamination of the chest with diagram is made at least once in every two months. Patients are advised to return as frequently as the physician considers necessary, the interval between visits being not longer than one week. No patient is refused examination and such medication as is necessary; those having no tuberculous lesion are referred to general hospitals and dispensaries. If for any reason the physician considers that a tuberculous patient should not receive further treatment, the matter is referred to the Chief of Clinic, with a brief statement of the facts in the case.

No patient is discharged as free from tuberculosis if there is cough and expectoration, unless three negative sputum reports have been received, and the physical signs and general history fully warrant such action.

Deserving patients who are in need, are recommended for financial assistance to the Division of Communicable Diseases, by the attending physician, and such recommendations are forwarded to the Charity Organization Society, Association for Improving the Condition of the Poor, United Hebrew Charities, Brooklyn Bureau of Charities, etc. When special diet (milk or eggs) is required, a monthly order on the New York Diet Kitchen Association is forwarded to the Division of Communicable Diseases for investigation and distribution by the district nurse.

Patients not returning for treatment within two weeks, and those of whom notice of reference to the Clinic has been received, but who have not applied for treatment, are visited by district nurses.

The attending physicians are expected to arrive punctually at ten A.M., two P.M., and eight P.M., and should enter their names and the time of their arrival and departure in the time book in the registration room. If for any reason a physician is prevented from attending his class, he should notify the Clinic promptly by telephone.

No tuberculous patient may be discharged except by request, and previous to discharge, patients considered to be cured must be examined and their discharge approved by the Chief of Clinic.

Prescriptions are written in duplicate over carbon paper and show the date, patient's clinic number, and the physician's signature. Each prescription is recorded on the history card in every instance. If the physician desires that the patient should be revisited by the nurse, enter a hospital, receive charitable aid, be discharged from treatment or transferred to other classes, he states this fact on the history card.

Each new patient is referred to a throat class for examination, report, and treatment, if needed.

All patients must attend the classes to which they have been assigned on their first visit. Patients applying for emergency treatment, however, are examined and treated by the physician to whom they may be temporarily assigned. Prescriptions are supplied only to bona fide patients of the Clinic and they must not be renewed except for patients personally attending the Clinic or on presentation of their admission card. Exceptions may be made for good reasons and at the discretion of the attending physician. When the Clinic formulary is not used, both original prescription and copy must be approved by the Chief of Clinic.

Nurses report promptly at 9 A.M. and remain until 4 P.M. or later if necessary. At the night classes, nurses on duty report at 7.30 P.M. One hour is allowed for lunch, but at least one nurse must always be in the Clinic between 12 M. and 2 P.M. Each Clinic nurse must see that the supplies and instruments of the room under her charge are in good order.

Thermometers must be kept in a solution of 1 to 100 carbolic acid. All diagnostic instruments are wiped each day with a cloth wet with a solution of 1 to 100 carbolic acid.

During the noon hour all the windows and inside doors are opened for the airing and ventilation of the rooms.

At the close of each class all histories are returned to the registration room, the physician's name and the date being entered on each. All sputum specimens are placed in the collection box, and rooms left in good order.

# THE TREATMENT OF BRONCHO-PNEUMONIA.

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PHYSICIAN TO THE CHILDREN'S DISPENSARY OF THE WOMAN'S BOARD OF CITY MISSIONS AND KING'S DAUGHTERS HOSPITAL.

As the season is upon us when the physicians will be called to treat numbers of such cases, would it not be well to discuss the very best methods of reducing the death rate of this dreadful disease, carrying off thousands of children each year, and which, next to the summer diarrheas, is most fatal? It might be termed the winter disease of infants. There are scarcely any two physicians who treat the disease alike; and this being the case, would it not be more beneficial to both patient and physician, if we could get together, and bring down the treatment to a practical, and not a theoretical, basis? The theory of medicine is one thing: the practice another; blessed is the doctor who is practical!

Taking nature as the best physician, there is no disease which requires more intelligent assistance than that of bronchopneumonia. The two vital organs are affected from the beginning, the lungs and heart, and often a severe enteritis occurs. The age of the child and its surroundings will have to be considered also. The first requisite to treat a case successfully, is, as little as you think of it, to get the confidence of the family. Unless you do, there will be all kinds of suggestions from them as to the internal and external treatment. A good neighbor comes over with the very thing that cured her child, and the parents, intelligent ones, too, are willing to try it. If you use one form of external application and the baby is not doing well, the mother is told of something a doctor used across the street; that patient happened to get well and you will often be influenced to use it. The text-books do not take up these points I mention, but experience, especially my first experience, has brought this to my mind. This meddlesome interference on the part of grandmother, parent, and neighbor has caused the death of many a little patient. My advice to every physician is to be master of the situation, or step down and out. We all should realize that bronchopneumonia is, in a great majority of cases, a secondary disease, and as a rule, bronchitis is the primary cause. This may be either a simple bronchitis, or that which occurs as a part of infectious diseases, among which are measles, whooping-cough, diphtheria and membranous croup, influenza, and possibly typhoid fever. Of course the specific cause of the inflammation is probably the pneumococcus of Fränkel, but the *staphylococcus* and *streptococcus pyogenes*, the bacillus of Friedlander, or, as has been demonstrated, the tubercle bacillus may be the exciting cause. Of the predisposing causes of catarrhal pneumonia, age is the most important, and in children under three years of age it is the lobular form of pneumonia which is found in a great majority of cases. It is especially most fatal in cases occurring under two years of age. With a knowledge of the morbid anatomy and symptoms in our minds, the question might be asked, By what method can we lower the death rate? First, we should be able to make a diagnosis and tell the dividing line between the preexisting bronchial trouble and the extension into the terminal tubes and peribronchial tissue, as a number of errors of diagnosis have been made. Second, the predisposing cause should be borne in mind. My experience has taught me that pneumonia complicating whooping-cough requires the most active treatment, and for convenience we will divide the treatment into hygienic, external, and internal.

Hygienic Treatment.—The room should be large and have at least two windows, and one with a fireplace is preferable. The temperature of the room should be kept at from 68° to 70°. The windows should be opened from above and below, so as to admit plenty of fresh air into the room, as in mild cases that is our method of administering oxygen. It is almost criminal to have your patient in a stuffy room, with a big fire and every window and door closed. You need not allow a current of air to strike the child, as screens can be used. See that the bed of your little patient is made comfortable, and keep your patient on it most of the time, but the position of the child should be changed occasionally.

External Treatment.—By the external treatment I mean the various applications which have been applied to the chest to bring about resolution. This external treatment has been, and is yet, as great a puzzle to me as when I treated my first case. I wish I knew positively if such applications do good and which is most beneficial, and I would be extremely grateful if my fellow physicians could enlighten me on this subject. Many things, from the sweet-scented onion poultice to mother earth, have been used, and the man who gets the cure with one preparation or the other naturally advises its use, but is it in any way due to the external application? One will use a mustard plaster, the flax-seed poultice, a combination of turpentine, lard, and camphor, or fifty other combinations, and all claim good results, yet the death rate remains extremely high. We often forget what the disease really is, and the changes which have taken place. It is in consultation that you will find in most cases the absurdity of the external application, for if you are using one application, the consultant will often advise another, and yet there is no more reason for it than for the first. The theory of the external treatment is to attract the blood from the lungs to the surface of the body. To do that you must use a method to attract the blood equally and not just over the area of the chest wall. Nothing has served me so well as the hot mustard bath, and the child should remain in the bath until there is a pink glow over the body. It should then be wrapped in a blanket and placed in bed, where, as a rule, it falls into a peaceful sleep. At the same time the high nervous tension is relieved, the child breathes more easily, the pulse is not so rapid, the capillaries dilate, and the little patient often breaks out in a copious perspiration, which carries off the toxins, thereby throwing less work on the heart, kidneys, and intestinal canal. These baths should be repeated as often as necessary. Returning to the applications used (manufactured or home-made), I believe they do little good unless there is a pleuritic condition, and the child is made more comfortable by them. I prefer, then, the hot camphorated oil with mustard, applied anteriorly and posteriorly over the lung area by gentle massage; children enjoy being rubbed and will often go to sleep while it is going on. If you wish a quick counter-irritant the mustard plaster will suffice, then if you like, a close-fitting flannel undershirt, lined with cotton material, can be worn next to the skin. Nothing heavy should be allowed over the chest, as nature often brings into play all the auxiliary muscles of respiration, so as to convey

oxygen to the system. Then again, if these thick and heavy applications are used you cannot make repeated examinations of the chest without disturbing your little patient. Even the bedclothes should be light.

Internal Treatment.—As we usually find a torpid liver and furred tongue in these cases, it is well to begin with small doses of calomel, followed by oil, or a simple saline mixture. In not a few cases the gastrointestinal symptoms are a grave complication. Most children swallow the mucus, unless vomited up, therefore, keep the tract cleansed. Tympanites is often very troublesome, pushing the heart and lungs out of position, adding greatly to the discomfort of our little patient. The treatment then is the same as for gastroenteritis. For the cough, which is usually dry at first, the simplest and most palatable mixture is the best. I might write a number of different prescriptions, yet the one I give will usually answer:

℞

Spt. ammon. aromat.,
Vini. ipecac.....āā 5ii
Syr. pruni virg.....5vi
Syr. tolutan.....5iv
Aq. anisi.....q.s. ad 5iii

M. Sig.: A teaspoonful every two hours to a child one or two years of age.

Another is as follows:

℞

Pot. citrat.....gr. xxiv
Vin. ipecac.....5ii
Spt. minderer.....5vi
Syr. tolutan.....5iv
Aquæ.....q.s. ad 5iii

M. Sig.: A teaspoonful every two hours. If the cough is quite troublesome, add a few drops of paregoric or deodorized tincture of opium, according to the age of the child. Never order anodyne in the mixture, as you might wish to increase or decrease the dose or leave it out entirely.

Stimulants.—In the mild cases very little stimulation will be necessary; if so, whiskey alone will suffice. It is the severe cases, in which the pulse is so rapid you can scarcely count it, that will tax you to know what to do. Here whiskey, strychnine, and my sheet anchor, tincture of digitalis, should be used. For a child one year old I order thirty drops of best rye whiskey every three hours, and strychnine gr. 1-250–gr. 1-200. Should the child show the effect of too much strychnine, decrease the dose or leave it off for a while. Where the pulse is over 130 I use tincture of digitalis, and so far have never had any ill effects. Tincture of digitalis is a cardiac regulator. By its effect upon the cardiac ganglia and the muscle itself, it induces contraction, and strengthens the systole; by its effect on the vagi it prolongs the diastole. The result of this double action is that the diastole of the heart is lengthened so that more blood is allowed to enter the ventricles, while the systole is made stronger, so as to impart more vigor to the flow of blood into the arterial system, and at the same time a rapid and irregular action of the heart is slowed and steadied. As digitoxin, the most active ingredient, is insoluble in water, and is, therefore, precipitated by it, never order the tincture in combination, and give it in a few drops of syrup, so that it will be absorbed at once. No water should be allowed the patient for several minutes after swallowing. The dose is one to two drops every three hours for a child one year old. You must watch carefully the effect on the pulse and know when to leave off the digitalis. I have used adrenalin with good results, especially where there were signs of cerebral trouble.

Fever.—An ice cap to the head and sponging with either tepid or cool water is all I use to lower the temperature, and I have never had to resort to other methods.

Nourishment.—Happy are the little ones who are breast-fed; they not only have a greater power of resistance, but there is less tendency to abdominal complications. Broth, milk, and egg albumen will constitute the principal diet list.

Oxygen.—Oxygen should be used at the beginning, if the disease complicates whooping-cough. Here you have the double cough to deal with, and as a rule, get cyanosis from the first. Even when the lung is greatly involved in other cases, it is a good idea to give oxygen early, and not wait for cyanosis.

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## CIRCULATORY FAILURE, ITS NATURE AND TREATMENT.

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There is no fact more sadly evident in most serious diseases than that circulatory failure is the element most deserving of attention and most needing relief. It is our experience in general hospital work, and in the graver cases in private practice in which there is danger of death, to have constantly presented this problem in the double aspect of a process to be explained, and a condition to be relieved.

There are two great classes of cases. In the first the circulation has failed as part of the general failure of the whole system in wasting diseases. In exhausting and acute disease this is the case. The other class of cases, and the one which will occupy most attention is composed of those in which the failure is primarily of the circulatory apparatus. The mechanism of the failing circulation requires for its appreciation a study of the physiology of the circulation particularly in its relation to disease.

In former times this problem was approached purely from the point of view of the heart, and all such conditions were spoken and thought of as heart disease.

In the broader view of modern medicine we prefer to speak of circulatory disease because we know that the heart is only one element in the condition. The study of the philosophy and treatment of circulatory failure has been much elucidated when approached from the point of view of the study of variations of blood pressure, always keeping in mind the profound influence of the nervous system.

The supply of blood to the tissues is really an elaborated system of irrigation depending upon a proper pressure in the place from which the blood is to be drawn. The conception of the circulation of the blood is often erroneous. We can even conceive of the blood circulating without being of any particular use to the tissues. This might be the case where an artificial communication formed between the arteries and veins. The office of the heart is to maintain a suitable pressure in the arterial system, which is a reservoir from which the tissues receive their nourishment. The veins

reconvey the blood to the heart. The heart does not concern itself with the circulation of the blood, but with the maintenance of a suitable pressure in the arteries. Thus, when the body is quiescent, the amount of blood circulated is very small, and the pulsations of the heart are very slight.

Disturbance of circulation, though among the commonest manifestations of disease, are yet the most difficult to explain. The variations of local circulation manifested by every possible symptom from redness of the nose to coldness of the feet, make a study which we must lay aside for the present for a consideration of more important forms of circulatory disease.

There is this about the study of the graver forms of circulatory failure, including, as they do, the worst complications during the course of chronic conditions, that we are too apt to pass them over as hopeless, and not to give them the attentive consideration that they deserve. I must confess myself that until by the accident of having the care of cases of this class, which were of relatively great importance on account of the value of the lives at stake, that I had always treated them in the same routine manner, as I had seen done in my hospital experience. This seems still to be the attitude of the profession; it implies that there is little to be learned and less to be done for the more advanced stages of circulatory disease. Any one who feels thus, when in contact with a case showing extensive dropsy, numerous heart murmurs, paralysis present or impending, with every organ in the body from the brain to the kidneys clogged and functionally out of order, should know that even such a case has the possibility in it of restoration to comparative health. Particularly is this true of first and second attacks of circulatory failure, when they are cases in which the circulatory failure is the result of primary disorder of the circulatory apparatus, and not secondary to wasting disease. It is just the difference between a worn-out machine which an expert would despair of ever restoring to any useful purpose, and a machine in which only one part is out of order. So the paradox appears that the more striking manifestation of circulatory disorder, the more chance there is for the application of therapeutic measures.

Bearing in mind always the true function of the heart, namely, to maintain a suitable pressure in the arteries, we come immediately upon a great error in therapeutics, namely, the employment of vasodilators in the later stages of circulatory disease. They absolutely do no good, and were it not for the fact the nervous control of the peripheral circulation is too much paralyzed to respond to them they might do harm. In the presence of secondary low arterial tension, when the arteries are contracting in an attempt to create a back pressure, to enable the heart to bring about adequate tension in the arterial system, the use of vasodilators is foolish. In these cases we are misled by the fact that the road traveled toward the condition was through the condition of harmful high arterial tension.

Another error is in overestimating the importance of the usual kidney complications. Our attention is too much directed to kidney disease, while in many instances the patient does not improve until the idea of directly influencing the function of the kidneys is abandoned and the attention entirely given to the circulation. There is no greater stimulus to the action of any organ than the demand on the part of the system for the functions of that organ. The kidney is more than willing to eliminate the dropsical effusion; just as soon as its circulation is restored it frequently does so. Why induce a dropsical person to take large quantities of fluid, in order to stimulate a kidney which is acting particularly badly on account of secondary low arterial tension, and why give so-called diuretics to further irritate the kidney if inflammation is already present.

Another error in treatment of cases of advanced circulatory disease, is in underestimating the sluggishness of the whole organism, and the resulting necessity of increasing the dosage of remedies. Drugs, while meant to cure disease, nevertheless can never do so directly. They act through the exaggeration or restraint of some physiological function which needs more stimulation than it receives from the demands of the system, or needs to be controlled. Strychnine is a great standby in circulatory disease, because it arouses the nervous system, and thus stimulates all physiological processes. But in the graver case of this character strychnine in small doses has no effect whatever. It should therefore be given in divided doses until some physiological evidence of the drug is present. The same is eminently true of digitalis. Digitalis is proverbially one of the hardest drugs to handle. Its effects vary much in different individuals; the preparations vary much in strength or active principle. It should be given until there is evidence of its physiological effect. Third in importance I place the iodide of sodium, which a long trial has satisfied me to be of an eminently beneficial effect in circulatory disease accompanied by degeneration of fiber. In advanced cases morphine should be used to bring about satisfactory rest, provided of course, that the simpler hypnotics have ceased to act. The patient should not always be confined to bed. It is often very hard to make a patient comfortable in bed; while reclining in a ship-chair, or even a rocking chair, he is often much more comfortable. Nor must the comfort of supported elbows be forgotten where dyspnea is intense. In our absorption in the science of medicine we are too apt to overlook the cultivation of the art which is the fruit of all the rest. There is no class of work where art is in greater evidence than in giving comfort and restoring to comparative health the subjects of circulatory failure.

While concentrating our attention upon the symptomatic relief of circulatory failure, we must not forget that the promotion of vitality is the most important element in the restoration and maintenance of health. Vitality is the great element sought in the cure of tuberculosis, and many plans of treatment that are applicable to this disease are equally applicable to circulatory failure. The vitalizing effect of a change of climate, a change of food, and of massage and exercise should always be remembered. It is this element of vitality that makes it important to cut short the bed treatment of circulatory cases as soon as possible, and to promote in every way a more generous oxygenation of the system. Under wise management a patient, the subject of progressing circulatory failure, can many times be rescued from a situation which often appears hopeless. And under wise management the recurrence of these conditions can be postponed. Of course, each succeeding attack is more difficult to handle, and it is always a pertinent question, however bad the case may seem, as to how often the patient has been rescued from a similar condition.

There are, at the present moment, two patients in my hospital wards. One was admitted some weeks ago with a dilated heart, presenting murmurs at both valvular orifices, a chest full of fluid, and many other evidences of circulatory failure. This patient now has a heart free from murmurs, and every appearance of fair health. Another patient admitted only a few days ago, presenting a similar cardiac condition, and was suffering from general anasarca, so that to prolong life, it was necessary to withdraw the fluid from both chests and from the abdomen. This patient has also recovered from her cardiac murmurs, which were unquestionably due to dilatation, and is rapidly getting rid of the anasarca. Both patients recovered under what might well be called heroic treatment. I know that these things are often considered too commonplace for repetition in medical literature, but it seems to me that their great importance justifies a review of our ideas upon them from time to time.

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## THE THERAPEUTIC VALUE OF STATIC ELECTRICITY.

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In consequence of its high intensity, static electricity is able to overcome a great deal of resistance and to permeate the cells and tissues of the body to a greater extent than any other electric current. Because of its low amperage, its polar effects are not so marked as those of galvanism, amperage being an important factor in producing electrolytic changes. For functional and nervous disorders static currents have no equal, as patients often are benefited who have resisted drug medication and climatic treatment, as well as various other forms of electricity. The fact that these currents so nearly resemble the normal physiological currents of the body largely accounts for the beneficial results obtained from their use.

The term static refers to bodies in a state of equilibrium. If equilibrium already exists, static electricity has no effect. If, however, there is a loss of equilibrium, that loss is supplied. Whenever the body is under a static charge, each nerve is taking up its own normal vibratory impulse. For example, I have often noted in treating patients with valvular heart disease a decided improvement in the rate and character of the pulse, the latter becoming quite normal, while the charge is maintained. Although the abnormal condition again appears after the cessation of treatment, by often repeated applications compensation is assisted and the general health of the patient improved. As with the pulse, so with the respiration and functions of the body in general, all of which are stimulated to normal physiological action.

There are so many modes of application of these currents, varying from the most mild, as in the breeze, to the exceedingly severe, the heavy spark, for example, with corresponding sedative or stimulating effects, that it is possible to adapt them to a great variety of cases. The positive breeze is especially valuable for relieving congestion. In sprains and contusions its early application is a most valuable adjunct to other treatment. Congestive headaches, which have resisted all other remedies, yield to a positive breeze; even the headaches of the menopause, which are generally most difficult to cure, respond to a course of treatment with the positive pole. If, on the other hand, the negative pole be used, the headache is increased in severity. Contrary to theory in general and the opinion of some electrotherapists, experience has fully convinced me that results depend largely upon the selection of the proper pole.

It is a common thing for physicians with limited experience in the use of static electricity to attribute its beneficial effects to suggestion. I have known physicians to treat at least twelve patients in an hour, allowing about five minutes to each treatment. No doubt any result obtained from such treatment is due to suggestion. The physician who is more anxious to make money than to cure the patient had better choose some other line of work. No static treatment can be given satisfactorily in less than twenty minutes, and in most cases one-half hour would be much better.

What class of cases is more puzzling to the general practitioner than the functional neuroses, neurasthenia, hysteria, and epilepsy? Whatever the causative factor, there is always present nerve irritation with faulty metabolism and resulting autointoxication. How often, after all else has failed, is the patient advised to try electricity more as a means of getting rid of a hopeless task than with any real expectation that electricity will be of any benefit?

The electrotherapist, on the other hand, administers with confidence the positive static breeze, knowing its power to allay nerve irritability, to bring about nutritive changes through its action upon cell protoplasm, to increase secretion and excretion, and improve elimination, and thus to prevent that autointoxication which is responsible for the most distressing symptoms of neurasthenia, namely, fatigue, headache, and insomnia. All this is accomplished without resulting depression or the patients becoming addicted to the use of drugs. So far as epilepsy is concerned, nothing can be said to cure it. However, I believe that electricity compares favorably with other forms of treatment. One of my patients, who had been having two epileptic seizures a week, was free from attacks for seven months, while during the six months following the cessation of treatment she had but two light attacks. This was an unusual result, yet I have always been fairly successful in these cases. While the results are only palliative, even these are a great boon to the afflicted individual, and are to be preferred to the stupefying effects of such medicines as bromides.

The static spark is the opposite of the static breeze. In the latter we have a marked sedative, in the former a pronounced stimulant. Sparks produce counterirritation and muscular contractions, and are powerful stimulants to the tissues. They are useful in breaking up adhesions, and in hastening the absorption of deposits. While they are particularly adapted to chronic rheumatism, they will abort acute rheumatism, provided patients are anxious enough to be cured to endure heroic treatment. I have been able to ward off acute rheumatism by three or four applications of static sparks. A young man suffering with acute rheumatism came to my clinic at the Illinois School of Electrotherapeutics. Three years before he had had an attack which had kept him away from his work for weeks. He said it was simply out of the question for him to leave his work again, and he was willing to endure anything that would make such a contingency impossible. He had two swollen, painful joints, to which I applied static sparks vigorously and followed it by a soothing breeze. On his return, two days later, the pain and swelling had subsided, but a third joint was

inflamed (quite characteristic of that disease); another treatment was given, and when he returned the third time, there was a slight stiffness, but no pain or swelling.

I never give sparks to timid patients, however, and never without the patient's consent, after having explained that the treatment is severe.

Contrary to the prevailing belief that inflamed nerves should be put at rest, W. J. Morton of New York considers sparks as much of a specific for acute neuritis as is quinine for malaria. My success with the Morton wave current in neuritis has been such that I have not been inclined to change from a mild modality to the severe, though no doubt successful spark method. Short, thick sparks, applied in rapid succession to ganglions so often appearing upon the back of the hand, will cause the wall of the sac, unless very thick, to rupture. Instantaneous evacuation of the cyst takes place and there is a rapid absorption. The walls of the sac adhere and a cure results.

While it is not possible to localize static electricity, the entire body always receiving somewhat of a general charge, the above mentioned, the breeze and the spark, are generally applied for the relief of some particular part of the body. A sprained ankle receives a breeze from the point electrode. A head-breeze is given for the relief of a headache. Sparks are given to stimulate the circulation of a part. Although at the same time there is a general charge, the treatment is given chiefly for its local effect. This is not the case with static insulation or electrification, as it is sometimes called. The latter is given not for its local but for its general effect. This form of current in particular is well termed an equalizer, because with this application there is a stronger tendency to restore lost equilibrium than is the case with any other form of administration of static electricity.

While the patient is receiving static insulation, every part of the body is heavily charged with a high potential current, which acts as a powerful tonic and restorative. Convalescence from exhausting diseases, such as typhoid fever, is greatly hastened by static electrification given twenty minutes daily. After operations upon the pelvic viscera, patients suffer from nervous disturbances due to a loss of equilibrium, especially after those which result in an early menopause. A few weeks of static insulation at this time greatly assists in enabling the nervous system to adjust itself to new conditions. Under static electrification tuberculous patients gain in strength, increase in weight, lose their night sweats, improve as to cough, and are rendered in better condition to resist the tubercle bacillus.

Of the many ways of applying static electricity, none has a wider range of usefulness than the Morton wave-current. By means of it, powerful muscular contractions are produced without causing pain. It is especially useful for the relief of pain in ulnar, brachial, sciatic, and other forms of neuritis. Even tic douloureux, that bête noir of physicians, yields surprisingly to the Morton wave current. About two years ago I treated an old gentleman with tic douloureux who, in spite of two operations, was suffering so intensely that he was unable to get more than five minutes of sleep at a time. After a month's treatment the patient awakened only once or twice during the night. Another patient who had a brachial neuritis with a paralysis of the arm following an operation on the axillary glands yielded to three months' treatment. At the end of that time she was able to use the affected arm to comb her own hair. The pain is frequently relieved after the first application. The Morton wave current is used for torpidity of the liver, and is my favorite method for the treatment of chronic constipation, many cases of long standing having been cured after from ten to twenty treatments. There are many other uses for all of these currents.

I have attempted in this brief paper to enumerate only some of the principal indications for this form of electricity. My object has been to emphasize the fact that while static electricity is by no means a cureall, it is so valuable an adjunct to other therapeutic measures that it should be better understood by the general practitioner. While all cannot be specialists, all should be sufficiently acquainted with every line of treatment to understand what will be the most likely to benefit the patient for whom he is held responsible.

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## THE TREATMENT OF CHRONIC CONSTIPATION.

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In a number of cases of chronic constipation the associated pathological conditions are so urgent and important that they are not included in this category. Such for example are intestinal cancer and stricture. The same may be said of chronic constipation in patients suffering from grave nervous diseases. When all such cases are excluded we shall find that a very large proportion of these cases depends upon intestinal muscular atony.

In the early months and years of the disease many of these patients declare that, with the exception of the sluggishness of the bowels, they are in perfect health. Their capacity for work and their power of endurance does not seem to be much affected. From statistics covering nearly two hundred cases coming under my care during the past two and one-half years, I am led to believe that about eighty per cent. are due to atony of the intestinal muscle.

The rationale of the treatment about to be described would not be materially affected if the intestinal nervous system were included in the conception and the term "neuromuscular" substituted. The fundamental fact is that normally the stretching of the intestinal muscularis by the contained feces causes peristalsis. It is quite possible that the nerves may control and coordinate the muscular movements and convey the impulse from fiber to fiber. My confidence in the physiological and etiological importance of stretching the intestinal muscle arose primarily from the use of rectal tampons. Their therapeutic action in chronic constipation due to intestinal muscular atony is nothing short of specific. In a large proportion of cases enemata and cathartics may be discontinued from the first, and regularity in the passage of normal stools begins to be reinstated. The insertion of a rectal tampon is not attended with any difficulty for the physician and with little or no inconvenience for the patient. For the tampons I have used either absorbent cotton, cheese-cloth, or lamb's wool. It should be of sufficient size to cause some distention of the bowel. I have generally made it long and narrow, so that it may be rolled upon itself and the desired amount of stretching obtained. It can be inserted through an ordinary proctoscope and packed into place by means of a long forceps. I have found that when it is placed above the rectal valves and made to distend the gut at the rectosigmoidal junction the best results are obtained. Each tampon is provided with a piece of cord to facilitate its with-

drawal. The size of the tampon and the length of time it should be retained depend upon the degree of atony in the particular case. From two to six hours is generally sufficient. If a tampon is used between two and three in the afternoon and withdrawn at seven or eight in the evening a constipated movement will generally occur the following morning. Occasionally there is a movement when the tampon is withdrawn. The efficacy of the treatment is early made manifest by the fact that in nearly every instance there is a bowel movement also on the second morning. These movements are at first usually deficient in amount. In the great majority of cases I begin by using a tampon on alternate days, and as progress is noted increase the time between treatments. I am encouraged to present this therapeutic agent to the medical profession on account of the following considerations:

1. Prompt and uniformly good results following the use of tampons in more than one hundred cases of chronic constipation. Some of these have been under observation for over two years. The treatment was absolutely ineffectual in a patient suffering from a nervous disease resembling locomotor ataxia. In another patient with considerable tenderness in the region of the uterus and ovaries rectal tampons failed to relieve the constipation. In a patient suffering from what seemed to be chronic inflammation of the valvular region of the rectum, the tampons would produce regular evacuations for several weeks, but the chronic constipation showed a great tendency to recur. Another case which must be considered at least as a partial failure was in a woman thirty-eight years of age. She had suffered with a very stubborn constipation for a number of years. When she consulted me she said she had had no natural bowel movement during the past four or five years. She would often go for more than a week without an evacuation. Large quantities of very severe cathartics, followed by copious injections of water, were generally necessary; quantities of fecal material would then be expelled. Of late the evacuations had been attended with considerable suffering and some exhaustion, from which, however, she quickly recovered. Her general health was good, tongue clean, no headache, and appetite always good. This seemed to be a case of almost complete atony. The treatment by tampons improved her condition. By regulating her diet and devoting considerable time and attention to herself, she is able to get along without cathartics or enemata. This patient came from Michigan, and remained only three weeks for treatment. In two or three other cases the patients did not take the treatments regularly or for a sufficient length of time, and I do not know the results. But with these exceptions, all cases of uncomplicated atony of the intestinal muscle yielded promptly to this treatment, and many other cases as well, in which displaced uteri and ovaries, enlarged prostate, indigestion, or neurasthenia seemed to complicate the condition.

2. Muscle stretching by rectal tampon is a measure directed toward the removal of the immediate cause of the chronic constipation when it is due to muscular atony.

3. That distention is the physiological stimulus of peristalsis has been already referred to, and that the intestinal muscularis owes its very origin and development to this same agent.

4. Muscle stretching is a well-known therapeutic measure; its power of stimulating contraction has been long known in connection with the uterus and vagina. The distention of the stomach during gastric lavage is a powerful therapeutic agent for the relief of atony of the gastric musculature. The distention of blood-vessels when saline transfusion or enemata are used may very probably operate in the same way, increasing blood pressure by stimulating vascular and cardiac tone.

5. When distention is to be used as a therapeutic measure in a hollow viscus there are three important requisites:

(*a*) That the agent should produce no other effects that might militate against the desired result. Liquids suit very well for distention of the stomach, urinary bladder, and blood-vessels, and solids for the vagina, uterus, and lower bowel. In other words, the agent used must resemble in consistency the physiological stimulus. The lower bowel does not tolerate liquids any better than the urinary bladder tolerates solids. In this respect the rectal tampon is justified by its resemblance in consistency to the normal stimulus of peristalsis in the lower bowel. (The tampon is usually lubricated with vaselin.)

(*b*) The reaction or other chemical characteristics of the agent must not produce abnormal irritation. The fecal material in the rectum and sigmoid is sometimes acid, more frequently alkaline or nearly neutral; the rectal tampon therefore does not violate the rule, nor does it contain any chemical irritant.

(*c*) The amount and duration of the distention should be regulated by the amount and duration of the normal agent of distention. In the case of rectal tampons these two features are directly under the physician's control. Bearing in mind that feces collect gradually in the sigmoid and upper rectum, we know that physiological distention in this region may continue for several hours before strong peristalsis is induced. Accordingly, the tampon should be sufficient in size to cause some distention, and should be retained from one to six hours.

6. The rectal tampon compensates in these cases for the shrinkage of the fecal mass due to absorption.

7. The rectal tampon may be placed in that portion of the bowel in which distention is known to provoke normally the powerful peristaltic contractions which result in bowel evacuation, viz., the rectosigmoidal junction.

8. The rectal tampon is a therapeutic agent attended with no danger and little or no discomfort to a patient. It seldom interferes with his occupation.

It is obvious that the treatment by rectal tampons is not applicable to cases of obstipation due to hypertrophy of the rectal valves or other form of obstruction.

660 Woodward Avenue.

## REPORT OF A CASE OF A FRACTURED TIBIA AND FIBULA; DELAYED UNION AND ITS TREATMENT.

By L. M. KOMMEL, M.D.,

NEW YORK.

Mr. J. C. A., 30 years of age, while attempting to board a moving car, missed his footing and fell, sustaining a fracture of the right leg. This accident happened in the latter part of May, 1905. The fracture was reduced and a plaster-of-Paris cast was applied, but removed at the end of two weeks. There being no attempt at union, another plaster of Paris dressing was applied and allowed to remain for two weeks longer, and on removal only a slight attempt at healing was noticed. The cast was replaced. The patient was able to walk about with the aid of a pair of crutches.

At the end of three weeks—seven weeks after the accident—the cast was removed. All local symptoms having long since disappeared, the patient found that he still could not walk without the aid of his crutches, and the moment he tried to put the weight of his body on the broken member, excruciating pain would set in.

In the latter part of July, or about eight weeks after the accident occurred, I was called in to see the man. On examination I found a slight swelling of the right leg, slight discoloration at the point of fracture, slight lateral deformity, and marked anteroposterior movements of fragments, *i. e.*, pseudarthrosis. There was no localized pain or crepitus present.

From the above related history and findings I concluded that it was possibly a case of delayed union, due perhaps to improper or partial opposition of the fragments.

Before commencing treatment I had an *x*-ray picture taken of the limb. The plate showed the following: Complete fracture of both tibia and fibula; the point of fracture was at the junction of the upper two-thirds and lower third of the bones. The fibula was fractured transversely, the fragments overriding. The tibia was fractured somewhat obliquely, the fragments being apposed only at the outer angles. The lower fragments showed more than normal separation. There was very slight formation of new bone.

The treatment that I instituted was the artificial production of a venous hyperemia at the point of fracture by means of the tight application of roller bandages above and below the seat of injury. This produced a local reaction and promoted the formation of new bone and callus, and the consequent union of the broken bones.

The congestion of the part was allowed to remain for two hours daily. Phosphorus, gr. 1-100, in pill form, was given three times a day. This treatment was kept up for thirty days. At the end of the first two weeks the patient was encouraged to walk about with the aid of his crutches after the bandages were removed and the local congestion had disappeared. At the end of the third week canes were substituted, and finally, at the end of thirty days, the patient was able to discard entirely the artificial accessories and to bear the whole weight of his body on his broken leg.

Five weeks after commencing this treatment the patient walked twenty blocks (about one mile) to have another *x*-ray picture taken, and did not suffer any inconvenience from this long walk. The second plate showed an abundance of callus and complete union of fragments.

The facts of the case here described leave no doubt in my mind that the rapid and abundant formation of new bone was due entirely to the local reaction excited by the promotion of this venous hyperemia, and that nature would never have done her work in this case, as was shown by the little that was accomplished in eight weeks.

209 Alexander Avenue.

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**Intussusception in Infancy and Childhood.**—J. H. Hess gives the following summary of treatment: Intussusception demands an early diagnosis and immediate treatment. There must be abstinence from all food, and purgation must be absolutely prohibited. The question of sedatives in the form of opium must rest with the physician. Irrigation may be tried once or twice under the proper conditions and in properly selected cases. There must be preparation for immediate laparotomy in case of failure, and complete anesthesia. Hot salt solution or plain water may be used under a pressure of not more than three feet, the fluid being allowed to remain in the bowel not more than ten minutes. The contraindications to irrigation are recurrence after a previous complete or partial reduction; the very acute and severe types of this disease which result in early destruction of the bowel wall, but which cases are fortunately not the most frequent type; signs of beginning gangrene or ulceration, evidenced by subnormal temperature, profound toxemia, and other septic symptoms; enteric intussusceptions. Laparotomy should follow failure of irrigation without delay; attempted simple reduction from below upward; in irreducible cases. Resection within the bowel in selected cases, or, where this is not feasible, resection with end-to-end anastomosis should be attempted where the patient's condition makes it practicable, as an artificial anus or simple packing about the bowel requires a secondary, and only too frequently fatal, operation.—*Archives of Pediatrics.*

**On the Urine Separator of Luys.**—F. M. Caird emphasizes the value of this instrument in various cases of obscure renal trouble. Luys has also shown its value in solving obscure diagnoses in the case of lumbar and other swellings of doubtful origin. This instrument is more easy to manipulate than the cystoscope. The method is within the power of the skilled physician, and may entirely replace the difficult catheterization of the ureters. The instrument should be sterilized immediately before use by plunging it into boiling water for five minutes. Soda will damage the rubber. The patient should assume the horizontal position and the urine is drawn off with a soft rubber catheter. The bladder is then washed out with warm sterile boric solution till it returns clear. No air must be allowed to enter. Thirty to forty grammes of the boric lotion are left in the bladder. There is little pain or difficulty in the passage of the instrument in the case of women. There may be some pain in the insertion of the instrument into the male urethra. If there is the slightest resistance the separator should be withdrawn and the urethra gently dilated with Hegar's bougies. In the process of the introduction of the instrument it may be helpful to place a finger in the rectum or vagina. When the fluid has escaped by the catheters, the patient is raised into a sitting posture on the edge of the table, the thighs being separated and the feet and back supported. The diaphragm is then raised and the contracting bladder grasps the instrument. The urine can then be collected. The diaphragm is lowered by reversing the screw and the instrument is withdrawn. After the patient's bladder is washed out with boric lotion he is sent to bed.—*The Scottish Medical and Surgical Journal.*

**Malaria in the Vicinity of New Haven.**—Charles D. Phelps speaks of his experience in relation to malaria, and summarizes his observations for the past ten years. They lead him to conclude that an attack of malaria is likely to be assumed by the patient, first where a disease is ushered in by a chill or chilly sensations; second, in the acute indigestion in children in Summer; the prompt cure caused by vomiting and purging being credited to the quinine which is at once given; third, almost any condition of weakness, sleepiness, or languor—pregnancy, the effect of bromide in epilepsy, the confinement in bed owing to a broken limb, the after-effects of a night's debauch. All of these are included among the writer's cases in addition to the numerically more numerous class of those who had simply "that tired feeling." The writer believes that results will speedily be apparent if the medical profession will only cooperate. In this climate mosquitos are practically absent during at least five months in the year. No new infections will take place during that period. The writer urges the necessity of giving other medicines a fair trial before using quinine in cases presenting indefinite symptoms. The patient who has malaria should be impressed that his duty is to continue treatment until his blood is entirely free from plasmodia, and he is no longer a menace to the health of those about him. If suitable precautions were taken the writer believes that the malarial problem in this climate would soon disappear.—*Yale Medical Journal.*

# MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

THOMAS L. STEDMAN, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, December 16, 1905.


## THE ACADEMY OF MEDICINE AND THE PUBLIC.

ANNOUNCEMENT is made that on Friday evening, December 29, Dr. Thomas Darlington, Health Commissioner of New York, will deliver a public lecture at the Academy of Medicine on the results of the work of the two commissions appointed last spring to study pneumonia and cerebrospinal meningitis. The early findings of the pneumonia commission were published some time ago, and were interesting, though incomplete, but it is believed that those of the meningitis commission, while no less interesting, contain greater promise of fruitful results.

Apart from the importance of the subject of Dr. Darlington's lecture, the occasion will mark a noteworthy advance in the history of the Academy. The day of secrecy and mystery in the practice of medicine has passed. Public interest in medical progress is acute, and the newspapers give prominence to every new theory and discovery regarding the nature or treatment of disease, such matter being regarded as "news" of the first importance. This fact has been recognized by the Council of the Academy, and it has inaugurated these public lectures through which the public may be taken into the confidence, as it were, of the medical profession. It is the purpose of the Council to furnish a forum upon which medical men of authoritative position can voice the opinions of the profession upon the many topics that possess a common interest to both the layman and the medical practitioner. The lectures are intended to be popular, and, whenever possible, to be illustrated. They will be to the laity what the lectures of the Harvey Society are to the profession—a means of translating to the general body the technical work done by specialists.

Hitherto the newspapers have been forced to rely for their information regarding medical topics of public interest upon interviews with individual physicians, a system liable to great abuses, and one exposing the complacent "interviewees" to the often unjust accusation of "advertising." These public lectures under the auspices of the Academy of Medicine will do away in a measure with the newspaper need of individual interviews, but the principle might, we think, be extended with advantage. The lectures must of necessity be formal and be on prearranged topics, but it often happens that subjects arise overnight upon which the press wishes to be enlightened and cannot wait for a lecturer to prepare his theme and discourse upon it after a proper announcement. To meet such an emergency (the Koch disassociation of bovine and human tuberculosis, the various cancer cures, Behring's consumption prophylaxis, even Burke's radiobe nonsense, are examples) it might be expedient for the Academy to appoint a "publicity committee," composed, say, of a clinician, a laboratory worker, and one other, to which the reporters could be referred for a medical opinion. This committee, which might be anonymous so far as its individual composition is concerned, could be called at an hour's notice and formulate a provisional opinion which would be given to the newspapers as the professional judgment regarding the matter in question. The opinion given might not be final, of course, but it would be provisionally authoritative and would carry more weight than any which might happen to be given by the casual physician. It would satisfy the public, and would spare the "popular doctor" the pain of submitting to an interview on some subject of which he knows nothing, and which the report of his interview shows that he knows nothing.

This is merely a suggestion, but in the meanwhile it is a matter of congratulation that the Council of the Academy has inaugurated these public lectures, which cannot fail to be productive of great good. The tuberculosis exposition, which has just closed, has been of incalculable educational service, but the field of the Academy in public medicine is far greater, and it is hoped that much good will be accomplished by the lecture course which it is about to inaugurate, and by the further extension of this principle of the education of the laity in matters relating to public health.

## PHYSIOLOGICAL STIGMATA OF DEGENERATION.

SINCE the followers of the school of Lombroso first began to direct attention to the prevalence among all classes of individuals bearing on their bodies palpable evidence of certain mental or psychical defects, the study of this subject has developed to lengths that border on the extreme. Measured by the standards of some of the strictest of these censors of the human body, but few mortals would escape being docketed with telltale stigmata of one sort or another, and the happy distinction of inconspicuous mediocrity would be hard to attain. In the fields of criminology and morbid psychology, however, the study of the physical stigmata of degeneracy has proved of signal value, but although the alienist at least has not failed to derive practical benefit from it, the subject has not been brought very prominently before the attention of clinicians. It is true that some similar idea is suggested by the two old antithetical categories of the *habitus phthisicus* and the *habitus apoplecticus*, but these were regarded rather as mutually hostile manifestations of individual conditions, than as expressions of an inherited vice of somatic conformation. Stiller has for many years stoutly held out for a recognition of the etiological significance of such physical types, and in a recent publication (*Berliner klinische Wochenschrift*, No. 38, 1905), he associates the *habitus phthisicus* with the *habitus enteroptoticus*, and considers them as practically identical expressions of inherited weak-

ness founded on the *habitus asthenicus* or *atonia congenita universalis*.

In view of the modern tendency to accentuate the functional aspects of disease, the thought suggests itself that perhaps it may be possible to discover abnormalities of certain functions which can be regarded as physiological analogues of such physical signs as aural asymmetry, reduced facial angle, or high arched palate. Individuals exhibiting such disturbances would not necessarily be sick, and might for years live in apparent health until, at some moment of special mental or bodily stress, more or less slight and temporary aberrations of function would manifest themselves. Albu discusses this subject in the "Ewald Festschrift" of the *Berliner klinische Wochenschrift*, and suggests as possible affections of this decsription achylia gastrica and orthostatis albuminuria. He says that if the history of such patients is investigated with sufficient care it will usually be discovered that the sufferer is the victim of an inherited tendency to some disorder of metabolism, blood dyscrasia, or nervous disease. The abnormality of the patient's immediate or distant ancestors may be pronounced, or may manifest itself only in "irritable weakness of the nervous system," as often indicated by the syndrome associated with the neurasthenic type, of trembling hands, tongue, and eyelids, pulsating abdominal aorta, increased reflexes, floating tenth rib, etc.

In the heirs to such a tendency to disordered metabolism, the weakness may show itself in the special form of a localized disturbance of innervation of separate organs, resulting in damage to the particular function concerned. In illustration of this view, Albu describes cases of simple gastric achylia and orthostatic albuminuria which occurred in one or more children of very neurotic parents. The gastric achylia meant is, of course, the purely nervous form described by Einhorn and not the glandular atrophy depending on organic disease of the mucosa. The author agrees with Martins in regarding this as a form of congenital functional weakness of the stomach, depending on depression of the secretory nerves, and he holds that the custom of considering it simply as a neurasthenic symptom does not concede to it the dignity as a far-reaching entity that it deserves. The condition of orthostatic albuminuria again is certainly not physiological, but on the other hand it cannot be called a disease, since it may persist for years unchanged, and it is therefore to be termed a congenital renal weakness depending on a disorder of innervation of constitutional nature. This view is strengthened by the observations of Langstein, who discovered that in orthostatic albuminuria englobulin was always present, while it was never found in the urine of nephritis. This urinary englobulin is probably identical with that of the blood, and originates in an excessive production of the latter.

In conclusion, the author suggests that hemophilia may be considered in a similar light as exhibiting one of the forms of constitutional anomalies dependent on inherited weakness, and it is not unlikely that by applying a similar plan of reasoning various other affections might be included in the list of the physiological stigmata of degeneracy.

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**The Cascara Harvest.**—The yield of cascara bark from the vicinity of Tacoma, Wash., is fully a thousand tons for the season.

## THE COMMISSIONER OF STREET CLEANING.

Among the appointments which Mayor McClellan will be called upon to make at the beginning of his new term, the one which, next to that of Health Commissioner, concerns especially the medical profession, is that of Commissioner of Street Cleaning. Dr. Woodbury has held this important place for four years, having been appointed by Mayor Low, and serving as a holdover during the present administration. From the standpoint of public health this office is one of the highest importance. The street is a natural receptacle for all sorts of filth; not only does it receive the droppings of horses and dogs, but it is a vast spittoon and a culture medium for all the pathogenic bacteria that infest the air-passages of the sick and the well; it is also often made use of as a urinal, and in certain quarters at night a place of deposit for human excrement as well. If the cleaning of the streets is neglected opportunity is afforded for the pullulation of all the disease-producing bacteria contained in this mass of filth, and the winds and the eddies started by the trolley-cars and automobiles throw the dust containing them into the mouths and nostrils of every inhabitant of the city. The responsibility of the Commissioner of Street Cleaning is, therefore, a heavy one, and an incompetent man may have to answer for the lives of thousands of his fellow citizens, especially of the children in the crowded quarter of the town.

Commissioner Woodbury has effected many reforms in his department during the four years of his incumbency. The wasteful plan, followed from time immemorial, of carrying all the refuse of the city streets out to sea and dumping it there, to be carried by the waves to the beaches of the Long Island coast, has been abolished. The ashes and other non-putrescible refuse are used for filling in parts of the water front, and so creating land of great value, while the combustible portion is used in part as fuel for an electric light plant. Other economies are also practised which entail a saving of large sums to the city.

In the important matter of actual street cleaning, however, candor compels us to say that Dr. Woodbury's record is not one to be proud of. The streets are, and for long have been, undeniably dirty, coated with slime in wet weather or when sprinkled, and giving rise to clouds of offensive dust at other times. This may be due, in part, as alleged, to a lack of funds for the purchase of improved machinery, but the chief cause lies in a failure to employ the material at hand to the best advantage. The street sweepers are not kept up to their work as they should be, and they go about their task in a slipshod and inefficient way that shows an absence of proper supervision. For this the Commissioner is, of course, directly responsible. His energies have been directed too largely to economical reforms to the neglect of the actual work of sweeping the streets. This is beginning at the wrong end. The essential thing, and the one which the Mayor should demand of his Commissioner, if he reappoints him, is to safeguard the health of the city by keeping its highways clean at whatever cost.

### The Tuberculosis Exhibition.

The tuberculosis exhibition, held at the Museum of Natural History, under the auspices of the National Association for the Study and Prevention of Tuberculosis, and the Committee on the Prevention of Tuberculosis of the Charity Organization Society, came to a close last Sunday, after having fully realized the expectations of its promoters. Several noteworthy objects were attained by this wisely planned and carefully executed project. In the first place a very large number of the laboring classes received a highly instructive object lesson in what tuberculosis means, and what can be done to avoid and to cure it even by those in comparative poverty. Most of the visitors were, perhaps, of a class which, while not above the necessity for instruction in matters of hygiene and prophylaxis, yet would be most advantageously impressed by so forceful a demonstration of the crying needs for betterment in the manner of life of the poor of great cities, and were, no doubt, by this direct ocular appeal imbued with a sense of personal responsibility in the matter which would make them willing apostles of the prophylactic doctrines. The great value for public instruction of graphic demonstrations, by models or otherwise, was strikingly illustrated, and it needed but a glance into the full-size reproduction of the tenement house bedroom to prove how much more convincing an argument in favor of reform in the poorer quarters of large cities this was than pages on pages of printed descriptions or statistical tables. The row of jars containing tuberculous lungs, revealing all their impressive phenomena of consolidation and cavity formation, if seen by sufficient numbers, would do more to keep expectoration off the floors of public places than warning notices or threats of arrest. But the most important result accomplished by the exhibition was one which, no doubt, its designers had in mind from the first, but which they wisely allowed to follow as a self-evident conclusion. No one who attended the exhibit and observed the interested crowds of visitors from all stations of society could well escape having the conviction borne in upon him that this should not be a merely ephemeral affair, but should be placed on a more stable basis. If an exhibition of this sort can do so much good with the comparatively small number of people it can reach in two weeks, why should it not be made a permanent affair? The similar collection recently assembled at Charlottenburg has been found by the Berlin authorities so valuable a medium for popular instruction that it is to be continued indefinitely, and we see no reason why the best exhibits of the New York exhibition should not be culled out from the large amount of available material and be accorded a permanent home in the museum building. The idea could, no doubt, with profit be amplified somewhat, and while the tubercle bacillus and its ravages would always form the *pièce de resistance* of the department, additional phases of sanitation and the combat against disease could be made instructive and interesting adjuncts, according to their seasonal distribution. Typhoid fever, the intestinal diseases of children, especially in relation to milk supplies, pneumonia, etc., might all be presented. The expense to the museum in money and space would not be great, and the theoretical and practical advantages to visitors would be fully comparable, to say the least, to those achieved by the beautiful and, no doubt, costly models showing the exact manner in which the Esquimau cuts the blocks of snow for his igloo, or the aboriginal African hammers arrowheads out of barrel hoops.

### Brain Tumor Complicating Pregnancy.

Tumors of the brain are uncommon, and instances of this condition complicating pregnancy are, indeed, very rare. A case of this character has lately been noted by Lobenstine and Welch ("Bulletin of the Lying-in Hospital of the City of New York," September, 1905), which is worthy of mention from the clinical standpoint, because the patient went to term despite the presence of this large growth in the right cerebral hemisphere, and but few symptoms were caused up to the very end of life. For six weeks previously the patient had had indefinite frontal headache and occasional nausea, which gradually became worse and was accompanied by vomiting a few days before admission to the hospital. A history of convulsions and the presence of albumin in the urine presupposed eclampsia—labor was therefore induced and terminated spontaneously. The patient's general condition seemed quite good, and only on the second day a slight irregularity of the pupils was noted. Alternate periods of unconsciousness and tonic convulsions and consciousness were followed by dissolution on the same day. The autopsy disclosed a very large neuroglioma ganglionare, a type of cerebral tumor of unusual occurrence. It is believed that these tumors are the result of disturbances of embryonal development in the brain and, continuing during extrauterine existence, are of extremely slow growth. The only way to account for the lack of symptoms during life is to assume that there developed a compensatory action of other portions of the brain, a process which has been observed to occur with other cerebral lesions of long standing.

## News of the Week.

**The Chicago Medical Society** has inaugurated the plan of having its members deliver popular lectures to the laity on subjects pertaining to medicine. These lectures are well attended, and the people take great interest in them. Recently Dr. George W. Webster spoke on tuberculosis before a large audience. He advocated legislation that would compel the notification of the City Health authorities in all tuberculous cases. By prompt reports, he declared the deaths could be reduced 40 per cent., which would mean 32,000 lives saved annually in Illinois. Every new lease for a flat or a house should have pinned to it a clean bill of health, and the public schools should be made an important center in the campaign against the disease. Rented homes, if there is suspicion of infection, should be disinfected. The school buildings should be constructed with a view to proper sanitation, and the curriculum should not be so crowded that pupils are overworked. The pupils should be given proper information regarding the spread of disease and the means of its prevention. Consumptive teachers ought to be barred, and consumptive pupils should not be allowed to enroll. Better provision should be made for the inspection of meat and milk. Special wards should be made compulsory adjuncts to the hospitals. Isolation houses should be provided, where consumptives too poor to go to private sanatoria might be treated at the public expense.

**Philadelphia Hospital Alumni Association.**—The nineteenth annual banquet of the Association of Ex-Resident and Resident Physicians of the Philadelphia Hospital was held at the Bellevue-Stratford Hotel on the evening of December 5. Toasts were responded to as follows: Blockley

Men in New York, Dr. James P. Tuttle; The Refining Influences of Blockley, Dr. Thomas F. Duhigg; Blockley Men in Military Life, Dr. George H. Halberstadt; Reminiscences, Dr. Roland G. Curtin; Blockley of To-day, Dr. Thea; Blockley as a Center of Medical Teaching, Dr. De Forest Willard. Dr. Alfred Stengel was toastmaster and the following officers were elected for the ensuing year: *President*, Dr. E. L. Duer; *First Vice-President*, Dr. H. C. Wood; *Second Vice-President*, Dr. R. G. Curtin; *Secretary*, Dr. E. R. Stone; *Chairman of the Executive Committee*, Dr. E. E. Montgomery.

**The War on Nostrums.**—At the annual meeting of the New Jersey State Sanitary Association, held at Lakewood, on December 8, Samuel Hopkins Adams, the journalist, delivered an address on the subject of patent medicines, in which he stated that bills will be introduced in the legislatures of New Jersey and other Eastern States this winter, which, if passed, will put the secret preparations out of business. Embodied in these bills are provisions compelling the makers of proprietary medicines to print upon their labels the composition and ingredients of the article, and also fixing the retail price of the preparation according to the actual worth of the ingredients. These bills, Mr. Adams declared, will be introduced by prominent legislators in each State.

**Trouble at the Rutland, Mass., Sanatorium.**—Dr. V. Y. Bowditch, until recently visiting physician to the Massachusetts Sanatorium for Tuberculosis at Rutland, has severed his connection with the institution, owing to a difference of opinion with the trustees regarding the duties of the medical superintendent. Dr. E. O. Otis has been appointed to fill the vacancy.

**Tuberculosis in the Government Departments.**—In response to a suggestion from the National Association for the Study and Prevention of Tuberculosis, President Roosevelt has appointed a committee to investigate the sanitary conditions existing in the government offices and workshops, with a view to recommending measures for the prevention of tuberculosis. The members of the committee are: Surgeon-General Robert M. O'Reilly, of the U. S. Army; Surgeon-General P. M. Rixey, of the U. S. Navy, and Surgeon-General Walter Wyman of the Public Health and Marine Hospital Service.

**The Interurban Clinical Society,** consisting of some of the younger medical men in New York, Boston, Philadelphia, and Baltimore, met on November 10 in the Cornell University Medical College and was entertained by the presentation of some unusual cases illustrating the serum treatment of various disorders. The laboratories connected with this College have lately produced some very valuable sera, and the results of this work were of great interest.

**Dental Surgeons for the Navy.**—A bill has been introduced in Congress by Representative Brownlow to establish a corps of dental surgeons attached to the Bureau of Medicine and Surgery of the navy. The bill divides the dental corps into three grades—"assistant dental surgeon," "passed assistant dental surgeon," and "dental surgeon," who shall have the same rank, pay, and allowance as officers in corresponding grades of the medical corps.

**The West Side Clinical Society of New York.**—A new medical society, with this title, was recently established. Meetings will be held the first Friday of each month, except July, August, and September, at the residences of members. The following officers have been elected for the current year: *President*, Dr. Charles Ross Jackson; *Secretary*, Dr. Charles A. Haffner, *Treasurer*, Dr. A. C. McGuire.

**The Wayne County, Indiana, Medical Society,** at its monthly meeting held at Richmond, Indiana, December 7, elected the following officers to serve for the ensuing year: *President*, Dr. J. N. Study of Cambridge City; *Vice-President*, Dr. T. Henry Davis of Richmond; *Secretary and Treasurer*, Dr. D. W. Stevenson of Richmond; *Board of Censors*, Drs. Charles Marvel and Minnie Hervey of Richmond, and Dr. H. B. Boyd of Cambridge City.

**Water Supply of Illinois To Be Investigated.**—Plans were adopted at a recent conference, which was attended by Edward Bardow, Director of the State Water Supply, J. A. Harmon, Sanitary Engineer, and Dr. James A. Egan, for the investigation of the water supply of Illinois. This investigation will include the sewage purification system and operation in twenty cities of the State.

**The Marine Hospital Service.**—In his recently-published annual report, Secretary of the Treasury Shaw, recommends more or less radical changes in the Marine Hospital Service. The principal retrenchment proposed is the abolition of a number of the hospitals forming a part of the service on the ground that they are conducted at a greater cost per patient than would be required in private institutions. It is alleged that the number of physicians and attendants is out of proportion to the number of patients, the latter being sometimes actually in the minority.

**Nobel Prize Awards.**—The Nobel prizes, each amounting to about $40,000, were distributed by King Oscar, at Stockholm, on December 10. The list includes the following: Physics: Philip Lenard, Professor at Kiel University, for researches into cathode rays. Chemistry: Adolph von Boeyer, Professor at the University of Munich, for researches leading to the evolution of organic chemistry and the development of chemical industry. Medicine: Professor Robert Koch of Berlin, for researches on the prophylaxis of tuberculosis. Literature: Henryk Sienkiewicz.

**Insanity in New York State.**—According to the statistics of the New York State Charities Aid Association, the proportion of insane persons in this city and State is decreasing, for the increase in the number of insane persons committed in the past year had been less than in any year since 1890. The total number was 547, as compared with 927 last year, and an average of 758 a year for the preceding ten years. The number of recoveries was 1,429, as compared with 1,303 for the preceding year. The total number of committed insane in State hospitals and private asylums on October 1 was 27,408.

**Bellevue no Longer a Drunkard's Refuge.**—Inebriates who have been in the habit of going to Bellevue Hospital to recuperate will no longer find a hospitable welcome waiting them. Dr. S. T. Armstrong, Superintendent of the institution, considers it an injustice to give up the clean beds of the wards to patients of this class, and will no longer receive them, unless there is some good reason to entitle them to hospital care. There are cases, however, in which experience is fallacious and judgment difficult, and police sergeants and ambulance surgeons have been in trouble before this over deaths in police stations of persons supposed to be suffering only from alcoholism.

**Charges against a Hospital.**—Charges have been filed with the Mayor of Jersey City by members of the Jersey City Board of Hospital Trustees against the management of the City Hospital. The statement alleges that there is a general lack of discipline in the institution, and that jealousy and discord prevail among nearly all the employees and officers. Reflections are also cast upon the nursing department, and on the care received by the patients.

**Medical Department of the University of Vermont.**—The new building of the medical department of the University of Vermont, erected to replace the old structure, which was burned a year ago last fall, was opened on December 2. The building cost $100,000. The principal address was made by Dr. John B. Grout, Superintendent of the State Hospital for the Insane, at Waterbury; President M. H. Buckham of the university, and Dr. H. C. Pinkham, dean of the medical faculty, spoke briefly. There are about fifty students in the entering class, while the total enrollment in the college amounts to 175.

**Yellow Fever in Havana.**—The outbreak of yellow fever in Havana shows no signs of coming to an end. The number of cases reported exceeds fifty, and at least fourteen deaths are known to have resulted. The quarantine which has been in force for some time against certain United States ports, because of the prevalence of yellow fever at New Orleans and other places, has been raised.

**Railway Surgeons' Association Formed.**—About forty of the railroad surgeons of Kentucky met recently at Lexington and organized a Railway Surgeons' Association. By-laws were adopted and the following officers elected: *President*, D. R. C. Falconer of Lexington; *Vice-President*, Dr. C. H. Vaught of Richmond; *Secretary and Treasurer*, Dr. J. B. Kinnaird of Lancaster. The first annual meeting will be held at Richmond, June 15.

**"The Alkaloidal Clinic"** makes announcement that, with the beginning of a new volume in January, the name of the journal will be changed to the *American Journal of Clinical Medicine*. The journal will remain under the able editorial management of Drs. Abbott and Waugh.

**Appeal for the Foundling Hospital.**—The officials of the New York Foundling Hospital, at 175 East Sixty-eighth street, have issued an appeal for funds. More than 3,000 individuals were cared for last year, and 1,800 are now in its care. Nearly 600 needy mothers have been provided for, and 272 are being taken care of at present.

**A Nitrous Oxide Death.**—A death from this anesthetic is said to have occurred in the office of a Bronx dentist. The patient was stated by his family physician to be a safe subject for anesthesia, but after an alveolar abscess had been opened under the influence of laughing gas, he could not be resuscitated, and died in half an hour.

**The Rockefeller Institute,** it is announced, will soon be housed in its new building, at the foot of East Sixty-sixth street, which will be ready for occupancy early in January.

**Professor von Leuthold,** Surgeon-General of the German Army and the Emperor's body physician, is dead.

**Professor Neisser** has returned to Germany after a nine months' sojourn in the island of Java. The journey was undertaken in order to prosecute studies on the transmission of syphilis to monkeys, which could no longer be continued in Europe on account of the difficulty of getting sufficient numbers of the higher apes required in this work. The results of the observations made are said to be of great interest.

**National Fraternal Sanatorium for Consumptives.**—At the first meeting of the committee appointed by the National Fraternal Congress and the Associated Fraternities of America, officers were elected and it was decided to view the property offered by the Santa Fe railroad for the establishment of a national fraternal sanatorium. This is situated six miles from Las Vegas, N. M., and contains about 900 acres of land on which are located buildings said to be worth $500,000. This property was formerly used by the road as a summer resort, and is now offered free to the National Fraternal Sanatorium. It is expected that the offer will be accepted and that the institution will be in operation not later than February 1, 1906.

**Buchanan County (Mo.) Medical Society.**—At the annual meeting of this society, held in St. Joseph, on December 3, the following were elected as officers: *President*, Dr. O. B. Campbell; *Vice-Presidents*, Drs. C. G. Geiger and O. G. Gleaves; *Secretary*, Dr. C. W. Fassett; *Treasurer*, Dr. J. B. Reynolds.

**Dr. Ménière,** director of the National Deaf and Dumb Asylum in Paris, is dead.

**Dr. Samuel A. Graham,** who has been Chief of the staff of physicians at the Illinois Eastern Hospital for the Insane, Kankakee, for some time, was recently reappointed.

**Obituary Notes.**—Dr. John Matheson of New York City was killed by a revolver shot, fired by the watchman of a building in the course of erection in the Bronx. Dr. Matheson was thirty-five years old and was a native of Prince Edward Island, Can. He was graduated from the medical department of the University of the City of New York, in the class of 1896.

Dr. Evelyn D. Bissell of New Haven, Conn., died on December 9, after a short illness. Dr. Bissell served in the Civil War and was sixty-eight years of age.

Dr. Edward Osborne of East Hampton, L. I., died of heart disease on December 4, at the age of seventy years. Since 1735 his family had occupied the same homestead in East Hampton, and he was universally loved for his charity and kindness to the poor.

Dr. Joseph Berens of Philadelphia, died on December 6 as the result of a cold. He was ninety-two years old and had practised for sixty-four years. He was born in Germany, came to America with his parents in 1839, and received his medical education at the old Medical College of Pennsylvania.

Dr. J. Ernst Meiere of Cripple Creek, Col., is dead, at the age of seventy-five years. He had practised in Colorado for over a quarter of a century. He served in the United States Navy until the Civil War, when he enlisted in the Confederate Army.

Dr. T. B. Hunt of St. Louis, Mo., died at Warsaw, Ill., on November 17. He was seventy-four years of age and was for many years a member of the State board of health of Illinois.

Dr. John S. Arwine of Columbus, Ind., is dead, of heart failure, at the age of seventy-one years. He had practised in Columbus since 1868, and served both as county and city health officer.

Dr. Warren C. McManus of Edgerton, Wis., is dead, at the age of thirty-four years. He was

born in Brunswick, Me., and received his medical degree in 1889. He then settled in Edgerton and had built up a large practice.

Dr. S. A. Owens of Center City, Tex., died on November 19. Dr. Owens was born in 1824, and came from Missouri to Waco, Texas, in 1859, where he practised his profession for about thirty years. He was a veteran of three wars.

Dr. Daniel T. Plumer of Newbury, Mass., died on December 4, of pneumonia, after a long illness. He was born in Newbury on May 4, 1819, was graduated from Dartmouth College in 1840, and received his medical degree from the Harvard Medical School two years later. He retired from active practice in 1860.

Dr. J. D. Searles of Huntington, Ind., died of apoplexy on December 2. He was secretary of the Huntington Board of Health, and had practised in the county for nearly fifty years.

Dr. Morton Grinnell of Milford, Conn., died on December 10, in his fifty-first year. Dr. Grinnell was graduated from Yale in 1875 and four years later from the Bellevue Hospital Medical School. He studied medicine in Europe for a year or more and then settled down in this city to practise. Fifteen years ago he retired and went to Milford to live. After his retirement he wrote several books on nature subjects.

## Correspondence.

### AMERICAN HOSPITAL ECONOMICS.

To the Editor of the Medical Record:

Sir:—Will you kindly allow me space for discussion of Dr. Arpad G. Gerster's interesting article on Hospital Economics in your issue of December 2, 1905? I am in most hearty accord with all he says regarding the need of avoiding waste by careful supervision. But as to the further centralization of hospital service, I want to record a protest—not on personal grounds, as I have my share of attending and consulting appointments and more material for serial study, through the courtesy of other attending physicians, than I have time to utilize, but because European conditions cannot, from our present viewpoint, be duplicated in America. In a certain economic sense it would be better if our hospitals could be concentrated and the services condensed and systematized. In the same sense it would be better for fifty to seventy-five per cent. of the medical profession to be set at productive manual labor, placing all medical practice under Government control and systematizing the work of the profession so that there should be a considerably higher average professional income, no loss of time or worry, and still at a vastly lower aggregate tax upon the community for medical service. I shall not take the time to present the arguments for our present system in the latter regard, but would like to say a few words as to hospital centralization.

First of all, the large, systematized services of European hospitals, though more imposing and more satisfactory from the statistic standpoint, do not impress an American favorably after the first thought. Very few men are capable of personally attending to 400 or 250 (the ordinary European limits of hospital services), or even 100 sick or injured persons. Taking hospital patients as they run and allowing that the physicians in charge of services had no private practice, a service of 100 patients would be about the maximum which could receive careful attention, with assistance from nurses and internes. This number with an ordinary private practice or any greater number without it implies one of two alternatives: Either the man in charge is simply a superior executive officer relegating details to assistants, or the attendance degenerates into a routine, good enough if one is simply looking for statistics as to alimentary glycosuria, movable kidney, duration of sickness, mortality, etc., but not good enough if we consider the matter from the standpoint of the patient demanding individual care and the best chances of recovery with the minimum loss of time and the maximum of comfort. The military system does not appeal to the average American physician. If a man is competent to look after patients at all, except as an interne seeking practical experience, he wants to be independent, to have the care of interesting as well as uninteresting cases, and to be subject only to ordinary necessary supervision. If he is in private practice, as is and long must be the case in this country, barring exceptional conditions, it would be impossible for him to arrange his work so as to act, properly, as an assistant. To a certain degree, however, I would acquiesce in the plea of Dr. Gerster and others for a centralized control of hospital service. Without interfering with the responsibility and independence of the regular attendant, or reducing him to an assistant, I would favor making the consulting staff an active body, instead of using such positions as emeritus consolations or for the purpose of sidetracking possible rivals. In short, I would make the consulting staff exactly what Dr. Gerster wishes to make the regular attending staff for all practical purposes, without detracting from the independence of the latter or imposing upon the former executive responsibilities which they cannot personally assume.

It must be clearly understood that the relatively enormous development of small private and semi-private hospitals and the comparatively large number of divided services in large hospitals in this country do not represent a primary phase of evolution. The early services in this country were large, at least in comparison with the population. The present division of work is directly attributable to the general demand for the retention of cases by physicians and the retention of physicians by patients. So far as any distrust of the application of European hospital methods to America is concerned, and so far as the development of the present system of small hospitals and divided services rests upon other than individual ambition and desire, it is because of the general belief among the profession and the laity that, in some instances, the very men who controlled large hospital services, turned loose upon those of the community who pay for medical care, practitioners to whom they denied the care of ward patients on the ground of incompetence. There is no question but that this view has been based on exaggeration and on what is commonly called soreheadedness; and certainly it would be most unjust to allude to it with any intention of reflecting upon Dr. Gerster, or, indeed, the majority of the men who are pleading for a restoration of large, systematized hospital services. At the same time we must admit that it is, in a considerable, though small, minority of cases, correct.

But the crucial test must depend upon results. With very imperfect State control and, until recently, totally inadequate standards of medical education, America has taken a leading place in medical and surgical art, and recently even in strictly scientific fields of medicine. In my own city, with a total medical population of not much over 600, I can count at least twenty expert abdominal surgeons, including those that radiate toward general surgery and gynecology. Under the system of centralized hospital services it would not be possible to breed six. I do not mention medicine or the various localized specialties, because the conditions are somewhat different, and because my opinions might be considered prejudiced. But the general experience throughout the country is that the number of competent practitioners has been greatly increased by dividing the sources of serial study of cases. My visits to European hospitals have been brief and few, but they seem fairly to justify the conclusion that we are, on the whole, doing better work here. The indexes of medical magazines show that at least 5,000—nearly 2 per cent.—of the total American profession are doing original work of high order, and the conclusion is almost irresistible that not only the practical issues of saving life and recovering health depend upon a large number of excellent physicians and surgeons, but that the aggregate attainment of the profession is elevated by the number of workers in various branches and by the stimulus to research and endeavor that comes from such large competition. It is difficult to believe that either in numbers or standard of excellence could any such results be attained under the European system of hospital service, especially in view of the imperfect methods of undergraduate medical instruction that prevailed when the present leaders of medical thought were studying medicine. We must remember that, except for certain statistical purposes, one gets about the same experience, not only in a crude practical sense, but in the development of a truly scientific attitude, from an experience of 100 as from one of 1,000 cases. One might much better examine and treat twenty patients thoroughly than run through a ward of 200 and try to pick the interesting cases and give only routine attention to the rest. And this statement is true not only from the patient's standpoint, but even more so, though not so obviously, from that of the attendant.

The restoration of the old method of large, undivided hospital services is clearly impossible under present or foreseeable circumstances in America. To many it seems undesirable, for various reasons, except in the sense that what is a large hospital service in a small city may be reasonable in a large one. The aim should be to secure the benefits of both systems by freer use of an adequate consulting staff and by reciprocity and courteous welcome in the case of any one seeking large statistics on any one point of investigation.

Finally, I question whether, in the narrow sense of financial economy, the large, centralized hospital service has any advantages over the moderately small service. Of course some degree of aggregation of patients is necessary, but, after a certain point is reached, will not the per capita cost remain stationary, or even increase, as has the cost of ordinary living in very large aggregations of the healthy population?

A. L. Benedict, M.D.
Buffalo, N. Y.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

WORKERS' SANATORIA—NORMAL CARDIAC CHANGES—INFLUENZAL ENDOCARDITIS—ABDOMINAL TUBERCULOSIS—OSTEOARTHRITIS OF SPINE—A MYSTERIOUS EPIDEMIC—DAMAGES FOR LIBELING A DOCTOR—QUACK DOG DOCTORS—THE LATE MR. CROFT.

London, November 24, 1905.

On Saturday afternoon the Princess Christian of Schleswig-Holstein attended a meeting of the Society for the Establishment and Maintenance of Sanatoria for Workers Suffering from Tuberculosis. She is president of this association and was well supported by "society," while the "aristocracy of labor," as represented by friendly societies and trade unions, appeared in great force. The representatives of these organizations profess to be willing to maintain sanatoria if only the public will build them. At the same time they do not ask for elaborate architecture, and several speakers urged that expenditure on bricks and mortar ought to be rigidly limited. The committee desires to erect one sanatorium and hand it over to working men to run for themselves. The meeting unanimously approved a site of 250 acres, already secured by the committee, for the first sanatorium, and as representing the organizations of workers resolved to maintain the institution when started. I hope the committee will obtain a binding agreement from these organizations, for we know pretty well the difficulty of dealing with trades unions from their recent action. When cast in damages, after a lengthy trial, they at once commenced an agitation to force legislation to protect their funds from attack. This same spirit of injustice and selfishness was again displayed on Monday by a section of those who got up a procession on behalf of the unemployed. Happily that section was small, or it might tend to dry up the stream of charity which has been flowing so freely for these desirable ends—the abolition both of poverty and of consumption. Banners and speeches insulting the donors seem scarcely calculated to impress them with the idea that the deserving sufferers are those who cry "Down with charity!" and "We will take all we can get and demand more."

With regard to these sanatoria it is most gratifying that the workers should themselves condemn excessive expense in buildings. Perhaps the chief blot on this mode of treatment will prove to be the cost. It seems inconsistent to proclaim in all directions the danger of infection and at the same time erect elaborate buildings in which to assemble numerous patients who are declared to be, without exception, foci of fresh infection. A colleague remarked to me the other day that he thought consumption hospitals must swarm with innumerable bacilli against which disinfection could do next to nothing. If so, the sanatorium would differ little and permanent buildings may come to be centers of infection. I suppose their advocates will hardly admit this, but we have had other occasions when time has disappointed what seemed well-founded hopes.

Would it not be more consistent to try at first temporary buildings? Wooden huts have been found sufficient shelter for troops and would, perhaps, commend themselves to the advocates of out-of-doors treatment. They could be burned if they could not be disinfected, and there are methods of saturating them with disinfectants to begin with. Iron buildings again can be taken down and perhaps subjected to heat. Of course it is a question of costliness, and most people hold that bricks and mortar are very expensive. The internal fittings of these buildings ought also to be of a more simple and economical character.

At the Medico-Chirurgical Dr. William Gordon read a paper on the normal cardiac sounds and dullness. He said careful observation showed that change of position produced a change in the character of both sounds, sometimes slight and sometimes more marked. The two sounds were more alike in the upright position, so that the "lup-dup" of the text-books (mostly taken in the recumbent posture) became "lup-lup" in the erect position. He attributed the change to the relation of the valves to the weight of blood in contact with them in the two positions. Further posture affected the deep cardiac dullness. In the erect position this dropped a rib's breadth further from the clavicle and became an inch wider at the level of the fifth cartilage, the increase being greater to the right than to the left.

Mr. Stephen Paget confirmed the observations as change of dullness in the two postures. Dr. Newton Pitt agreed as to the difference, but thought the position of the valve did not affect the dullness which was due to the head of blood above. Dr. T. J. Horder thought gravity could scarcely have any effect compared with that of the pressure within the ventricle.

A paper on influenzal endocarditis was read by Dr. Horder. He had cultivated the bacillus in two cases which appeared to be instances of influenzal septicemia. The blood was taken during life; in one case on four different occasions, in the other on two. In each the bacillus influenza was obtained and no other organism. Both patients died. In one the diagnosis was reached by the cultures six weeks before death, in the other, five weeks. Post mortem verified the diagnosis in both. In both cases the organism obtained before and after death had all the characters of Pfeiffer's bacillus. Clinically, both cases would be regarded as chronic, malignant endocarditis; there was leucocytosis in both and both had had rheumatism. Dr. French thought leucocytosis uncommon in hospital cases and that influenza cases had better not be taken into a ward containing heart cases. Dr. Pitt said such causes were overlooked in an ordinary blood film. At least a syringeful of blood should be cultivated in broth by Dr. Horder's method.

Two cases were exhibited at the Medical Society fifteen and twenty-seven months after operation for tuberculous glands in the upper mesentery. 1. A boy of 12, who for some months had had occasional streaks of blood in the stools and for the last three months attacks of sharp abdominal pain, usually lasting less than one-half hour, but without sweating or vomiting. A movable swelling was found in left loin as large as an adult kidney—no resonance. 2. A boy of 6, with slight swelling in appendicular region, well defined, size of cricket ball. Cases were mentioned which were discovered on operating for hernia and the latency of abdominal tubercle referred to. In one of supposed tubercle of peritoneum adrenalin injected had been followed by recovery.

A case was shown of osteoarthritis of the spine ("Poker Back") in a woman of 36, with a previous history of colitis. She could not bend her back without pain and had to stoop in walking. There was also limitation of movement of costovertebral joints restricting thoracic expansion; no other joints affected. Skiagrams showed nothing. Dr. Buckley did not regard this case as osteoarthritis. He had met several such. Dr. Kauffmann was much interested in the previous history of colitis. He thought the arthritis being limited to the spine noteworthy, and it was probably incurable. Dr. Poynton asked how osteoarthritis was to be defined. He had seen a similar case improve under iodide.

Yesterday a conference of medical officers of health was held respecting a "recent mysterious epidemic in East Herts," which seems to have simulated in various ways and degrees, scarlatina, tuberculous meningitis, influenza and cerebrospinal meningitis. One hundred and sixty-two cases were traced, of which sixteen were fatal. Drs. Dunn and Gordon have sent in reports to the Local Government Board. Dr. F. Freemantle, M.O.H. for the county, presided and said it was pretty certain the epidemic would recur in this and future winters, and therefore important that steps should be taken to study it and notify cases. In the discussion there was some diversity of opinion as to the nature of the disease, but a general unanimity as to the necessity for co-operative investigation into the cases that might be met with this winter.

The reckless manner in which some journalists assail medical men received a sharp lesson at Manchester assizes this week. A local paper charged a doctor with incapacity in having failed to diagnose a case of smallpox, and further with having deliberately hushed up such a case. A plea of justification set up was withdrawn and counsel addressed the jury in mitigation of damages. The jury awarded the doctor £1,000 for the libel.

A member of the British Royal College of Veterinary Surgeons, in a recent interview, said that "the growth of quack dog doctors and bogus medicines during the last few years has been simply appalling. These 'dog specialists,' as they call themselves, are usually dog dealers with good knowledge of canine habits but absolute ignorance of medicine."

Mr. John Croft, consulting surgeon to St. Thomas's Hospital and an ex-vice-president of the Royal College of Surgeons, died on Tuesday, aged 72. He had filled, in due course, the various surgical offices in the hospital and the chairs of clinical surgery and practical surgery in the school. He was, of course, on the council of the College of Surgeons, and also served as an examiner. He had also examined in surgery for the College of Physicians and the University of Durham. He had been retired from active practice for several years.

## OUR PARIS LETTER.

(From Our Special Correspondent.)

CARDIAC WOUNDS TREATED BY SUTURE—PENETRATING GASTRIC WOUNDS CAUSED BY FIREARMS—THERAPEUTIC VALUE OF LUMBAR PUNCTURE IN FRACTURES OF THE SKULL—PROPAGATION OF CHOLERA BY FLIES—A STUDY OF THE FUNCTIONS IN A MYXEDEMATOUS PATIENT—TREATMENT OF SMALLPOX BY XYLOL—NOMINATION OF THE DIRECTOR OF PUBLIC ASSISTANCE.

PARIS, October 31, 1905.

At the Surgical Society Picqué described two interesting cases of cardiac wounds treated by suture and followed by recovery. One patient, a man twenty-four years old, being cut by a knife in the region of his left breast, was taken to the hospital half an hour after the accident and was at once operated upon. As the patient showed all of the signs of internal hemorrhage, with increase of cardiac dullness, a flap consisting of the third, fourth, and fifth ribs was turned back. A section of wounded lung was first discovered, and behind that the pericardium was found to be distended by liquid. When this serous sac was opened more than three hundred grammes of blood flowed out, revealing an oblique wound of the left ventricle. This wound was sutured by means of two strands of silk and the hemorrhage was at once arrested. The pericardium was closed with catgut and the rib flap was returned to its place without drainage. Two days later a hemothorax was evacuated. At the end of three weeks the patient left the hospital, completely cured. The second patient was a woman twenty-four years old, in whom, in the course of an intervention for left hemothorax consecutive to a perforating wound made by the ball from a revolver, was discovered a wound of the left ventricle. As this wound did not bleed it was not sutured, but was simply drained.

Reynier next reported several cases of penetrating gastric wounds due to firearms. These cases recovered without operative intervention. The speaker concluded that in a number of cases of wounds of this nature it was better to refrain from all operative intervention. In those cases following an attempt at suicide by firearms of small caliber, the stomach being in a fasting condition, there was absence of severe hemorrhage and a marked peritoneal reaction; and when the pulse remained good and the temperature normal it seemed that the best method of insuring recovery was by complete rest and strict diet. Ice should be placed over the abdomen and subcutaneous injections of artificial serum should be given. After this presentation, Potherat, Reclus, and Delbet declared that they did not agree with the conclusions of Reynier; judging from facts and statistics, they believed, on the contrary, in laparotomy practiced as quickly as possible in all cases of penetrating wounds of the abdomen.

The next question considered was the therapeutic value of lumbar puncture in fractures of the skull. Tuffier remarked that the therapeutic results of lumbar puncture in cases of fracture of the skull were not constant. Sometimes the results were not permanent and sometimes they were nil. Potherat in one case of fracture of the skull practised lumbar puncture for several consecutive days, and at each operation there was noted a distinct amelioration in the condition of the patient. Terrier had seen a fracture of the skull complicated by violent headache which was very much ameliorated after every lumbar puncture. Guinard had seen only a temporary attenuation of morbid symptoms under the influence of lumbar puncture and never a recovery. Rochard had always noted an amelioration after lumbar puncture which he used systematically in all cases of cranial fracture.

At the Academy of Medicine, Chantemesse presented a communication on the spread of cholera in Europe and its propagation by flies. According to Chantemesse, the spread of cholera presented itself under three very different aspects, each of which demanded the employment of special methods of prophylaxis. The three methods of extension of cholera were transportation to a long distance, propagation from city to city, and, finally, the dissemination from house to house and from individual to individual. The transportation of cholera to great distances did not take place by means of merchandise and luggage, but by means of patients who came from the midst of the epidemic. A great number of these patients showed symptoms of their disease only after their departure. They were affected by a latent microbism, the duration of which might be from six to seven weeks. This fact showed how extremely dangerous were these individual explosions and what an important rôle they played in the transportation to a distance of the cholera germs.

The propagation from city to city was likewise brought about chiefly by those individuals who looked well, but who in reality were charged with a latent microbism. As to the dissemination from house to house and from individual to individual numerous factors were to be considered. Water and variations of temperature certainly played an important rôle in the propagation of cholera. But, according to Chantemesse, there existed a factor more important still which, in the transmission of cholera, played a rôle analogous to that of the mosquito in the contagion of yellow fever. This factor was the fly. The fly, he said, carried about the vibrio of cholera, and his experiments had proved that one could obtain cultures of cholera after seventeen hours from the tubes of the feet of flies and from their intestinal contents. He stated that the house fly could very easily infect food, and so become a powerful agent in the dissemination of cholera.

At the Hospital Medical Society, Garnier and Lebret spoke concerning the renal, intestinal, and hepatic function in myxedematous patients. They said that although the intestines, the kidneys, and the liver did not present any apparent disturbance, they nevertheless performed their functions irregularly. The elimination of methylene blue was slow, tardy, and feeble. The passage of food through the digestive tract took a long time although the patient was not constipated. Finally a dose of sugar syrup, not very large, produced glycosuria. Under the influence of thyroid treatment, instituted during fifteen days, the diverse functions were ameliorated. Methylene blue was eliminated normally by the urine. The carmine given in a test meal was evacuated in twenty-four hours. Glycosuria alone persisted longer, for about twenty-five days.

A communication from Belin concerning the action of xylol in the treatment of smallpox followed. It was interesting to note—after the recent recrudescence of smallpox in Paris—the different therapeutic results obtained in the various treatments of this disease. Belin had, in addition to the classical treatment, administered internally xylol in a dose of from one hundred to one hundred and twenty drops in the twenty-four hours to adults, and from fifteen to forty drops to children. The current mortality fell under this treatment from twenty-four per cent. to twelve and five-tenths per cent. The complications were much reduced and the formation of scars consecutive to smallpox were avoided. The results already obtained by those who have employed xylol internally have confirmed Belin's work and have demonstrated the superiority of this treatment over the preceding methods. Teissier had also proved the good effects of this method of treatment. The period of suppuration of smallpox he declared was decreased, the dessication of pustules was rapid, and did not leave scars behind it. Teissier, nevertheless, made reservations concerning the influence of this medication over the general severity of this disease.

At the Society of Internes of the Paris Hospitals, the Prince of Monaco gave an interesting talk on marine biology. After explaining the scope of oceanography, to the study of which he has devoted himself for a number of years, and after showing what methods and what apparatus were demanded by this work, the prince showed pictures representing most clearly the specimens of the submarine flora and fauna. He then spoke of his work from the bacteriological point of view. He explained the researches which had taken place in recent years in regard to the poison of the sea anemone and of the sponges, the hypnotic effects of which are so curious. He also described the researches of Bertrand concerning the constant existence of arsenic in animal tissues. All of these were based on the experiments made on animals which were taken from great depths in the sea.

Mirman has been appointed general director of Public Assistance and Hygiene in France. He succeeds Henri Monod, who held his place for so long, and who, at his own request, has been allowed to resign.

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## Progress of Medical Science.

*Post-Graduate and Special Journal, Items, etc.*

Operative Treatment of Old Fractures at Lower End of Radius.—An elaborate paper, freely illustrated with skiagrams is contributed by H. A. Lothrop. He considers surgical intervention as usually indicated in cases presenting an unsatisfactory result. During the first three weeks any union which may have occurred can usually be broken up by manipulation under an anesthetic, and suitable apparatus can then be applied as for a recent case. After the third or fourth week the best results are obtained by an osteotomy in the line of fracture, followed by treatment appropriate for a recent case. In fractures which have existed for from two to six months osteotomy should always improve the position and frequently improves the function, although special consideration should be given each case; but after the expiration of six months it is more difficult to correct the deformity. The backward and upward displacement of the lower fragment can always be overcome, but the correction of the lateral

displacement is more difficult and usually requires an osteotomy of the ulna. The function is rarely improved at this time. Hence, interference should be limited to selected cases.

**A Case Illustrating the Value of Persistent Conservatism in the Treatment of Ununited Fractures of the Lower Leg.**—The patient of G. H. Monks was a man of twenty-eight years who, as the result of explosion of chemicals, had extensive loss of bone and soft parts of both legs. Repeated operations were undertaken and bony union was secured about three years after the original injury. Restoration of function did not come until somewhat later. The case is reported for the purpose of showing (1) that union is possible in ununited fractures of the shafts of the bones of the lower leg after very long periods of time and, (2) that even in cases in which the bones are considerably shortened (in this case, fully two inches) the muscles will sufficiently contract to enable the patient to balance himself on his legs.

**A Study of the Gastric Contents in Twenty-One Cases of Tabes; in Three Cases, During Gastric Crises.**—M. P. Smithwick finds that in tabes gastric motor power and HCl and pepsin secretion are depressed more commonly than exalted. No degree of activity of these functions characterizes the disease. In gastric crises of this series reported, HCl secretion and motor power were more depressed than usual, and in the severe painful crises depression of acid secretion was extreme and continued for hours. In one instance there was probably hypersecretion of gastric juice.

*New York Medical Journal, December 9, 1905.*

**A Few Remarks on the Treatment of Puerperal Infections.**—R. W. Holmes' conclusions may be summarized in the following propositions: The battle against puerperal infection is practically won by asepsis and antisepsis and skilled assistants, the same as in general surgery. True autoinfection is rare. Puerperal infection is not a specific disease. Various bacteria may cause it and it may arise in any portion of the parturient canal. Local treatment of febrile conditions without a localization of the seat of infection is an obstetrical crime. At the present time there is absolutely no method of adequately reaching the offending germs in the uterine submucosa or muscularis. The curette cannot discern the locality of the retained remnants of secundines; the finger alone can ascertain this; a placental forceps more easily, more certainly, and with infinitely greater safety, can remove them, under guidance of the finger, and it is a grave error to neglect digital revision of the uterus after any instrumentation for the purpose of cleaning the uterine cavity. Shreds of tissue found in the uterus are not as dangerous as is generally supposed. The use of saline purges, administration of ergot, hydrastis, etc., removes much of the danger or necessity for active therapy; in a day or two the danger is often past, for, like a baby, the lying-in woman is often subject to evanescent febrile elevations.

**Pyelonephritis and Ulcer of the Esophagus Complicating Pregnancy.**—The patient of L. T. Le Wald was a woman of twenty-nine years in the sixth month of the first pregnancy. Extracts from the daily bedside notes are given from which it is learned that her illness began four weeks before death with nausea and vomiting, followed by epigastric pain. Then appeared irregular chilly feelings, sweating, pain in the back, and prostration. The temperature ranged from 99° to 103.5°; the morning temperature being generally low, the afternoon one high. No chills were noted after the first week. Vomiting was present throughout the illness; so was persistent pain beneath the sternum after the first few days. The pulse remained of good quality and under 100 until the second week of illness, after which it remained most of the time above 100. Constipation was present, but yielded to daily enemata. The immediate cause of death appears to have been exhaustion following uncontrollable hematemesis. Autopsy revealed an acute purulent inflammation of the right kidney. The esophagus presented a circular ulcer, one and a half centimeters in diameter, on the posterior wall, about five centimeters above the diaphragmatic opening. It had nearly perforated the posterior wall of the tube, and a small artery on its floor had been eroded. The cause of this ulceration could not be made out. It may have been due to infection coincident with that of the kidney or to a septic embolus. Lessons to be drawn from the case are: (1) Examination of the urine drawn by catheter should be made in all cases of suspected pyelonephritis, to be followed by cystoscopy and catheterization of the ureters in cases which still remain doubtful. (2) Examination of the blood for leucocytosis, its presence favoring a diagnosis of pyelonephritis. (3) Early consultation, with a view to operative interference in cases not yielding promptly to medical treatment. Choice of operation to be directed to the affected kidney rather than to the interruption of pregnancy. (4) Continued pain located in the chest just beneath the sternum in its lower third part, plus persistent vomiting, appear to be indicative of ulcer of the esophagus. (5) The combination of esophageal ulcer and pyelonephritis seems to have been simply coincident. The pyelonephritis is believed to have been dependent upon compression of the ureter by the pregnant uterus aided in this case by an anterior and lateral curvature of the spine in the lumbodorsal region.

*Medical News, December 9, 1905.*

**The Frequently Malign Nature of Chronic Hoarseness.**—This point in the diagnosis of malignant disease of the larynx is discussed by Chevalier Jackson, who states that success in thyrotomy is conditioned directly on early diagnosis. Endolaryngeal methods of operation are worse than useless, for they induce local spread and metastasis unless they result in radical extirpation which by this method is often impossible. Two cases are related in one of which a total laryngectomy was done with fatal cervical pulmonary and hepatic metastasis eight months later. In the other a thyrotomy was done and the patient is now alive after an interval of four years. In both the special symptom, when the cases came under observation, was hoarseness. The first patient refused operation until late, while the second one was operated on early. Jackson observes that the early curable stages of cancer of the larynx are characterized by nothing but hoarseness, which may come and go. Cough, odor, pain, odynphagia, glandular involvement, external swelling, emaciation, cachexia, etc., are present only after the curable stage is passed.

**The Relation of Incontinence of Urine to Neurasthenic Symptoms, and Its Treatment by the Isolated Induction Shock.**—A. D. Rockwell calls attention to the unsatisfactory results of treatment of this annoying malady. He has therefore employed electricity and gives his results in fifteen cases. Of these, seven completely recovered and without relapse, four were greatly benefited but have suffered various relapses and cannot be claimed as perfect recoveries, while four disappeared from observation before the remedy was given a fair trial. He prefers currents of low tension but of appreciable magnitude to those of high tension with a magnitude altogether negligible. The positive electrode may be applied to the sacrum and the nagative in the shape of an olive-shaped bulb may be passed through the urethra to the sphincter vesicæ. Isolated induction shocks (secondary current) may be given about once every five seconds. Sittings are given at first on alternate days; later less frequently. If the contractions of the abdominal muscles following the current interruption are not objectionable, the positive electrode may be thus employed. A slowly interrupted faradic current does not answer the purpose at all, but we must employ the isolated induction shock.

**Syphilitic Fever.**—J. A. McKenna gives the history of a child of nine years, sick for three weeks, the diagnosis being typhoid fever. The author, when called, noted on the tongue lesions suggesting inherited specific disease. Evidences of bone pain were located in the forehead and shins. Five days' administration of mercury and the iodide brought the temperature and pulse to normal, and two days later all the pains in the head and legs had disappeared. The only evidence of inherited specific taint brought out on tracing the family history was that the paternal grandfather had had necrosis of the tibia. The author thinks that if evidences of syphilis were more often looked for in continued fevers of a doubtful character, or, as a chance, specific treatment given the patient, doubtful diagnosis would frequently be speedily made definite.

*American Medicine, December 9, 1905.*

**The Comparative Study of Various Forms of Tuberculosis.**—Mazyck P. Ravenel states that (1) the division of mammalian tubercle bacilli into two types, human and bovine, first proposed by Theobald Smith in 1898, has been amply confirmed. These types have cultural, morphological, and tinctorial characteristics by which they may usually be recognized. The chief point of difference, however, is found in the very much greater pathogenic power of the bovine type. Bovine bacilli are, however, met which have low pathogenic power. (2) No other species of mammal has been shown to harbor a variety of tubercle bacillus so constant in its characteristics as to justify its classification as a third type. (3) Other species suffering from tuberculosis derive their infection from man or from cattle. (4) The human tubercle bacillus, as a rule, has a low pathogenic power for cattle, but cultures are not infrequently found which are virulent for the bovine race. (5) The bovine tubercle bacillus has the power of invading the human body and producing the lesions of tuberculosis. (6) We are at present unable to

state the exact proportion of cases in which bovine tuberculosis is transmitted to man, but in view of the evidence at hand we must regard the disease in cattle as the source of a certain part of human tuberculosis, and any relaxation in our laws and precautions against bovine tuberculosis would be most unwise.

**Cerebral Hereditary Syphilis.**—William J. Butler says the nervous system is attacked by hereditary syphilis in a considerable proportion of cases, sometimes without cutaneous lesions, the disease remaining latent until puberty or later. The pathological conditions include cranial osteosclerosis, periosteitis, meningitis, endarteritis, thrombosis, as well as atrophy, sclerosis, and softening of the cerebral cortex. The symptoms are recurring convulsions, severe headache, worse at night, and impaired intelligence. Later the epilepsy may disappear. Hemiplegia frequently develops and the patients may become paralytic idiots. Partial motor paralyses, aphasia, and disturbances of the special senses may occur. Mental deficiency, occasionally congenital, usually develops at a later period of childhood. Prognosis is unfavorable unless the condition is recognized and treated in its early stages. Congenital syphilis should be vigorously treated with mercury during the prevalence of cutaneous manifestations and, when nervous symptoms develop, potassium iodid, or if this disagrees, iron iodid, should be added.

**The Restriction of Contagious Diseases in Cities.**—Charles V. Chapin states that during the last twenty-five years health officials have been striving to make more and more stringent the measures adopted by them to prevent the spread of infection. This has been done in the belief that it is possible to control all infected persons. Evidence is presented that this is entirely impracticable. The most important discovery of modern epidemiology is that the principal mode of extension of infection is by means of well persons who are the bearers of the germs of disease. These unrecognized sources of infection we can never hope o control, and hence we can never hope to stamp out these diseases by isolation and disinfection, but only somewhat reduce their prevalence. This can be done by milder measures than those now in vogue. The specific measures to be adopted in different diseases are then discussed.

*Journal of the American Medical Association, December 9, 1905.*

**Landry's Paralysis.**—R. McGregor reports a case of Landry's paralysis, and discusses its etiology and pathology. While he considers it to be due to a toxemia, specially involving the anterior spinal horns, he thinks it probable that in very virulent intoxication the peripheral nerves may also be implicated in a secondary way, and a multiple neuritic condition coexist. These are the cases that, perhaps, give most trouble in their diagnosis. The very high mortality of this disease, however, is in striking contrast with those disorders, multiple neuritis and anterior poliomyelitis, with which it is most liable to be confounded. In the case reported, the attack seemed to follow vaccination, it was preceded by chilly sensations, fever, sweatings and vertigo, and the rapidly ascending paralysis within a week from its first appearance had involved all four extremities, the muscles of speech and deglutition and the ocular muscles. There was also cardiac irregularity and dyspnea, but there was no pain or nerve tenderness, and no fever after the stage of onset. The patient slept well and took a fair amount of nourishment. The bulbar symptoms began to improve after two months, but recovery was not approximately complete until after two years, and the patient has not yet attained his former weight by thirty pounds. There is still a slight footdrop, most marked on the right and the knee jerks have not returned. In the treatment the best results seemed to follow the use of a simple solution of the glycerophosphate of iron with small doses of strychnine.

**Multiple Neuritis.**—D. I. Wolfstein gives reports of four cases of multiple neuritis illustrating the main etiologic types; *i.e.* those due to toxic agents, such as alcohol, mercury, and lead; those due to acute infections; those connected with general diseased conditions of the body, such as rheumatism, diabetes, and syphilis; and last, cases due to exposure to cold or developing apparently without determinable cause. He remarks on some points in the differential diagnosis, such as the involvement of motor fibers, the symmetrical character of the paralysis, the usually simultaneous affection of the legs and forearms, usually not extending to the thighs and upper arms and never except in fatal cases involving the abdominal and respiratory muscles. The prognosis, save in the acute grave cases, is relatively good. In patients with chronic alcohol or lead intoxication, with impaired constitutions, we can hope for only a partial recovery if any. Rest and appropriate nutrition are the principal indications in treatment. In the early stages the salicylates are useful. Light wrappings and soothing applications for the hyperesthesia are also of use. Special causal affections and intoxications, of course, call for appropriate treatment. Judgment is needed in case of alcoholism as to the continuance or withdrawal of the stimulant. With chronic cases strychnia, arsenic, gentle massage, and the galvanic current may be useful in aiding repair of the nerve and in keeping up the nutrition of the muscles.

**Proprietary Medicines.**—H. P. Loomis calls attention to special objectionable features of proprietary medicines, the secrecy, the commercialism, the dressing up of old remedies with new names, and sometimes the fraudulent recommendations. He sent circulars of three proprietary medicines, widely distributed and pretending to give concise details involving chemico-physiological facts, to three well-known physiological chemists asking for a simple explanation of the reading matter. The answers were essentially the same in each case that the pretended concise descriptions were largely mere jumbles of words without meanings. He asks how the average physician can discern the truth when the expert fails.

**Proprietary Remedy Nomenclature.**—C. S. N. Hallberg criticises the unscientific and unsystematic nomenclature of proprietary medicines, illustrating his points by lists of names showing the imagination, or lack of it, on the part of the originators, and also by samples of names of entirely distinct preparations that are so similar as to be liable to cause confusion. He further shows that some of these names so prominently before the profession and the public are practically only synonyms of regular pharmaceutical preparations, and therefore deceptive. Thinking physicians would better appreciate these remedies if they were sent out under their proper designation, and the name of a reputable manufacturer is the best possible trademark for the protection of the public.

**Tinnitus Aurium.**—W. S. Bryant discusses the propriety of dividing or destroying the auditory nerve trunk for the relief of specially severe cases of tinnitus when it can be determined that this nerve is the seat of the disturbance. He describes a method of procedure suggested by Dr. Carlton Flint, which he has followed a number of times on the cadaver and which he considers has certain special advantages; he also reviews the reported cases, reproducing some of them in rather considerable detail. He has reached the following conclusions: "1. Carefully selected cases of tinnitus, with nerve stimulus located in the peripheral end of the auditory nerve, offer a good prognosis for cessation of the tinnitus after the section of the eighth nerve. 2. A technic which offers little inconvenience from hemorrhage, no danger from bony spicules and a minimum of evil from compression of the cerebrum, or especially of the cerebellum, gives a good prognosis of recovery from the operation and in selected cases a cessation of the tinnitus. 3. If, after appropriate general and local treatment, grave tinnitus still exists, we are called on to recommend the section of the auditory nerve, provided the source of the tinnitus is believed to lie in the peripheral portion of the auditory nerve. 4. Section of the acoustic nerve will be as effective for the cure of aural vertigo as for peripheral tinnitus."

*The Lancet, November 25, 1905.*

**Opium in Cases of Spasm with Hypertrophy of the Pylorus in Infants.**—N. Neild reports two cases which tend to support the theory that congenital hypertrophic stenosis of the pylorus is the rapidly acquired result of frequently recurring pyloric spasm. His patients were aged five and eight weeks respectively. In the first case the characteristic gastric waves were plainly evident after feeding. On account of the marked action of opium on the spasm of unstriped muscle, this remedy was selected, though the author had fully in mind the susceptibility of infants to this drug. One minim of the tincture was added to ten ounces of water and one teaspoonful of this was given twenty minutes before each feeding. Improvement at once set in. The dose was diminished one-half, and complete recovery ensued. A second case was treated in an equally successful manner, though it was necessary to double the initial dose mentioned above. The author, while loath to claim too much from this limited experience, advances the following propositions: (1) Some cases of spasm with hypertrophy of the pylorus may be successfully treated with opium in the ordinary routine of the hospital out-patient department. (2) In some cases modification of the diet, stomach washing, and tube feeding are not necessary to the cure. (3) No case should be subjected to an operation until opium has been tried, unless, possibly, some other antispasmodics, such as the belladonna group, have been found to be equally efficacious.

**Ethyl Chloride as an Anesthetic for Infants.**—A plea for the use of ethyl chloride in pediatric practice is made by F. Murray, who has administered it for anesthesia to 150 infants under a year old. A large proportion were only a few weeks old, and one only five days old. It is of service in cases of respiratory embarrassment. Em-

pyema, pharyngeal abscess, tenotomy, sounding adenoids, polypi, circumcision, etc. The effects of the remedy are described in full, together with the special form of apparatus the author prefers. The periods of induction of and recovery from the narcosis are so short as to lessen the tendency to shock, and they greatly improve the chances of a patient in a bad condition. It is considered superior to and less dangerous than chloroform for use with babies. The smell of the drug is not obtrusive, and it is such a strong respiratory stimulant that the patient does not require to make any effort; on the contrary, it promotes respiration against his will. Herein lies its chief danger, for if large doses overstimulate the respiratory center and cause a tonic contraction of the diaphragm the patient may die from paralysis of the respiration. This event is liable to occur soon after induction, the heart remaining unaffected.

**Traumatism as an Exciting Cause of Acute Appendicitis.**—The histories of four cases are summarized by F. A. Southam. Case 1 was a boy of nine years, struck on the abdomen by a playfellow. Operation on the fourth day, perforated appendix, pus in the abdomen, and death twelve hours after operation. Case 2: A boy of seven years who fell on the abdomen; operation on the third day; foul pus in the peritoneal cavity, appendix not seen; general condition too grave to search for it; recovery. Case 3: A boy of twelve years fell on the abdomen at a swimming bath, striking the water flat. Was admitted to hospital on the fourth day. In the course of three or four days the abdominal symptoms, suggestive of appendicitis, subsided. In the course of two months all abdominal induration had disappeared. No operation was done. Case 4 was a boy of fifteen years who strained himself at jumping. On the evening of the third day symptoms of general peritonitis were present. The next day the abdomen was opened and found full of pus. Death followed in twelve hours. Southam notes that if violence is applied to the abdomen over the region of an appendix which contains a fecal concretion it can readily be understood that the wall of the appendix at this spot, probably already somewhat damaged by the presence of the concretion, then becomes so injured that it suddenly ruptures or an attack of acute inflammation is set up, which may quickly terminate in ulceration and perforation. It is also possible that an appendix which is completely stenosed at some point in its course and distended beyond with a mucoid or mucopurulent fluid—a condition which is not at all uncommon—may suddenly rupture as the result of violence applied to the abdomen and its contents become extravasated into the peritodeal cavity.

*British Medical Journal, November* 25, 1905.

**Dyspepsia.**—Robert Hutchison declares that the only satisfactory classification of the diseases of the stomach or any other organ must be either anatomical or physiological. The positive functions of the stomach are secretion and movement; its negative function is not to feel, that is, insensibility. The secretory functions of the stomach can be investigated by means of a test meal and the stomach tube. The tube is also useful in studying the motor functions of the stomach. For the presence of food in the stomach when this organ ought to be empty indicates impaired motility. Percussion and auscultatory percussion with or without preliminary inflation, will aid the physician to gain a fair idea of the condition of the motor function. Any increase in size of the stomach is the result of interference with its motor power. In order to test for "atony" a dose of 75 grains of tartaric acid followed by 120 grains of bicarbonate of sodium is given. If the vertical diameter increases by more than 4 c.m. some degree of atony exists. As to the third function, it must be remembered that the stomach is normally insensitive to all ordinary degrees of stimulation. If when there is no lesion of the mucous membrane any real pain is felt during digestion this must be taken as evidence of increased sensibility. In speaking of the treatment of dyspepsia the writer mentions four methods. General measures such as rest, exercise, massage, hydrotherapy, and electricity may be indicated. Cases in which the function of the stomach is disturbed are much affected by nervous influences. Mental and physical rest are most important in such instances. Many times a dyspeptic patient is relieved at once of most of his complaints by rest in bed. Exercise is far less useful than rest, riding being probably the best of all forms of exercise. Walking, especially in a mountainous country, and golf are very helpful. Especially abdominal massage is of great aid in promoting motility of the stomach. In hyperesthesia, however, it is positively harmful. The writer believes that dietetic errors play but a small part in the production of dyspepsia. As to drugs, he states that one has merely to determine what function is perverted and how, and then to make use of the drugs which are known to act on that function. He believes that in purely functional dyspepsia surgery can be of little if any use.

**Portal Pyemia and Pylephlebitis.**—W. Langdon Brown presents the following conclusions: A collection of pus within the portal zone is the principal cause of portal pyemia. Ulceration of the alimentary tract is important only as being a frequent precursor of such a collection. Signs of portal obstruction are the exception in suppurative pylephlebitis. There are no signs by which we can distinguish with certainty cases of portal pyemia with suppurative pylephlebitis from those in which the vein is not involved. In "adhesive pylephlebitis" the essential feature is the occlusion of the vein, and this may be produced by a variety of causes, among which sepsis is not an infrequent one. Therefore, if our terminology is to accord with pathological conditions so far as they can be determined during life, we ought to speak of two conditions, portal pyemia and portal occlusion, remembering that we may meet with cases of portal pyemia with occlusion.

**A Hitherto Undescribed Change in the Urine of Patients Suffering from Nephritis.**—Marc Armand Ruffer and G. Calvocoressi define a weak hemolytic serum as one which in an 83 per cent. solution does not hemolize a given quantity of red blood corpuscles, but produces slight hemolysis in more than one hour. A strong hemolytic solution is one which added in the same proportions, dissolves blood corpuscles completely in less than one hour. In the experiments of these writers, however, when added in such proportions, all the strong (control) hemolytic serums but four dissolved the blood in less than five minutes. Even when diluted they acted very rapidly, generally in less than five minutes. The object of the investigation recently undertaken by the writers was to ascertain whether pathological urines contained more or less lysogen than normal urines. They have previously shown that the substances (lysogens) producing a hemolytic serum dialized slowly, were totally insoluble in ether, almost insoluble in alcohol, were precipitated from urine by saturation with ammonium sulphate or lead acetate, showed great resistance to the action of heat, but were quickly destroyed by acids or alkalies. A report of the results obtained in sixteen patients is given here. All but two of the patients, whose urine was injected into rabbits, were typical cases of chronic nephritis. The two exceptions were cases of acute diphtherial nephritis. The urine of one patient produced a strong hemolytic serum. The urine of four patients produced weak hemolytic serums. The urine of eleven did not produce hemolytic serum. There were sixteen control experiments, and in every case the urine produced a strong hemolytic serum. The only conclusion drawn at present by these investigators is that the physiological action of the urine of cases of chronic and diphtherial nephritis is, in the large majority of cases, very different from the action of the same quantity of healthy human beings.

*Berliner klinische Wochenschrift, November* 20, 1905.

**Injuries to the Eye After Paraffine Injections.**—Uhthoff reports two cases in which serious results followed the injection of paraffine for the purpose of correcting saddle nose due to trauma. The first case was that of a young woman who in the space of thirteen months received three injections of paraffine having a melting point of 43° C. Immediately after the injection she suddenly found that she was unable to see anything out of the left eye, and this unilateral blindness remained permanent. Ophthalmoscopic examination has left no doubt of the fact that it is due to an embolism of the central artery. The author supposes that a particle of the paraffine must have slipped through the pulmonary capillaries while still in the fluid condition, and have thus reached the arterial system. He refers to several other cases of the same accident, one of which was explained on the supposition that there was a patent *foramen ovale*, but considers that this explanation is rather improbable. In some of the reported cases the resulting lesion apparently was a thrombosis of the ophthalmic vein rather than a blocking of the central artery. The author's other instance of blindness following the use of paraffine occurred in a middle-aged man who after an injury to the nose, caused by the kick of a horse, received several prosthetic paraffine injections, presumably of low melting point. After working out of doors on a very hot day he complained of an itching about the eyes, and soon became unable to open them on account of swelling of the upper and lower lids. This finally reached such a point that only by forcible separation with the fingers could he cause sufficient opening to permit any vision at all with the right eye, while with the left even this was impossible. On excision of the tumors some months later they were found to consist almost entirely of dense fibrous tissue containing many giant cells and but

little paraffine. The *orbicularis* and the *levator palpebræ* muscles had also been largely replaced by fibrous tissue. The author believes that the irritation due to the presence of the paraffine gave rise to this severe production of inflammation with its resulting disastrous consequences. By the operation sufficient space was gained to permit of satisfactory vision, but the resulting deformity was very great. While not condemning the use of paraffine injections altogether, the author urges the necessity for the exercise of every possible precaution to prevent the occurrence of such unfortunate accidents.

**Prostatic Hypertrophy and Diabetes.**—Posner states that during the past ten months in examining thirty cases of prostatic hypertrophy from his private practice he five times detected the presence of sugar in the urine. This leads him to the conclusion that it is highly important to examine all prostatics for glycosuria and also to investigate the condition of the prostate in all diabetic patients. He believes that the two diseases occur together much oftener than is ordinarily supposed. This is not alone because they are both common diseases but also because he believes that there is a special connection between arteriosclerosis and diabetes, and prostatics, it is well known, are usually arteriosclerotic. If a patient who is being treated for diabetes complains of bladder symptoms they are usually ascribed to the constitutional disease, while an excessive secretion of urine or the existence of a high specific gravity in a prostatic is apt to be credited to the account of the local lesion. In this way the joint existence of the two diseases is easily overlooked, and the author calls attention to a recent instance in which a case of prostatectomy died of coma immediately after the operation as an indication of the great importance of detecting the complication when it exists.

*Münchener medizinische Wochenschrift, November* 21, 1905.

**The Relation of the Concentration of Photodynamic Substances to their Effectiveness.**—Jodlbauer and Tappeiner report on the results of some studies undertaken to determine the concentration at which a maximum of effect may be obtained from solutions containing photodynamic substances. Solutions of potassium iodide and invertin containing known graduated amounts of fluorescent bodies were subjected to the action of sunlight for definite lengths of time. On estimating the amount of chemical change produced it was found that at a certain concentration a maximum result was obtained, and that stronger or weaker solutions proved less effective. For eosin the most favorable strength was 1-2000 of a normal solution. From these observations the authors conclude that in making therapeutic use of fluorescent substances the effort should be made to bring the fluid into the tissues in its optimum concentration. With eosin, whose molecular weight in grams is 692, this would be a .04 per cent. solution. If the tissues were simple fluids the required dilution would be obtained by applying the eosin solution in double strength. Owing to the laws of osmosis, however, the protoplasmic cells can be more rapidly acted on by stronger solutions, but their use is contraindicated owing to the absorption of effective rays that takes place in thicker layers of the fluids. Therefore, more concentrated solutions are suited for local applications only when thin layers of tissue are to be treated, and the solution is used sparingly.

**Changes in the Clinical and Operative Point of View Regarding Uterine Myomata.**—Sippel says that of recent years uterine myomata have come to be regarded in a somewhat different light. It is being recognized that although of themselves benign, yet they can give rise to more serious conditions than was formerly supposed. Accordingly, the operative indications are constantly being broadened, especially for patients in the poorer walks of life, who are dependent on their own exertions for a livelihood and cannot afford the time or expense required for palliative treatment. He formulates the indications for operative intervention as follows: Every myoma causing symptoms of any sort demands medical observation and treatment. If it causes profuse hemorrhages, which give rise to persistent and notable diminution of the hemoglobin, if it grows rapidly, particularly if intraligamentary in position, if it causes pain or serious discomfort, if it leads to compression of structures in the pelvis, gives rise to severe damage of the heart muscle, or should become broken down, it should be made the ground for prompt operation. The age of the patient is an important factor to be considered, for in a woman near the menopause expectant therapy for a time is justifiable, while with a woman in the child-bearing period, radical intervention should not be too long deferred. The author gives the statistics of twenty-seven cases of myomata operated on during the last eighteen months. Five were dealt with by the vaginal route, the others abdominally, and all made uncomplicated recoveries.

**The Processes of Self-purification in Water.**—Hofer describes the results of a series of investigations undertaken to determine the manner in which self-purification takes place in the isar, which receives a large amount of sewage from the city of Munich. From an analysis of the conditions present, he concludes that the factors to which considerable importance is usually ascribed, such as chemical changes and the action of bacteria have but little influence on the disposal of the organic matter contaminating the stream. He attaches a much greater significance to the presence of the huge numbers of minute animal forms of many sorts which occur close to the river bottom below Munich, whereas, they are rather scanty in the stream above the city. He furthermore believes that in contradistinction to the usual view self-purification is not most active in rapidly flowing cold waters, but is more effective in sluggish or stagnant warm bodies of water. In conclusion he suggests for the disposal of sewage the establishment of huge ponds in which the processes of sedimentation, etc., could go on undisturbed, and from which a certain amount of useful return could be obtained in the shape of the large production of fish that could easily be secured.

*Deutsche medizinische Wochenschrift, November* 23, 1905.

**Preliminary Observations on the Results of a Journey of Investigation to Eastern Africa.**—R. Koch was able, in addition to pursuing his investigations on the coast fever of cattle, which were the chief object of his trip to Africa, to study the nature of several other blood infections in man and animals. In this preliminary report he briefly describes first, his observations on the African form of relapsing fever. The spirochete of the disease is transmitted by the bite of a tick which is found in the earth floors of the native huts. It emerges only at night and then feeds on human blood. Koch was able to detect an increase in the number of spirochetes within the body of the tick, the multiplication apparently taking place on the surface of the ovary of the insect. Another part of his studies was concerned with the development of the *Piroplasma bigeminum*, the inciting agent of Texas fever. On studying the stomach contents of ticks fed on the blood of infected cattle, a number of different phases of development of the protozoon could be traced and are described and illustrated by the author. Somewhat similar developmental stages were also detected in the parasites of coast fever, although these do not appear to be true members of the group of piroplasma. Further observations on the tsetse fly and the trypanosomes of cattle revealed the manner by which the infection is transmitted. It appears that the infected flies extrude in the act of biting a minute drop of fluid, which on microscopical examination was found to be swarming with trypanosomata. As the organisms were much more numerous in this fluid than they ever are in the blood, it was evident that the organism goes through a developmental stage in the fly, and is not merely transmitted from one animal host to another through the agency of the insect as was formerly supposed. Koch also describes and figures the results of his study of the various phases through which the parasite passes, one of the most interesting of which observations is the fact that there is a possibility that microgametes are formed as with the malarial organism, though it is not certain whether or not copulation takes place.

**The Obstetrical Management of Placenta Previa.**—Fritsch says that in his thirty-five years of obstetrical practice the cases of central placenta previa form conspicuously the most terrifying recollections. In spite of experience, practice, and carefully considered treatment, one is always likely to encounter cases that end unfavorably, yet in which the prognosis appeared good. Obstetric art has not yet reached the point at which as soon as the diagnosis of placenta previa has been made the calculable dangers of vaginal cesarean section are to be preferred to the uncertainties of the older treatment. In cases of sudden hemorrhages of considerable size, from the genitals placenta previa is always to be suspected. A distinction must be made accordingly as the blood appears to be fresh or old; if the latter, the immediate danger is over and expectant therapy is permissible, but if the hemorrhage is still persisting active intervention is necessary. Usually, even today, vaginal tamponade is the proper measure, but this must be properly carried out. The patient must be placed in the lateral position and the entire vulvar district be thoroughly disinfected. The packing material must be moist, and is best introduced only with the fingers, as the tissues of the genital canal are so friable in pregnancy that the use of instruments is always attended with great danger. The packing must be carried out so as completely to fill the pelvis; the rectum and

bladder, of course, having been emptied before the operation was begun. The thighs are then bound together, the pulse is watched, and the onset of pains is awaited. Usually the pressure of the tamponade causes this to occur without much delay, and if the packing is expelled by the patient's bearing down the cervix will be found sufficiently dilated. If the child is dead or is not viable, extraction is performed with the cranioclast in order to avoid cervical tears. The most difficult cases are those in which the hemorrhage is severe, the child is living and the cervix is undilated. If the membranes can be reached, they are ruptured and the onset of pains is encouraged by massage of the abdomen; if the case is one of central placenta previa, however, the cervix must be dilated either instrumentally or by hand until the placenta can be perforated and version performed. The danger of cervical tears is always great and the utmost care in extraction is necessary to avoid the deep lacerations that so easily give rise to fatal hemorrhage.

*American Journal of the Medical Sciences, October,* 1905.

**Surgical Intervention for Intracranial Hemorrhages of the Newborn.**—Harvey Cushing says a newborn child with regard for hemotasis and careful avoidance of exposure will stand a cranial operation well. He points out the immense amount of traumatism that every child has to undergo while making its entrance into the world. He adds that it would seem reasonable to expect that a careful operation, provided there is no loss of blood, would be no more serious. He believes that coagulation is as rapid in the newborn as in the adult. In all of his cases the effused blood was found to be clotted. He reports four cases in which he has operated. In one of these cases there seemed little question as to the presence of an intracranial hemorrhage though there was considerable doubt as to its exact situation. As the writer states the history of a sudden non-pulsating protrusion of the eyeball with great edema of the lids and conjunctiva—a condition rarely if ever met with except after cavernous sinus thrombosis—made it seem most probable that there was a basal fracture with resultant laceration of this vessel which had not thrombosed and produced proptosis until the third day. Craniotomy appeared to offer the only hope of recovery. An osteoplastic flap which included most of the parietal bone was elevated. The cerebral tension was so great, and the brain was so soft and easily injured that it was impossible to elevate the temporal lobe enough to discover whether or not a clot was present at the base. However, the numerous old blood clots were washed off from the cortex. A parietal flap was turned down in like fashion on the left side followed by a similar washing away of blood clots and the escape of cerebrospinal fluid. The tension was much diminished. The scalp wounds were closed without drainage. Immediate improvement took place. The circulation from the eyeball became reestablished and the exophthalmos gradually disappeared. Although it is difficult to tell at present what will be the future mental status of the child it now seems to be developing normally and is a natural and healthy appearing baby with no evidences of motor disability.

**The Permeability to Bacteria of Surgeons' Rubber Gloves.**—Herbert Fox and Edward A. Schumann as a result of their experiments conclude that rubber gloves are absolute barriers against wound infection by the hand of the surgeon in so far that they are absolutely bacteria proof. Any infection which occurs must be introduced into the wound from some point not protected by a glove. In one of these xperiments whole gloves were placed in bouillon about half-way to the wrist and bouillon poured into three to the same height. The gauntlet was turned over the edge of the flask and tightly tied; a beaker was inverted over the cotton stopper to avoid any risk of external infection. Unless the glove is greased at the surface which comes in contact with the cotton, the rubber will pull up when the stopper is removed. Sterilization was accomplished in the Arnold apparatus, three days being devoted to this process. The bouillon within the gloves was then inoculated with *B. coli communis* and *Staphylococcus pyogenes albus* and allowed to grow forty-eight hours. Cultures were then made from within and without the gloves. Those from within showed a pure culture of the germ. The latter were sterile. Like results followed the repetition of this experiment.

**Preventive and Remedial Treatmemt of Acute Rheumatic Endocarditis.**—Beverley Robinson believes that while salicin and members of the salicyl group relieve rheumatic symptoms in a remarkable manner in many instances, in other apparently similar cases they fail to do so. The reason for this is not yet positively known. The writer feels confident that in just such cases the rheumatic poison is still present and active; but we are unable to neutralize it, at leas with our ordinarily most effective remedy. The writer calls attention to the fact that although in many cases of acute rheumatic endocarditis the symptoms may not appear very grave it is often the results of the affection which are so serious. The larger number of all chronic cardiac disorders are a direct outcome of this affection. In speaking of the preventive treatment, the writer states that a primary and essential factor is to keep the throat in a very healthy condition. Not only is acute endocarditis thus prevented but in case of the presence of chronic endocarditis resulting from rheumatic infection a renewal of endocardial inflammation can be prevented. Even if in some cases there is failure in preventing the development of tonsillar disase and the resulting rheumatic attack, at least the heart may be helped to some extent to withstand the invasion. Besides appropriate local treatment general conditions must be considered. The gastrointestinal tract should be kept in an aseptic and fluent condition. The underlying rheumatic toxemia must be considered, and to this end attention to diet, clothing, habits, surroundings and occupation is important. Wet and cold should be avoided. By the use of salicin the poison of rheumatism may be neutralized, the disease shortened and thus there will be less likelihood of the development of endocarditis. The writer believes that patients with sub-acute rheumatism will often prevent the development of an attack of endocarditis by taking a complete rest for a while.

**Chylous and Chyliform Effusions Into the Serous Sac.**—J. G. Wilson declares that the frequency of chylous and chyliform effusions is far greater than is indicated in the literature. Quincke first pointed out the distinction between these two effusions. Bargebuhr recognized the fact that in all cases it is not possible to make a nice distinction between these two forms of effusions. Quincke's division of the fatty effusions included two groups: First that consisting of chyle from the thoracic duct, or the lacteals—transudates—and, second, that resulting from fatty metamorphosis of the cellular elements in inflammatory effusions—exudates. In general, the pathological causes of milklike effusion into the serous sac are: Trauma; tuberculosis; malignant disease; filariasis; thrombosis of the left subclavian vein; disease of the liver; and syphilis. In certain cases the milky effusion is found both above and below the diaphragm. These milky effusions do not always owe their characteristic appearance to fat. The writer describes a case in which the effused fluids, though fatty, were neither chylous nor chyliform, or chyloid, but a mixture of both. It was a case of sarcoma of retroperitoneal and thoracic lymph glands. Fatty ascites was discovered on operation for hernia. There was double pleural effusion, fatty on the left side and presenting the same appearance at repeated aspirations which were made at intervals extending over a period of many months. On the right side the effusion was circumscribed and seropurulent.

**Report of a Case of Metastatic Endothelioma.**—Edward Jenner Wood reports this case. The patient first complained of a small nodular mass on the surface of the right testicle. The testicle became painful and began to increase in size. It was finally removed. The tumor was unquestionably a large round-celled sarcoma. The patient in about two years noticed the same condition in the other testicle which in turn was almost removed. Again the trouble was pronounced to be a large round-celled sarcoma. Improvement followed for a time, but again his health became impaired and from the symptoms a provisional diagnosis of malignant disease of the left kidney was made. An exploratory incision showed a nephrectomy to be impracticable and the wound was closed. A few days later the patient died from a large pulmonary hemorrhage. Large cells evidently of the endothelial variety were found in the mass of the left kidney; there was also a nodule on the anterior surface of the liver which consisted of a mass of endothelial cells. The lung tissue showed hemorrhagic infarction. It is a question what rôle the tumor cells played in the fatal occlusion of a blood vessel. But it is certain that the lung was invaded by the tumor before the fatal accident occurred. The lung was probably the last organ invaded and still, as the writer declares, in many respects it gave the most typical demonstration of endothelioma. There is no question but that the tumor of the testicle was a large round-celled sarcoma. It is also most likely that this was the original source of the disease. If this is true, then the metastatic tumors offer another evidence that endothelioma is a pure sarcomatous tumor.

**A Procedure for Opening the Pericardium.**—J. H. Bacon believes that the treatment of the pericardium should be the same as that of other serous cavities. When there is no reaction to the treatment by rest and local application of ice-bag or heat, it should be aspirated when there is simple effusion and opened when pus is present. The writer describes his procedure for entering the pericardium. A skin incision is made parallel to the mid-line of the sternum and ½ cm. to its left, from the level of the upper border of the fifth costal cartilage to the sixth. On exposing the sternum a circular window is made through the bone with a trephine

2 cm. in diameter. The præcordial fat is dissected away and the anterior surface of the parietal pericardium is exposed. Two mouse-toothed forceps raise the pericardium and an incision is made between them. The pericardial cavity can then be readily explored and necessary treatment instituted.

*French and Italian Journals.*

**Tuberculous Parathyroiditis.**—P. Carnot and Delion report a case interesting on account of the coexistence of convulsive crises and parathyroid lesions in a young woman twenty-four years old who was tuberculous. The convulsive crises, subintrant, developed brusquely. These crises lasted eight hours and were terminated by death. The movements recalled at the time those of chorea, of athetosis, and of tetanus. At autopsy on account of the convulsive phenomena the parathyroids were carefully examined. The internal organs showed no special change but the right external one was completely lacking while the left was caseous. Since there were no changes in the meninges or in the kidneys, it seemed logical to attribute these convulsions to parathyroid insufficiency. The writers believe that this case is related to those in which tetanic convulsions are observed in patients after certain total thyroidectomies, and to those which occur in animals after parathyroidectomy. It also recalls those recent clinical researches concerning the parathyroid origin of certain tetanics and of certain eclampsias. The writers believe that in any case it is the first reported example of a spontaneous anatomo-pathological lesion localized in the parathyroids and accompanied by fatal convulsions.—*Le Bulletin Médical, November* 8, 1905.

**Extraperitoneal Rupture of the Bladder with Septic Urinous Phlegmon of the Cavity of Retizus. Hypogastric Incision on the Twelfth Day. Recovery.**—Loumeau describes a patient forty-four years old who suffered a rupture of the bladder. This was caused by the strain of vomiting and was followed by septic infiltration of the cavity of Retizus. The patient, whose condition was septic, was operated upon. A hypogastric incision was made. Recovery both from the infection and from the vesical perforation rapidly took place. The latter could be seen by means of the cystoscope as a small pink scar on the right anterolateral wall of the bladder. The reason that the rupture of the bladder occurred under the strain of vomiting was due to the existence of an old fibrous adhesion which had formed in the cavity of Retizus after a hypogastric contusion suffered by the patient when fourteen years of age. The pain of this injury was extreme and was distinctly located above the pubis a little to the right of the median line. Of late years the pain had been complicated by retention of urine and vesical paresis which could be explained only by the adhesion of the bladder to the abdominal wall. This adhesion was the outcome of a circumscribed sclerous pericystitis which had been caused by the organization of a bloody infiltration due to contusion of the bladder.—*Journal de Médecine de Bordeaux*, November 5, 1905.

**Identification of Cadavers by Means of the Teeth.**—Oscar Amoedo emphasizes the importance of this method of identification. It is only in comparatively recent years that the value of identification by means of indications furnished by the teeth has been appreciated. Many observations have been reported, which prove that these cases could be identified by means of the peculiarities of the teeth only. Many recent catastrophes such as that of the Opéra Comique, the Bazar de la Charité, and so on, have shown the importance of this means of identification. When the body is otherwise so disfigured that it is unrecognizable, the dental system is generally still in a condition to yield up its secret.—*Journal de Médecine de Paris*, November 7, 1905.

**Experimental Intestinal Occlusion.**—Roger has caused occlusion of the small intestine by means of a ligature which, at the end of twenty-four hours, has brought about a distension of the segment above the obstacle. Into this segment was introduced a cannula curved at a right angle, a kind of manometer capable of registering the compressions of the intestinal liquid. This liquid is agitated by oscillations which are synchronous with the respiratory movements and which are due to the compression caused by the play of the respiratory muscles. There was observed at the same time, every three or four minutes, a large peristaltic wave, which began from fifteen to twenty centimeters above the point of ligature and which caused the liquid in the manometer to rise. These large movements which represented an energetic effort to overcome the obstacle kept up as long as life lasted; that is, until that part of the intestine which was near the point of obstruction had lost its contractility. These experiments prove that fecal vomiting is not due to retrograde contraction; it results from compression exercised by the abdominal muscles on a loop of intestine which is closed and which is distended by liquid. —*La Tribune Médicale*, November 4, 1905.

**Early Diagnosis of Tuberculosis.**—Mariani gives as early symptoms in those predisposed to tuberculosis loss of flesh without known cause; adenoid vegetations in the pharynx; neuralgia; arthritis and herpes zoster, with anemia in women; dyspepsia with hyperchlorhydria; swelling of the thyroid; tachycardia without fever, and arterial hypotension, and orctuberculous splenomegaly; miosis or mydriasis, especially if unilateral; gingivitis; subjective bronchophony; easy elevation of temperature after slight fatigue, or injection of physiological serum; tendency to perspiration; spasmodic dry cough; dyspnea on slight exertion; hemoptysis; amiotrophy of the sternocleidomastoid and scapulothoracic muscles. Physical examination in such cases will bring to light physical signs of value to the diagnostician. —*La Riforma Medica*, October 8, 1905.

**Examinations by the Spirometer in Affections of the Circulatory Apparatus.**—Guido Castelli has examined seventy-five cases of various heart and lung affections, as well as some general diseases, and many cases of arterial disease, with the spirometer. His conclusions from his observations are as follows: 1. Diseases of the circulatory apparatus vary as to their effect on the respiration; some produce a marked diminution of power, others are normal in that respect, still others increase it. 2. There should be a marked distinction made between diseases of the heart of endocardial and of arterial origin. 3. Among those of endocardial origin, mitral stenosis most diminishes the respiratory power; next comes stenosis with insufficiency, last mitral insufficiency. 4. Aortic insufficiency of endocardial origin does not decrease respiratory power; when it exists in such cases it is due to arterial changes such as interfere with the pulmonary circulation. 5. Sclerosis and other affections of the arteries decrease respiratory power; after these come renal arteriosclerosis, arythmia, aortitis, miovalvular affections, and insufficiency of the aortic valve of arterial origin. 6. Angina pectoris coronaria alone produces no lessened respiratory power 7. Cardiac eretbism, even when accompanied by sensation of oppression, has no effect on respiration. 8. Respiratory power is increased, in troubles of endocardial origin at the mitral orifice, by the use of digitalis in small doses; if of arterial origin improvement in respiration follows a milk and vegetable diet and renal diuretics. —*Rivista Critica di Clinica Medica*, November 4, 1905.

**Differential Diagnosis between Exudates and Transudates by Dilute Acetic Acid.**—Fabio Rivolta gives us the following conclusions from his experiments in differential diagnosis between transudates and exudates by the use of dilute acetic acid: 1. Acetic acid used by the author's method has great diagnostic value, as well as simplicity, only a single drop of the fluid being needed for the test, which reacts immediately. 2. The test depends on the precipitation by acetic acid of two globulins from the blood. 3. This same reaction occurs in normal blood, in plasma, and in serum of plasma. 4. The transudates do not give the reaction with minute amounts of acetic acid because of their smaller content of globulin. 5. In fluids from malignant tumors, exudates or transudates, the acetic reaction may be lacking, or is slight in the last stages of the disease. 7. Traces of blood do not destroy the test. 8. The test is useless post mortem.—*Il Policlinico*, November, 1905.

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**Artificial Leucocytosis as a Therapeutic Measure.**—Hubert Allison Becker states that it is well demonstrated that in all of the infectious diseases, excepting typhoid fever and influenza, there is a leucocytosis more or less marked in proportion to the severity of the infection. The leucocytes first surround the area invaded by the germs. Disintegration of the polynuclear cells takes place by which a new substance is set free in the blood serum. This material not only counteracts the bacterial toxin, but also influences the germs in such a way that the hyaline leucocytes become capable of ingesting and destroying the invading microorganisms. Since the leucocytes liberate an antitoxic substance, it follows that the larger the number of the leucocytes the larger will be the amount of antitoxin set free, and consequently the more powerful will nature become to combat infection. The writer considers nuclein the most convenient and satisfactory of the various leucocyte-increasing drugs. It must be used hypodermically as it is decomposed by the gastric juice. He recommends the five per cent. solution of nucleinic acid. It may be used in doses of from five to twenty minims. If the first dose is large enough it is rarely necessary to give more. Improvement begins in from six to twelve hours. There are no harmful results. The writer believes that artificial hyperleucocytosis is one of the most powerful and wide-reaching of life-saving measures. Its full possibilities are not yet comprehended.—*The Therapeutic Gazette.*

# Book Reviews.

L'Acide Formique et la Force Musculaire. Par le Dr. Clément, médecin des hôpitaux de Lyon. Paris: Vigot Frères. 1905.

In this book, written unfortunately for the laity as well as for medical practitioners, the author lauds formic acid and its salts as a sovereign prophylactic against fatigue and a remedy by means of which the capacity for physical labor may be greatly increased. Its action in increasing muscular strength is shown by numerous ergographic tracings. One of the chief benefits to be derived from the routine employment of this substance is, in the author's opinion, the removal of a desire for alcoholic stimulation; the laborer, no longer feeling fatigue, will have no impulse to resort to alcohol as a "bracer." It is questionable, however, whether it is wise to recommend the habitual use of a remedy which, if it is as potent in its effects as Dr. Clément asserts, is almost sure to be found on more extensive trial to have a deleterious action in certain directions. Fire is good, but if we play with it carelessly we are apt to get burned. It is curious that one so enthusiastic in his praise of formic acid should practically ignore the statements of other writers concerning its efficacy as a remedy in rheumatism. His attention seems to be have been directed solely to its action as a stimulant to normal muscular action.

Algiers as a Winter Resort and Its Therapeutical Indications, together with Notes on Hammam R'Irha and Biskra. By Alfred S. Gubb, M.D. (Paris), M.R.C.S. Eng., D.P.H. Lond., etc., Author of Aids to Gynecology; Editor of Griffith's Materia Medica; Late Editor of the *Medical Press and Circular*. London: Baillière, Tindall & Cox, 1905.

This is a short descriptive guide which will be found useful to anyone contemplating a visit to Algiers. The author has passed many seasons in the country, engaged in the practice of his profession, and has learned by practical experience what maladies are most benefited by a residence in this soft climate. Algeria is rather too far away to attract many invalids from this hemisphere, especially as we have many equally favored spots nearer home. However, many who contemplate a winter in Italy or the Riviera may find it to their advantage to pass the couple of months in which Rome or Naples is apt to be chilly and disagreeable on the other side of the Mediterranean, and to such this little book will prove to be serviceable.

The Inn of Rest. Divers Episodes in Hospital Life Relative to the Doctor, the Nurse, and the Patient. Edited by Sheldon E. Ames. New York, Akron, Ohio, Chicago: The Saalfield Publishing Co., 1905.

In this, the seventh volume of the Doctor's Recreation Series, we have a collection of tales, essays, poems, and historical sketches relating to hospital life and nursing as a profession. The selections are made from many different sources, among the writers drawn upon being Walt Whitman, Edgar Fawcett, Isabel allmpton Robb, Frederick Langbridge, A. B. Ward, Elizabeth G. Jordan, Eliza Priestley, and Joseph Hatton. One of the most entertaining of the pieces is "The Gibson Play," by Marguerite Merrington, a comedy based upon Charles Dana Gibson's well-known series of pictures of "A Widow and Her Friends." Of interest also is an historical article on "Pre-Christian Dispensaries and Hospitals," in which the impression, based largely upon the statement in Canon Farrar's "Life of Christ" that "amidst all the boasted civilization of antiquity there existed no hospitals, no penitentiaries, no asylums," is very conclusively shown to be erroneous. The get-up of the book is in conformity with the others of the series, and the typography, paper, and binding combine to make a handsome volume.

Therapeutics: Its Principles and Practice. By Horatio C. Wood, M.D., LL.D., Professor of Materia Medica and Therapeutics in the University of Pennsylvania; Member of the National Academy of Science. Twelfth Edition. Thoroughly revised and adapted to the eighth (1905) edition of the United States Pharmacopeia by Horatio C. Wood and Horatio C. Wood, Jr., M.D., Demonstrator of Pharmacodynamics in the University of Pennsylvania. Philadelphia and London: J. B. Lippincott Company, 1905.

The present revision of this widely used treatise has been somewhat more radical than most of its predecessors, for the reason that the changes made in the eighth edition of the Pharmacopeia have been incorporated, so as to bring the volume into harmony with the new official guide. Besides the changes involved in reorganizing the text in this respect, radical alterations have also been made in other directions. The chapters on Expectorants and Disinfectants have been rearranged and the more recent advances in anesthesia, including local, spinal, and neural anesthesia, have been briefly considered. A footnote is devoted to the subject of scopolamine-morphine anesthesia, and through a typographical slip the index reference to this is page 104, instead of 103, as it should be. Numerous other changes in arrangement and interpolations of new matter are to be noted; the scope of the additions may be estimated from the fact that 70 new drugs receive discussion, some of which we fear will be of only ephemeral interest, however. The enviable reputation the work has gained for itself in the past is the best guarantee that in its present form it will continue to stand in the front rank of books on this subject.

Memoranda on Poisons. By Thomas Hawkes Tanner, M.D., F.L.S. Tenth Revised Edition by Henry Leffmann, A.M., M.D., Professor of Chemistry in the Woman's Medical College of Pennsylvania, etc. Philadelphia: P. Blakiston's Son & Co., 1905.

This volume is small enough to be kept permanently in the emergency bag to serve for ready reference, and yet it contains a large amount of information on toxicology. It must be admitted that at times its language and counsels have a somewhat antiquated flavor, but on the whole it is fairly satisfactory. The sections on the purely chemical aspects of the subject are by far the best, and the paragraphs on treatment might with advantage be amplified somewhat.

Clinical Methods, A Guide to the Practical Study of Medicine. By Robert Hutchison, M.D., F.R.C.P., Assistant Physician to the London Hospital, and to the Hospital for Sick Children, Great Ormond street; and Harry Rainy, M.A., F.R.C.P.Ed., F.R.S.E., Examiner in Medicine and Clinical Medicine, St. Andrew's University, Formerly University Tutor in Clinical Medicine, Royal Infirmary, Edinburgh. With upwards of 150 illustrations and 9 colored plates. Ninth Edition; Seventeenth thousand. Chicago: W. T. Keener & Co., 1905.

This volume contains an account of the various methods of clinical investigation that are used in making a correct diagnosis. It begins with a chapter on case-taking, and includes a general scheme for the examination of all medical cases. In subsequent chapters this scheme is expanded, and the different procedures are described in more or less detail. The alimentary, circulatory, respiratory, urinary, nervous, and locomotor systems are each considered in separate chapters; special sections are further devoted to examination of the skin, the eye, ear, nose, and throat; and also to the clinical examination of children. The book concludes with chapters on the examination of pathological fluids and clinical bacteriology. The volume contains much useful information in a small compass, and can be recommended to the student and practitioner as a reliable and up-to-date *vade mecum*.

Dissecting Manual, Based on Cunningham's Anatomy. By W. H. Rockwell, Jr., M.D., Formerly Assistant Demonstrator of Anatomy in the College of Physicians and Surgeons, Columbia University, New York. New York: William Wood & Co., 1905.

In this book the body is divided into five parts, to conform to ordinary dissecting-room usage. Under the first part, the head and neck, the spinal cord is also included. In each section there is a brief yet sufficient description of the bones, articulations, fasciæ, muscles, nerves, arteries, veins, lymphatics, and viscera or other structures to be found in the given part. Throughout the volume the descriptions follow closely the new edition of Cunningham's Anatomy, and references at the end of each paragraph refer to the pages of that standard work. To all first and second-year students this little volume will be useful; to those reciting from Cunningham's Anatomy it is indispensable. The book is well and clearly printed, is of a handy size, and is bound in a limp and waterproof cover.

The Blues (Splanchnic Neurasthenia), Causes and Cure. By Albert Abrams, A.M., M.D. (Heidelberg), F.R.M.S., Consulting Physician Denver National Hospital for Consumptives, the Mount Zion and the French Hospitals, San Francisco, etc. Illustrated. Second Edition, enlarged. New York: E. B. Treat & Co., 1905.

Dr. Abrams' theory of the dependence of some cases of mental depression on dilatation of the splanchnic vessels through relaxation of the abdominal muscles, is now pretty well known and has found many adherents. That it has at least excited the interest of medical readers is evident from the prompt appearance of a second edition of the work, which apparently is unchanged except for the addition of four more sections to the appendix. These deal respectively with massage of the liver, human metabolism, chemical demonstration of the action of sinusoidal currents, testing intraabdominal tension, and percussion of the stomach. We are rather surprised not to find a chapter devoted to the aortic reflexes that have been described by the author. The volume is one that may safely be recommended to the medical man; he will find in it much of interest and ample food for reflection, even if he does not in all cases agree with either the author's premises or his conclusions.

# Society Reports.

## NEW YORK ACADEMY OF MEDICINE.

*Regular Meeting, Held December 7, 1905.*

DR. CHARLES L. DANA IN THE CHAIR.

THE evening was devoted to papers on experimental medicine.

**Methods of Studying Fatigue, with Demonstration.**—Dr. FREDERIC S. LEE, Professor of Physiology, College of Physicians and Surgeons, said that the study of fatigue offered an unusual opportunity for the application of exact physical methods to the investigation of physiological and pathological processes, for muscle was an excellent indicator of the fatigue of the organism, and since the prominent feature of the activity of muscle was the performance of mechanical work, it was only necessary in studying fatigue to make use of the methods of the physicist in investigating mechanical work. Fatigue of frog's muscle was then demonstrated by stimulating the muscle at regular intervals and recording the curves of all the contractions by the author's newly devised methods. By means of lantern slides some of the results of an extended research on the subject were presented. Dreser's method of demonstrating the production of acid during muscular activity by the use of acid fuchsin was shown.

Dr. GRAHAM LUSK said that there was nothing to criticize but everything to admire in Dr. Lee's presentation, and that the curves shown were the most beautiful he had ever seen.

Dr. R. BURTON-OPITZ also discussed the paper briefly.

**Some Properties of Indol, Skatol, Methyl Indol, and Tryptophan, with Demonstrations of the Color Reactions.**—Dr. C. A. HERTER showed the results of his investigations in the detection of certain putrefactive substances formed during the course of normal and excessive fermentative changes in the intestinal tract, interest in which was aroused last summer when doing experimental work with Ehrlich aldehyde reaction, the dimethyl-amido-benzaldehyde. He showed the typical reaction with this agent with human urine. The reaction was seldom shown in a child's urine. The urine was slightly warmed and a few drops of the reagent added; then dilute hydrochloric acid was added and the mixture brought almost to a boil. In child's urine there was hardly any color reaction noticed, but in other urines there appeared an unusual degree of intensity. The addition of chloroform took away the color. In normal persons with very little digestive disturbances, the reaction was apt to be present, although slight, and it might be absent. On the other hand, in those suffering from digestive disorders the reaction would be striking. As a result of this work Dr. Herter said that it occurred to him that some products of putrefaction or proteid decomposition in the intestines might be responsible for this color reaction, and he began experiments. He first experimented with blood, introducing large quantities of hemoglobin into the circulation in the intestines; the results as to the reaction were negative. As a result of putrefactive changes in the intestines there were developed indol and skatol. He fed indol to animals by mouth, as well as subcutaneously, and found that it produced no effect upon the intensity of the color reaction, or changed it in any way. But when he used skatol he got different results, usually by a marked increase in the intensity of the reaction. Experiments were performed upon monkeys. He presented a monkey's urine taken after it had received a dose of skatol; the reaction was marked. This showed one of the ways that Ehrlich's aldehyde reaction resulted. He then instituted investigations to determine whether the quantity of indol and the quantity of skatol that could be found in the intestinal contents corresponded to the presence of Ehrlich's aldehyde reaction in the urine, and observations up to the present time indicated an association or relationship of this sort. The question then arose how to recognize these substances in the intestinal contents. It was not such a difficult matter, so far as the mere recognizing of indol was concerned; but the recognition of skatol was more difficult, especially its quantitative determination. He devised a better method of detecting these substances than the one customary. Both these substances, indol and skatol, exerted a detrimental effect upon the nervous system and when present for long periods of time were capable of giving rise or contributing to the development of functional disturbances of the nervous system which was of considerable importance. He then told of the method he had devised for separating indol and skatol from the feces, a method which he claimed was applicable to clinical requirements. He took three test-tubes; in one he introduced indol; in another, skatol; in the third, β-naphthalquinone-sodium-monosulphonate. Caustic potash was then added to each. Then part of the contents of tube 3 was poured into each of the other tubes; a reaction formed in the tube containing the indol, but none in the skatol solution. This new compound was of a perfectly definite character and separated into clearly defined acicular crystals of peculiar color. This new compound was one which was helpful in the quantitative estimation of the substances, because, when chloroform was added, the substance went over to the chloroform and made this determination of the substance possible with a considerable degree of exactitude. He next made a solution of skatol, added some of Ehrlich's aldehyde solution, warmed it a little and the color reaction developed, but of a peculiar sort. It was of a violet or purplish tinge, which developed on heating. The addition of hydrochloric acid produced a distinct violet reaction. From this solution he shook out a substance which was blue and which, on the addition of chloroform, dropped to the bottom of the vessel. This demonstrated the possibility of separating the two substances, indol and skatol. Dr. Herter then spoke of the practical applicability of the determination of these substances, and said that from a case of pernicious anemia he had been able to obtain 60 grms. of indol from 100 grms. of the material. No skatol reaction was to be had, although there was a strong indican shown with Ehrlich's reaction. In another case, skatol in considerable quantities had been obtained from the feces, but little or no indol. In summing up his remarks he said there was without doubt a distinct relationship between the presence of skatol and the development of the Ehrlich's aldehyde reaction. He did not claim that this was the only cause for this reaction, because further experimenting showed that other factors were concerned. He believed that by means of certain methods, to be further developed, it would become easy to separate indol and skatol, and to estimate with a considerable degree of accuracy the quantity of both indol and skatol.

Dr. P. A. LEVENE said that there were two pigments in the urine, one due to faulty metabolism of the blood pigment, the other due to faulty metabolism of proteid bodies, and it was the general opinion that Ehrlich's reaction indicated faulty metabolism of the hemoglobin, or blood pigment. This was a very important thing to establish for diagnostic purposes. The most common pigment in the urine was urobilin, which was derived from hemoglobin, the blood pigment; by the disintegration of this pigment in the organism in excessive quantities, and the appearance of large amounts of urobilin in the urine made it possible to diagnose hemorrhages, such as cerebral, etc. Therefore, Dr. Herter's method made it possible to distinguish faulty hemoglobin metabolism from faulty proteid metabolism, and was very important. It should be borne in mind that the blood pigment was very closely related to the pigment derived from proteid bodies.

**Dysentery Toxin and Mercury Colitis, with Demonstration.**—Dr. SIMON FLEXNER said that there was one particular type of organism which was described by Shiga which was more intensely toxic than any others belonging to the group of organisms causing dysentery, and which was capable of yielding a toxin which grew outside the

body. He was particularly interested in the light that was thrown upon the genesis of dysenteric lesions in man. If this toxin be introduced in animals, and death followed, there would be found in the intestines, localized in particular places (about the cecum), lesions which were comparable to dysenteric lesions found in man, and the growth of these lesions varied in intensity. After studying the manner in which these lesions could be developed, facts were learned which were of great interest. Small quantities of the toxin in the circulation produced lesions which were not lesions of contact but probably lesions of elimination. Not only was the poison eliminated by the intestines, but at particular parts of the intestines. It was also determined that when the organism got into the circulation a certain number of them were influenced by the bile, and it therefore occurred to him that possibly these lesions might be more or less controlled by the biliary secretions. He then studied the effects after ligating the common duct and also by making a biliary fistula in rabbits. By so doing great changes could be brought about in the character of the lesions. It was found that this poison was eliminated into the intestine with the bile. When the poison was introduced into the intestines by injections these lesions were not produced; only when they were brought there by the circulation and permitted to be excreted with the bile could such lesions be produced. If bile was prevented from entering the intestines the lesions would disappear, or else become very much reduced in intensity. Studies with mercury were also made. The lesions here also could be much modified by ligaturing the common duct, or the formation of a biliary fistula. An interesting and very important fact was that this poison, which was made by the dysenteric bacilli and which produced these lesions, was in some way modified by the liver so that it passed through the liver into the intestine with changed character and capable of producing lesions which otherwise it could not do. If this poison was permitted to reach the liver, but prevented from passing into the intestines by the closure of the duct, the lesions produced were much reduced in intensity. The bearing of all this experimental work on human dysentery was very important. It was true that the dysenteric bacilli developed throughout the intestinal tract, and yet the lesions produced were localized in one particular part of the intestine. It seemed to him highly probable that the intestine afforded a place for the dysenteric bacilli to grow with the production of a poison which was absorbed and eliminated with the bile, producing these lesions in the intestines indirectly, as shown by the experiments an animals with the toxins and with mercury. There was developed a neurotoxin and certain lesions in animals were produced, chiefly located in the cervical portion of the spinal cord; the changes first produced were in the gray matter of the cord, particularly hemorrhages. In animals there followed paralysis of the extremities, and then a complete paralysis of the entire body. They were subject to convulsions, with retracted head, etc. The animal would live for a few days and die, and lesions would be found chiefly located in the cord. The brain would show lesions as well. A rabbit was shown completely paralyzed, with retracted head, with convulsions occurring from time to time. He believed that not only did they have to do with two substances, but that these two toxins were independent of each other, and one was far more resistant and enduring than the other. Further experimentation was contemplated in order to determine, if possible, if further light could not be thrown upon the genesis of human dysentery. Lesions in the intestines did not take place where the bacteria developed, but in parts where in elimination they were common. Such poisons as mercury produced lesions which corresponded to those produced by the dysenteric toxin.

Dr. James Ewing said that Dr. Flexner's contribution had very important bearings on the nature of dysentery. The toxins of the bacillus of Shiga and other members of this group seemed to have special affinity for the cells of the intestinal tract, and, if true, this seemed to have important bearings on the pathogenesis of the disease, especially the power of the colon to inhibit the growth of certain bacteria. A kind of vicious circle seemed to be formed, the more the bacteria increased, the more toxin was produced and absorbed, and the more of this poison was to be excreted.

**Inhibitory and Anesthetic Properties of Magnesium Salts, with Demonstration.**—Dr. S. J. Meltzer read this paper (see page 965).

Dr. George B. Wallace, after referring to the application of laboratory findings to practical therapeutics, said that he had had occasion to determine the exact value of Dr. Meltzer's discovery. Many who would use this method would no doubt be over-enthusiastic in its praise. He asked, Was this method a safe one? From an experimental standpoint the margin between the dose producing anesthesia and the fatal one was narrow. He asked, again, had this method many advantages over the more common ones? There was the absence of the stage of excitement, the lack of salivation, of an effect upon the respiratory tract, and of injury to the heart and kidney, all of which pointed to the desirability of this method. But as opposed to this method, the manner in which it was to be given was a serious drawback. Spinal injections were always more or less dangerous. On the whole, it seemed to him as if magnesium was a very suitable anesthetic in certain selected cases, but expert anesthetists would feel less comfortable with this method than with the ones in common use.

Dr. Herman A. Haubold said he had placed at the disposal of the writer of the paper a number of cases, and the procedure was justified because of the statements made to him by Dr. Meltzer regarding the outcome of similar injections made on the lower animals, together with the conviction that the method of employment was consistent with the procedure of spinal anesthesia. Dr. Haubold had used this method in seven cases. Complete anesthesia was obtained in two cases, although in only one was there no chloroform used; in this cases 8 c.c. of the solution was injected at 2.30 P.M., and the operation was performed at 3.30 P.M. The case was one of deep-seated abscess in the anterior aspect of the thigh, and two incisions were made about three inches in length, together with a counter-opening with scissors forcibly pushed through to the posterior portion. The patient at no time made any outcry and stated that he did not feel any sensation whatever. In the other case, 4 c.c. of the solution was used. The injection was made at 1.50 P.M., and at 3.30 P.M., although sensation was absent, it was regarded as wiser to administer a little chloroform. Only in two cases did no impairment of sensory conduction obtain. Motor paralysis, to a greater or less extent, occurred in all of the cases. In six cases it was necessary to give small amounts of chloroform, and, although the patients moved their arms and eyelids, there was no motion of the pelvis or lower extremities, thus permitting of unresisting surgical manipulations in these regions.

Dr. Joseph A. Blake said he had used this method in four cases. One was a patient with marked shock following traumatic amputation of the thigh, and it was given with the idea of combating this shock. The shock did not diminish and the patient died one or two hours later. The fourth case was one of acute tetanus. In one patient anesthesia was not produced to any marked extent, the motor being inhibited more than the sensory nerves. One patient had appendicitis, with much contraction of the abdominal muscles; after the use of the magnesium sulphate these muscles completely relaxed. Dr. Blake could not state how great a value should be placed upon this method at present, but he believed it would be of value in properly selected cases, cases in which the general anesthetics, as ether or chloroform, were contraindicated. In such cases, for instance, as diabetic amputation, he would prefer magnesium sulphate to either eucaine or cocaine. Again, it might be used in cases of great shock. The value of this

method was amply shown in the case of acute tetanus. A boy of 15 years was admitted to the hospital with a traumatic amputation of two fingers. On the seventh day following the accident he entered into a state of opisthotonos, with almost constant convulsions. The boy was given antitoxin the first day and without any apparent effect. The temperature was 104° and convulsions constant. The magnesium was given and the convulsions immediately stopped and the boy seemed conscious in two hours. The motor nerves were completely inhibited. He lay in bed and took nourishment. The temperature gradually came down. At the end of thirty-six hours the convulsions started again, another injection was given, and the temperature came down further. Four injections were given and improvement continued. At the end of another week the convulsions became worse and the temperature ran up a little, but another injection made the boy quiet. The boy had been in the hospital four weeks and was now perfectly well.

Dr. Willy Meyer continued the discussion and said that Dr. Meltzer's and Dr. Auer's latest discovery was, to his mind, very fascinating indeed. A salt of one of the four inorganic elements found in our system, sulphate of magnesium, if introduced, in solution, into the gastrointestinal tract, the latter being lined by a normal mucous membrane, produced frequent watery evacuations; but the same solution, if placed around the living motor nerve, exerted an inhibitory effect upon its conductivity, which effect was annulled upon washing the nerve with saline solution; furthermore, if introduced into the body in larger quantities, by means of intravenous injection, it invariably produced death by respiratory paralysis, and if injected into the subarachnoid space in the shape of the 25 per cent. solution, it produced not only temporary motor paralysis of the lower extremities, bladder, and rectum, but also analgesia of the entire lower half of the body—at times, as it seemed, also of the upper half. These new facts were evolved step by step with Drs. Meltzer and Auer's original work, following up logical conclusions drawn from former experimental work along these lines. Having been especially interested in spinal anesthesia ever since its introduction into practical surgery by Prof. Bier, he was very glad indeed to try the 25 per cent. sterilized solution of sulphate of magnesium, when asked to do so by Dr. Meltzer some five weeks ago. He had since used it in three cases and was satisfied that it did all Dr. Meltzer claimed for it. He could, for instance, in a case of extensive tuberculous fistula in ano, cut and burn with Paquelin's cautery around the anus and within the rectum without producing the least pain, only the stretching of the sphincter muscles seemed to be slightly painful. The same satisfactory result was noticed in the other two cases. In none of the three was any additional general anesthetic used. In contradistinction to the drugs thus far used for spinal anesthesia, viz., cocaine, tropacocaine, stovain, and the newest drug, novocain, sulphate of magnesium did not produce an immediate effect, after a few minutes, as did the drugs just mentioned, but only after one or two hours, and it then continued with equal strength for many hours. Thus, it was possible to have the lumbar puncture and injection carried out by a member of the house staff at, say, 12 o'clock, and then have the patient ready for operation at about 2 o'clock. According to his experience, the dose so far used, namely 1 c.c. to every 20 lbs. of body weight, was larger than necessary. The right dosage for the human being would, no doubt, soon be found by further experimentation. Naturally, the intraspinal application of sulphate of magnesium also had its disadvantages, the principal one being the temporary paralysis of the bladder, which, in cases of urethral stricture or in the presence of prostatic enlargement, might give rise to trouble. Personally, he had always been of the opinion that spinal anesthesia should be carried out on strict indication only, and this he believed to be true also when it was induced by sulphate of magnesium; but he fully agreed with Dr. Blake, that in cases of diabetic grangrene, for instance, sulphate of magnesium appeared to be preferable to cocaine and its derivatives, inasmuch as it did not affect the heart, but the respiratory center only. Dr. Meltzer's advice, to have ready in every operating room an O'Dwyer-Fell apparatus for artificial respiration, was, therefore, a very important one. In conclusion he begged to say that he believed this new discovery placed us at the threshold of finding out many new and important facts relating to medicine and surgery. It spoke for the genius of Dr. Meltzer and added materially to the glory of American scientific research.

**Election of Officers.**—The following officers were elected: *Vice-President* (for two years), Dr. George Ryerson Fowler; *Vice-President* (for full term), Dr. Robert Abbe; *Treasurer*, Dr. Reginald H. Sayre; *Trustee*, Dr. A. Alexander Smith; *Member of Committee on Admissions*, Dr. David Bovaird, Jr.; *Member of Committee on Library*, Dr. Herman L. Collyer.

## THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

*Stated Meeting, November* 13, 1905.

The President, Dr. Thomas E. Satterthwaite, in the Chair.

**Report of the Committee on the Death of Dr. Warren Schoonover, Jr.**—Dr. P. Brynberg Porter, the secretary of the association, read this report.

**Symposium on Clinical Pathology: the Relation of Clinical Pathology to Actual Practice.**—Dr. Louis Faugères Bishop read this paper. He stated that the problem was to make clinical pathology available to the men who actually did the bulk of the practice. At present clinical pathology was too much in the position of a consultation branch rather than a help in everyday work. Too many men invoked the aid of a technical examination only when the case seemed obscure or when the patient was very ill. Laboratory work was really only an extension of the physical examination, employing the microscope as we employed the stethoscope, and testing the composition of the blood as an extension of the same operation that was begun when we looked at the color of the mucous membranes. The bacteriology of the human body in health and disease should become a matter of routine observation rather than one laid aside for special occasion. The systematic examination of patients over a considerable period of time, thus ascertaining the physiological and bacteriological habit of the individual should become a more common practice. The most obvious solution of the problem that immediately presented itself to every physician was that he should take a course in the laboratory, and then make a practice of carrying on those observations for himself; but as a matter of fact the practice of medicine was too complicated an occupation to allow of the proper atmosphere for laboratory work. There was too much of the social and personal required to allow the combination of the two kinds of work in the general practitioner. The only element in practice that interested the patient was the one factor of treatment and recovery from disease, and the most successful men, from the point of view of having satisfactory practices, were those who concentrated most of their attention upon the treatment of their patients, keeping the rest much in the background. Dr. Bishop said his own conclusion was that the relation of clinical pathology to private practice had not been satisfactory, and the cure for the present unsatisfactory condition was found, first, in dissemination among practitioners of the knowledge of the actual value of the findings of the laboratory as an aid to treatment; second, in building up the confidence of the profession in the work of the younger graduates of the pathological services of our hospitals, and in separating routine work, such as those men were perfectly capable of doing, from the higher class of work which called for the expert knowledge and opinion of established specialists in clinical pathology.

**Laboratory Aids in the Diagnosis of Disorders of the Gastrointestinal Tract.**—Dr. Ernest E. Smith discussed this phase of the subject. He stated that the examination of the stomach contents, either vomited, obtained in gastric lavage, or removed after a suitable test meal, was of unquestionable value and should be more generally practised, especially in chronic gastric disease. There was one class of cases, however, which emphasized the value of the systematic examination of patients, even though they might present pretty well localized symptoms, namely, cases of persistent vomiting due to a condition of acid intoxication. For several years this had been recognized as the exciting cause in some cases of persistent vomiting of childhood, and evidence was accumulating to show that not infrequently it was the cause of persistent emesis in adults. Riegel had emphasized the value of differentiating between the gastric conditions of hyperacidity, alimentary hypersecretion, and continuous hypersecretion. The term hyperacidity was used to indicate hyperchlorhydria without hypersecretion; the term alimentary hypersecretion to indicate an increased flow of gastric juice as a result of gastric stimulation; and, finally, the term continuous hypersecretion, to indicate a flow occurring without the stimulant of the presence of food. The differentiation was made from the amount of stomach contents removed after the test breakfast, the acidity, and the absence of gastric secretion during starvation. The conditions of increased acidity and secretion constituted a large proportion of the gastric disorders with which the physician had to deal. The stomach normally passed a portion of its contents into the duodenum, even during the first hour of digestion. Failure to do so might lead to the presence in the stomach of an abnormal amount of contents, this occurring in pyloric stenosis and dilatation and in gastric motor insufficiency. Those conditions, then, must be excluded before assuming that the increase in volume had resulted from an increase in the gastric secretion. Having concluded that the secretion was increased, the question of whether it occurred only under the stimulus of food or without such stimulus was determined by examining the stomach contents after fasting. This was accomplished by gastric lavage at night and the withdrawal of any contents the following morning. In continuous hypersecretion it would be found that the stomach contained a goodly amount of liquid containing hydrochloric acid and gastric ferments. The aid afforded by laboratory examinations was probably as well, and possibly better, appreciated in gastric than in intestinal conditions. Many physicians made much of the microscopical inspection of the stools, but comparatively few realized the value of extending the examination further. The speaker suggested that the microscopical examination of the stools might well have a place in the routine of the practising physician. Examined directly, the feces rarely showed the presence of pathological admixtures unappreciated by the naked eye, but it might reveal the presence of a parasitic invader. In cases where the digestive functions were overtaxed, either because of excessive eating or because of diminished functional ability, the presence of abnormal amounts of undigested or partially digested food residue was readily recognized, even without resorting to the special methods advocated by Schmidt and Strassburger. A procedure which had attracted much attention in clinical diagnosis during the past two years was the recognition of the so-called occult blood in the feces. By means of a delicate chemical test it was possible to detect blood so modified by the gastrointestinal processes that it could not be recognized under the microscope. The patient's diet must be free from meat and fish. The test should not be limited to a single specimen, but a series of observations should be made. It was thus possible to determine whether occult blood was constantly absent, constantly present, or occasionally present. The lesion might be in any part of the alimentary tract. Occult blood had the same significance as visible hemorrhage. It was constantly present in cancer, intermittently in ulcer, and was absent in gastritis, hyperacidity, hypersecretion, and the gastric neuroses. Its occurrence was an aid in the diagnosis of a suspected case of typhoid fever. Aside from the diagnostic value of the test, it was of value in indicating the therapeutic action of remedies in gastric ulcer. In closing, Dr. Smith emphasized the importance of the histological examination of all suitable material, whether connected with the alimentary tract or from other parts of the body. The diagnostic value of such an examination was at times unexpected and considerable.

**The Present Attitude of Blood Examination for Diagnostic Purposes.**—Dr. Frederic E. Sondern read this paper. He stated that the evolution of hematology during the last decade had been so pronounced that at the present time an accurate knowledge of the blood condition was considered essential in the diagnostic and prognostic conclusions in all but the most trivial cases. The present more intimate knowledge of the minute differences, as well as of the relative changes noted in the various forms of anemia, had unfortunately shed little or no light on the etiology of these diseases, but had greatly facilitated their diagnosis, as well as the differential diagnosis. Thus, simple anemia, secondary anemia, pernicious anemia, splenic anemia, and Hodgkin's disease could be differentiated with greater precision than the former less accurate knowledge of the blood changes allowed. It was not only in the blood diseases proper, if they might be so termed, that the examination of the blood was useful. In acute febrile conditions, when the clinical picture was not yet sufficiently pronounced to justify a diagnosis, a routine examination of the blood was often a guide and always a comfort. This examination showed the degree of anemia, if any, and a search for plasmodia, a Widal test, an enumeration of leucocytes and a differential count of the latter, while they might not establish the diagnosis, at least confined it within narrower limits, and often excluded feared grave conditions. The value of finding the characteristic organisms in malaria, filariasis, trypanosomiasis, and relapsing fever needed mere mention. The increase in the relative number of large lymphocytes in malaria was an additional stimulus to repeated search if plasmodia were not found at once. In the event of coma, the knowledge that meningitis and brain abscess were always accompanied by a leucocytosis and relative polynuclear increase; that uremic, postepileptic, and diabetic coma sometimes showed leucocytosis, and that narcotic or alcoholic poisoning, hysteria, and tumor had no accompanying leucocytosis was also of diagnostic value when combined with the clinical observation. The early stages of scarlet fever often presented diagnostic difficulty, but when it was recalled that this disease always showed a pronounced leucocytosis and relative polynuclear increase, it was more readily distinguished from several other eruptive conditions most easily confused with it which did not present that characteristic. In typhoid fever we had hoped that the early diagnosis would have material aid from the Widal serum reaction. While that anticipation had been but partly fulfilled, owing to the delayed response to that test in many cases, the fact that uncomplicated typhoid fever showed no leucocytosis and a relative lymphocytosis on differential count of leucocytes was an aid not to be overlooked. In pneumonia a consideration of the blood picture was often of the greatest value in both diagnosis and prognosis. In the prognosis of that disease it had long been known that the absence of a leucocytosis was a very grave and unusual fatal sign. For several years, the speaker said, not only the leucocyte count, but also the differential count of leucocytes in pneumonia had received his particular attention, and his results seemed to justify the conclusion that the increase in the relative number of polynuclear cells was a direct indication of the severity of the toxic infection, and the degree of leucocytosis an absolute indication of the body resistance toward the infection. Blood-serum reactions, agglutinations, Pfeiffer's phenomenon, and similar work on which scientists were at present engaged were among the most important researches in medicine to-day, but the results were not yet sufficiently precise

to find application here. In surgery, as in medicine, the examination of the blood had found application in diagnosis and prognosis. The arbitrary rule that no surgical procedure was to be undertaken when the percentage of hemoglobin was below 30 should no longer adorn our text-books. Cryoscopy of the blood was a recognized method for determining the functional activity of the kidneys, and in conjunction with a proper urine analysis was decidedly useful. Blood cultures as diagnostic and prognostic aids had also increased very much in value, and the physiological changes in the blood due to pregnancy and parturition were somewhat better understood. To prevent an accusation of undue reliance on any one aid, Dr. Sondern said he would close with this motto: "The man who makes every diagnosis in the laboratory is as short-sighted and liable to grave error as the man who ignores the microscope and test tube."

**Some Recent Advances in Urinology.**—Dr. Louis Heitzmann said that of all the laboratory methods employed by the general practitioner there was probably none used as much as the examination of the urine. While to a certain degree it was true that the general practitioner did not fully realize the importance of laboratory work, he was beginning to appreciate more and more the value of making his own urinary examinations. It was only within the past few years, Dr. Heitzmann said, that we had heard so much about the estimation of the functional efficiency of the kidney and its extreme importance. Many different methods had been suggested in order to determine the working power of the kidney, and one of them had been referred to by Dr. Sondern, namely, cryoscopy of the blood and urine. This test, in trained hands and with a good instrument, was doubtless of much value, but otherwise it was apt to give rise to wrong impressions and leave one in the lurch. The electrical conductivity of the urine, which was another test that had been recently introduced, had not given satisfactory results. The same might be said of the methylene blue and the fluorescin tests, and the toxicity test. Not one of these methods was really satisfactory. If they were, investigators would not be constantly on the lookout for new ones. The speaker said that one of the reasons why urinary examinations were as a rule unsatisfactory was that they were not carried out correctly. A drop of urine was placed on the slide, and oftentimes left uncovered; it was then examined under a low power, and various forms of casts, hyaline, granular, and epithelial, were apparently found, whereas if that same drop of urine, properly covered, was examined under a high power, many of the castlike bodies would prove not to be casts at all. It was not always necessary to find casts in nephritis, and a positive diagnosis of that disease could be made without a single true cast in the urine. With our modern methods of cystoscopy and ureteral catheterization the working condition of each kidney could be fairly well determined.

Dr. Eugene Coleman Savidge said that while all recognized the importance of pathological investigation, and resorted to it to a greater or less extent, they did not do so sufficiently. The reason for this was obvious. The man who was engaged in clinical work could not burden his attention with laboratory routine, while on the other hand he frequently could not afford to send his specimens to the pathologist. Dr. Savidge said that greater freedom of laboratory resort had given him (1) renewed faith in certain forms of therapeutics; (2) an almost iconoclastic conviction that we had been making errors after certain laboratory findings; and (3) an insight into conditions which had proven themselves to be observable long before there were laboratory findings. In other words, the laboratory was both confirmatory and non-confirmatory. It clarified as much by what it did not tell as by what it told.

Dr. Max Einhorn said that while the laboratory methods that had been discussed were of great aid in some instances, the clinician, first of all, had to study the symptomatology of the patient, the history, the physical findings, and so on. These, in the greater majority of cases, would enable him to arrive at a correct diagnosis, although there certainly were instances where every possible aid, including the laboratory tests, had to be invoked. The speaker said that over twenty years ago he had called attention to the fact that the percentage of lymphocytes in their relation to the other white elements of the blood was diminished in anemia and septic conditions, and he stated that Dr. Sondern deserved great credit for the work he had done in this field of pathology, and for his recognition of the importance of the differential count of leucocytes, and the relation of the number of polynuclear cells to the leucocytosis. Taking up Dr. Smith's paper, Dr. Einhorn said that in order to determine the presence of continuous hypersecretion, he was opposed to the method of gastric lavage at night and the examination of the stomach contents the following morning. Instead of washing out the stomach at night, he gave the patient a light meal, preferably of rice, and then resorted to lavage the following morning. By this means we could determine whether there was any obstruction at the pylorus, and it would also indicate the presence or absence of continuous hypersecretion.

Dr. Robert Coleman Kemp said that in addition to the laboratory aids in the diagnosis of disorders of the gastrointestinal tract, the gross examination of the stomach contents by means of a test meal and subsequent aspiration of contents was very important. Such an examination would show the degree of maceration of the food, the presence or absence of mucus, the odor, and the quantity found after a definite time, and would give us a pretty accurate idea of the degree of motor insufficiency of the stomach. Such a microscopical examination of the stomach contents could be made by the average physician just as intelligently as he now made an examination of the urine, and if this was done as a matter of routine, grave pathological conditions of the stomach would more often be detected at an early stage. Careful attention should also be given to the stomach in the treatment of tuberculosis, as various changes occur in the gastric secretions during different stages of the disease. The speaker said that while he was in favor of the "stuffing" process in tuberculosis, it should be done in a commonsense and scientific way if we expected to get the best results. The examination of the gastric functions and contents was important in epilepsy and in certain nervous diseases, especially in neurasthenia, where there were symptoms pointing to fermentation or autointoxication. In such cases he had seen marked benefit follow treatment directed to the gastrointestinal tract.

Dr. E. Libman called attention to the importance of an accurate blood examination in the diagnosis of acute leukemia. In cases of suspected typhoid fever in which the Widal test gave no reaction in the customary low dilution, a number of higher dilutions should be tried. The best results in bacteriological examinations of the blood would be obtained by those who had not only a knowledge of bacteriology, but also a large clinical experience. Otherwise the reports would be apt to be misleading. Certain microorganisms would grow well in highly diluted blood; others would not grow well excepting in a large quantity of blood. The speaker said there was a question whether in every case of infection by bacteria there were bacteria present in the blood, and he was of the opinion that bacteria did not multiply very often in the blood. There were certain types of infection; for example, suppurative thrombosis of the portal vein, in which bacteria could not usually be found in the blood, while in malignant endocarditis they were usually present. Personally, Dr. Libman said, he had never found bacteria in the blood in appendicitis, but he believed they did occasionally occur there.

Dr. Frederic Bierhoff said he had always held that clinical microscopy and urinology were two branches of medicine that were entitled to be classed as specialties just as much as were any of the other well-known specialties. They required, in order to be of real value, a degree of skill and exactitude which the average general practitioner

did not possess on account of the lack of time that he had to devote to them. When these examinations were properly and carefully made the findings were often of the greatest value; when they were improperly made they were of less than no value, because they were apt to lead us astray. Dr. Bierhoff said the present tendency was to place less reliance upon cryoscopy of the blood and urine and more upon a very thorough examination of the urine itself; its chemical constituents, its microscopical ingredients, the quantity passed in a given time, and a comparison of the urine secreted by each kidney. The results of such an examination were far more reliable than cryoscopy of the blood or urine. In making a careful examination of the urinary tract, one point of great importance was to discover the presence or absence of gonococci. In the male they were usually found by the microscope, but in the female they often escaped detection, because the smears were generally taken from the vagina or vulva, instead of from the cervix or interior of the uterus, which were the most frequent seats of the trouble. If gonococci were present at all they would be found in the cervical secretion, or in that taken from the uterus. Preferably, the smear should be taken twenty-four hours after the cessation of menstruation.

Dr. Richard Van Santvoord said that, speaking from the standpoint of the general practitioner, he wished to emphasize the necessity of interpreting the laboratory findings in the light of the history of the patient and the clinical symptoms. He feared there was some tendency to rely too much on laboratory methods and too little on a careful examination of the patient. Clinical pathology, like everything else, had its limitations and its exceptions. A single malarial parasite in the blood did not prove that the case was one of malaria, nor did a single tubercle bacillus in the sputum prove tuberculosis. The laboratory work, in order to be relied upon, should be done thoroughly and efficiently, and a sufficient number of tests should be made to warrant reliable conclusions.

Dr. Henry Heiman said that by an examination of the blood we could not only make a positive diagnosis of malaria, but could also differentiate between the tertian, quartan, and crescentic forms of the parasite. The microscope had also taught us which forms of malaria responded most readily to the administration of quinine, and the disease could be treated more intelligently and rationally than in former years, when quinine was given in unnecessarily large doses. The value of clinical microscopy in the study of blood diseases could not be overestimated; for example, in the recognition of the various forms of splenic and myelogenous leukemia, as well as in the anemias. No one doubted the value of the Widal reaction and the presence of leucocytosis as confirmatory aids to diagnosis.

Dr. Winfield Ayres said his own experience had led him to believe that the average general practitioner, on account of his other duties, did not possess the necessary degree of skill to make a thorough urinary analysis, and that such work was best done in the laboratory.

### Philadelphia County Medical Society.

At a stated meeting held November 8 Dr. Wm. Pickett presented a communication entitled "The Morbid Physiology of Neurasthenia." He defined the affection as a disability rather than a disease, and he considered it essentially a state of exhaustibility, an undue readiness of fatigue, rather than real weakness. Dr. F. X. Dercum presented a communication entitled "The Diagnosis of Neurasthenia." He pointed out the necessity of excluding various visceral affections presenting symptoms that may be designated neurasthenoid. The inherent symptom of neurasthenia is the undue readiness of fatigue. Around this may be grouped various motor, sensory, psychic, and somatic manifestations, together with a number of secondary phenomena. The differentiation must be made especially from hysteria, hypochondria, and neurasthenoid states. Dr. Charles K. Mills presented a communication on "The Treatment of Neurasthenia." He discussed first the importance of isolation, in the more severe cases at least. The foremost indication generally is rest. This may be partial or complete, and it must be regulated in accordance with the conditions present in the individual case. In some cases it may, with advantage, be replaced by or alternated with exercise and work of one sort or another. Feeding is an important therapeutic adjuvant. Milk may at first form the basis of the dietary, which is to be gradually amplified. Massage is a most useful measure, and it may appropriately be conjoined with electricity. Drugs play a subordinate part in the treatment, and are employed to fulfil special indications, such as sleep, anorexia, and so on. Major Charles E. Woodruff, Surgeon U.S.A., spoke, by invitation, of the influence of light, particularly of the short rays, in the development of neurasthenia, and especially the severe grade observed in the tropics. The most pronounced symptom is impairment of memory, especially for recent events, and recovery quickly ensues on change to a more temperate climate. Blondes suffer more than brunettes, from the absence in the former of pigment in the skin, the pigment tending to exclude the actinic rays of light and preventing the irritation otherwise resulting. The fact, he said, had a therapeutic, as well as a hygienic, value, as it would be found that neurasthenic blondes did better in a climate with less light.

## Therapeutic Hints.

**Sciatica.—**

℞ Morph. sulph. ..... gr. ss.
Atrop. sulph. ..... gr. 1/25
Aq. destillat. ..... ♏ xx
Sig. Inject deeply into the muscle over the course of the nerve.
—Brown-Séquard.

**Follicular Tonsillitis.—**

℞ Formaldehydi ..... ♏ xx-xxx
Glycerini ..... ʒ ii
M. Sig. Apply with a brush three or four times a day.
—Jordan.

**Hemorrhoids.—**

℞ Ichthyol. .....
Acidi tannic. ..... aa gr. v
Ext. belladon. .....
Ext. stramon. ..... aa gr. 1-3
Ext. hamamel. ..... gr. x
M. Ft. supposit.
—Tuttle.

**Acute Pharyngitis.—**

℞ Ergotin. ..... ʒ i
Glycerin. ..... ʒ vi
Aquæ dest. ..... ʒ i
M. Sig. Use as a spray every one-half hour. One-tenth grain of ergotin by mouth may be used as an adjuvant.
—Perry.

**High Tension in Gout.—**

℞ Potassii bicarb. ..... ʒ ix
Potassii nitratis ..... ʒ vi
Sodii nitritis ..... gr. i
Ft. chart. No. xx.
Sig. One powder in the morning in a large glass of water.
—Lauder Brunton.

**Pneumonia.—**

Cain treated sixteen cases of pneumonia with no mortality, using guaiacol in doses of five to thirty minims, according to age. It was rubbed into the skin of the chest or abdomen every twelve to twenty-four hours, as indicated. The skin was first cleansed to promote absorption. Then the guaiacol was slowly dropped from a medicine dropper, and rubbed in, one finger only being used. If the fingers are all used, much of the medicine is absorbed by them, besides making them rough. The chest was protected by a woolen flannel jacket. The bowels were kept well opened. A soda, alcohol, and water bath was given at least once a day. The diet was light, and he insisted upon having plenty of warm, fresh air. Anodynes, expectorants, tonics, and stimulants were seldom required. In most cases no internal medication was employed except laxatives.—*Therapeutic Gazette.*

## New Instruments.

### HIGH FREQUENCY HIGH POTENTIAL CURRENT CATAPHORIC AND FLUORESCENT ELECTRODES.

By WILLIAM JAMES MORTON, M.D.,

NEW YORK.

In the issue of the MEDICAL RECORD of November 18, 1905, I published a description of a vacuum electrode provided with disks of porous material or with disks of fluorescent material which could be used respectively for the introduction of medicines, or for the treatment of disease by fluorescent light.

I wish to extend that publication by saying that electrodes of solid metal, properly constructed and provided with disks, may also be made to answer the above purposes. Similar solid metallic electrodes provided with porous disks were described by me in

my book upon Cataphoresis, published by the American Technical Book Co. in 1891, page 109, but their purpose at that time was for use with the galvanic current.

To construct an electrode which may be used with high frequency currents rather than galvanic currents a somewhat different method must be employed. The metallic portion must be without sharp peripheral edges so that the current shall not stream off at such edges.

The accompanying illustration makes plain the salient features of the present electrode. It is a brass disk two inches in diameter with rounded edges. Surrounding the metallic disk is an ebonite cap which fits it and affords a projecting lip. Into the cap and lying flat upon the exposed surface of the disk may be placed the porous material of blotting paper, asbestos, or whatever is desirable, and it is this disk which retains the medicament desired to be introduced. But if the disk is composed of fluorescent material, then the electrode becomes a fluorescent lamp which may be applied flatly upon any desired surface, and there produce effects due to the radiation from a variety of solid fluorescent materials. Among fluorescent minerals are willemite, calcite, fluorite, zinc sulphide, calcium sulphide, barium, platino cyanide, and calcium tungstate.

The metallic exposed surface is corrugated so that recesses for the retention of fluids are provided, just as in my galvanic cataphoric electrodes, drill holes into the solid metals, but not through it, exist everywhere on the surface.

The electrode is manufactured by Messrs. Van Houten & Ten Broeck, 300 Fourth Avenue, New York City.

19 EAST TWENTY-EIGHTH STREET.

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**"The New England Alkaloidist"** is the title of a new monthly journal published at Milford, Mass., under the editorial management of Drs. J. M. French and N. W. Sanborn. Its purpose is to advocate the therapeutic use of the alkaloids and other active principles, as tending to greater accuracy and more positive results.

## Books Received.

*While the* MEDICAL RECORD *is pleased to receive all new publications which may be sent to it, and an acknowledgment will be promptly made of their receipt under this heading, it must be with the distinct understanding that its necessities are such that it cannot be considered under obligation to notice or review any publication received by it which in the judgment of its editor will not be of interest to its readers.*

THE PREVENTION OF SENILITY AND A SANITARY OUTLOOK. By SIR JAMES CRICHTON-BROWNE. 12mo, 141 pages, muslin. The Macmillan Company, New York. Cloth, 75 cents.

BABY INCUBATORS By JOHN ZAHORSKY. 8vo, 136 pages, illustrated, muslin. Courier of Medicine Company, St. Louis, Mo.

A STUDY IN NURSING. By Miss A. L. PRINGLE. 16mo, 98 pages, flexible muslin. The Macmillan Company, New York. Cloth, 35 cents.

SHORE LIFE. By ALFRED GOLDSBOROUGH MAYER. 8vo, 181 pages, illustrated, muslin. A. S. Barnes & Co., New York.

THE LOCALIZATION OF CEREBRAL FUNCTION. By ALFRED W. CAMPBELL, M.D. 4to, 360 pages, illustrated, muslin. The Macmillan Company, New York. Cloth, $6.00.

RADIOTHERAPY IN SKIN DISEASE. By Dr. J. BELOT. Translated by W. Deane Butcher, M.R.C.S. 8vo, 463 pages, illustrated, muslin. Rebman Company, New York.

PHYSICIAN'S VISITING LIST FOR 1906. P. Blakiston's Son & Co., Philadelphia.

PRÉCIS DE LARYNGOLOGIE CLINIQUE ET THÉRAPEUTIQUE. By Dr. P. LACROIX. 12mo, 627 pages, illustrated, paper. F. R. de Rudeval, Paris. Paper, 8 francs.

AUTOINTOXICATION IN DISEASE. By CH. BOUCHARD. Translated by Thomas Oliver, M.A., M.D. Second Edition. 8vo, 342 pages, muslin. F. A. Davis Company, Philadelphia. Cloth, $2.00, net.

STOFFWECHSEL UND STOFFWECHSELKRANKHEITEN. Dr. PAUL FRIEDRICH RICHTER. 8vo, 389 pages, paper. August Hirschwald, Berlin.

THE ART OF MASSAGE. By A. CREIGHTON HALE. Second Edition. 12mo, 144 pages. The Scientific Press, Ltd., London.

SURGICAL DIAGNOSIS. By ALBERT A. BERG, M.D. 12mo, 543 pages, illustrated, muslin. Lea Brothers & Co., Philadelphia.

LIFE AND MATTER. By SIR OLIVER LODGE. 12mo, 175 pages, cloth. G. P. Putnam's Sons, New York.

MATERIA MEDICA AND THERAPEUTICS. By J. MITCHELL BRUCE, M.D., LOND. 16mo, 632 pages, muslin. Revised and enlarged edition. W. T. Keener & Co., Chicago. Price $1.75 net.

PHYSICAL DIAGNOSIS. By EGBERT LEFEVRE, M.D. 12mo, 479 pages, illustrated, cloth. Second edition. Lea Brothers & Co., Philadelphia.

TEXT-BOOK OF MATERIA MEDICA FOR NURSES. Compiled by LIVINIA L. DOCK. Fourth Edition. 12mo, 330 pages, muslin. G. P. Putnam's Sons, New York.

ORGANOTHERAPY OR TREATMENT BY MEANS OF PREPARATIONS OF VARIOUS ORGANS. By H. BATTY SHAW, M.D., LOND. 12mo, 256 pages, illustrated, muslin. W. T. Keener & Co., Chicago. Price $1.75 net.

TEXT-BOOK OF MEDICAL AND PHARMACEUTICAL CHEMISTRY. By ELIAS H. BARTLEY, B.S., M.D., Ph.G. Sixth edition, 8vo, 734 pages, illustrated, cloth. P. Blakiston's Son & Co., Philadelphia.

PATHOGENIC MICROORGANISMS. By WILLIAM HALLOCK PARKS, M.D. Second Edition. 8vo, 546 pages, illustrated, muslin. Lea Brothers & Company, New York and Philadelphia.

MOVABLE KIDNEY. By C. W. SUCKLING, M.D., M.R.C.P. 12mo, xii, 127 pages. H. K. Lewis, London.

THE BLUES (NERVE EXHAUSTION). CAUSES AND CURE. By Dr. ALBERT ABRAMS. Second Edition, Enlarged. 8vo, 246 pages, illustrated, muslin. E. B. Treat & Company, New York.

# Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 9, 1905.

| | Cases | Deaths |
|---|---|---|
| Measles | 572 | 7 |
| Diphtheria and Croup | 334 | 40 |
| Scarlet Fever | 187 | 6 |
| Smallpox | .. | .. |
| Chickenpox | 222 | .. |
| Tuberculosis | 429 | 177 |
| Typhoid Fever | 94 | 13 |
| Cerebrospinal Meningitis | 34 | 15 |
| Typhus Fever | .. | .. |
| Yellow Fever | .. | .. |
| Cholera | .. | .. |
| Totals | 1,872 | 258 |

**The Etherization of Children.**—Walter G. Elmer declares that the administration of anesthetics to children is an art which requires an unusual degree of skill and tact on the part of the anesthetizer. Very great care should be taken to prevent the overdosing of the little patient, with the resulting increased shock and lowered vitality. Children are very susceptible to anesthetics. The writer advocates the use of ether as the safest and best of the anesthetics for young subjects; the vitality of children is easily affected even when ether is properly given, the shock to the nerve centers from a prolonged anesthetization being very considerable. There are a few instances in which ether is not the choice anesthetic for children, the most important of which is an abnormal state of the respiratory organs. Ether, for example, should never be given to children during an acute bronchitis, pulmonary congestion, or pneumonia. In such cases, when an emergency operation arises, as for virulent appendicitis, strangulated hernia, and so on, chloroform should be used. For short operations, ethyl chloride is of value. If ether is properly given, its use need not be considered of unusual danger in cases of nephritis. The greatest care must be observed in etherizing a patient with heart disease. Cases of profound anemia are more than ordinarily susceptible to shock. The most favorable time for operation upon children is in the morning. The preparation of children for an operation and for the anesthetic does not materially differ from that of adults. An absolutely pure ether should be used, and that from the can. The open method of administration should always be adopted. The eyes should always be left uncovered, therefore the smaller size of inhaler should be used. In weak children subjected to a long or dangerous operation, the vital forces should be preserved as much as possible; the body should be swathed in cotton batting, or an electrothern may be used. If the child is old enough to understand, it is well to talk to him a minute or two about things that interest him before beginning the anesthetic. No one should be in the room but the nurse and the anesthetizer, who should tell the child to clasp his hands tightly together, holding the fingers closely interlocked. The child should never be deceived in any way. As a rule, children are ready for operation in six minutes. Now and then children can be etherized while asleep, but this method is hardly advisable, for the chances are that the child will be awakened and frightened, with consequent unsatisfactory results. If children are carefully and tactfully treated, etherization is robbed of much of its distress.—*Archives of Pediatrics.*

**Local Action of Antidiphtheritic Serum.**—Dopter describes the results of Martin's method in the local application of antidiphtheritic serum, which are infinitely better than those from the use of the liquid serum. His results are antimicrobic, not antitoxic, and are obtained by the use of dried serum incorporated with gum and administered in the form of pastilles. In the great majority of cases this method insures the disappearance of the diphtheria bacillus at the latest in five days; a greater delay is exceptional, and relapses are rare. Certain details are necessary in order to obtain these results: The patient must not chew the pastilles, but should let them melt in the mouth; the contact of the serum with the mucous membrane is thus more prolonged. The patient ought to such the pastilles regularly, one each hour. Every gargle or mouth wash which would dilute the serum in the throat should be omitted. The writer has employed the serum in the form of a dry powder on the mucosa of the nasal fossæ. The patient uses this like snuff. It has an undeniable action on the nasal bacilli, although the results are less satisfactory than in the case of the throat pastilles. The diphtheria bacilli rapidly disappear from the throat with the use of the throat pastilles, and the patient is quickly freed from the injurious action of the toxine, which is constantly elaborated by the germs. The writer thinks also that by this treatment there is hope of preventing the prolonged varieties of diphtheria, the relapsing forms, and the severe toxic accidents which occur after the casting off of the false membranes. He also thinks that the paralyses and pareses of the velum palati are avoided. The period of contagiousness and thereby of isolation is notably diminished. Hospital expenses are greatly decreased.—*Annals of Gynecology and Pediatry.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended December 9, 1905:

SMALLPOX—UNITED STATES.

| | | CASES. | DEATHS. |
|---|---|---|---|
| California, San Francisco | Nov. 11–Nov. 25 | 8 | .. |
| District of Columbia | Nov. 25–Dec. 2 | .. | 1 |
| Florida, Jacksonville | Nov. 25–Dec. 2 | 1 | .. |
| Kentucky, Covington | Nov. 25–Dec. 2 | 9 | .. |
| Louisiana, New Orleans | Nov. 25–Dec. 2 | 1 | .. |
| Maryland, Baltimore | Nov. 25–Dec. 2 | 3 | .. |

SMALLPOX—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | Oct. 7–14 | 2 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Canada, Toronto | Nov. 18–25 | 3 | .. |
| Chile, Iquique | Oct. 28–Nov. 4 | .. | 16 |
| China, Hongkong | Oct. 7–14 | 1 | .. |
| France, Paris | Nov. 4–11 | 14 | 2 |
| Gibraltar | Nov. 12–19 | 5 | .. |
| Great Britain, Leeds | Nov. 11–18 | 2 | .. |
| Madras | Oct. 21–27 | 2 | .. |
| Mexico, City of Mexico | Nov. 4–18 | 6 | 3 |
| Russia, Moscow | Oct. 28–Nov. 4 | .. | 6 |
| St. Petersburg | Oct. 21–Nov. 4 | 8 | 3 |
| Turkey, Constantinople | Oct. 29–Nov. 19 | .. | 8 |

YELLOW FEVER—UNITED STATES.

| | | | |
|---|---|---|---|
| Louisiana, New Orleans | July 21–Nov. 25 | 3395 | 460 |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| District of Honduras, Belize | Nov. 23–30 | 1 | 1 |
| Cuba, Habana | Oct. 16–Dec. 5 | 31 | 11 |
| Ecuador, Guayaquil | Nov. 7–14 | .. | 2 |
| Honduras, Puerto Cortez | Nov. 19–25 | 3 | 1 |
| Mexico, Veracruz | Nov. 19–25 | 1 | 1 |
| Panama | Nov. 20 | 1 | .. |

CHOLERA—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | Sept. 30–Oct. 21 | 21 | 22 |
| Province | To Oct. 7 | 210 | 183 |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| India, Madras | Oct. 21–27 | .. | 38 |
| Straits Settlements, Singapore | Oct. 21–28 | .. | 1 |

PLAGUE—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | Sept. 30–Oct. 21 | 2 | 2 |
| Africa (Portuguese), Chinde | Sept. 29–Oct. 8 | .. | 6 |
| China, Hongkong | Oct. 7–21 | 3 | 3 |
| Yingkow | Oct. 21 | 6 | 5 |
| India, Bombay | Oct. 24–31 | .. | 7 |
| Karachi | Oct. 21–Nov. 5 | 20 | 17 |
| Japan, Kobe | Oct. 14–21 | .. | 3 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 26.
Whole No. 1833.

New York, December 23, 1905.

$5.00 Per Annum.
Single Copies, 10c.

## Original Articles.

### THE NEURASTHENIC STATES CAUSED BY EXCESSIVE LIGHT.*

By MAJOR CHAS. E. WOODRUFF

SURGEON U. S. ARMY, PLATTSBURG BARRACKS, N. Y.

The new knowledge as to the powerful therapeutic effects of light in the case of superficial infections or atypical growths is so recent that the medical profession has not yet had time to realize the full significance of the facts so far published. It has long been known that light destroys practically all the bacteria in their vegetative stages and that it is one of our best disinfectants, so that it was quite logical to apply it therapeutically to the bacteria which had invaded the tissues. The success has been phenomenal and has been duly recorded in current literature. Briefly it might be stated that almost every local infection, if not too deeply seated, and practically every superficial atypical growth, whether malignant or benign, is curable by concentrated rays. Some operators use blue and violet, a few use the shorter ultraviolet, though as a rule these rays are filtered out by the cooling apparatus such as that used in the Finsen system. Still others use the shorter and more irregular *x*-ray, and in some instances the exceedingly minute waves set up by the corpuscles flying off from radium. Naturally there are differences of opinion as to which is the best, and these details are not yet worked out. There is some evidence that tubercle bacilli are killed more easily by the blue-violet rays than by the ultraviolet, while the cancer cells are more damaged by the *x*-ray or radium rays. In time there will be differentiation of treatment and every case will receive the wave length of most efficiency for it. Even concentrated red has been found efficient in some conditions. The new uviol lamp of Dr. Schott of Jena is a modification of the Cooper-Hewitt mercury vapor light and is made of glass which is transparent to ultraviolet rays. It has no red or infra-red and is practically cold. Its fatal effects upon living protoplasm are said to be extraordinary and it may become a powerful therapeutic agent and as dangerous as the *x*-ray.

Now, all this knowledge has had a curious result. We wholly fail to realize that the effect of short waves is always destructive and never constructive. Even in plants, they are used to break up the carbonic oxide of the air, being transformed in some way to another form of energy, possibly electric, by the chlorophyl. Hence the opinion was universal that light was a most beneficent agent of which we could not get too much, and the profession to a man has been advocating excessive exposure to the sun's rays and the admission of great streams of light into our living rooms, schools, and workshops, utterly oblivious of the fact that if it can destroy bacillary protoplasm it can do the same to the cells of our bodies. In addition light almost invariably hinders growth while darkness favors it both in plants and animals. Even men tend to be big in dark climates and little in the light ones, with some exceptions.

Botanists have long recognized the fact that the living growing cell always functions in the dark, under the bark, and that the protoplasm in the leaf must resort to all sorts of schemes for protection from too intense a light. Zoologists also have shown that animals pass all their time in the dark, or if they must expose themselves to the sun's rays they are invariably protected by an opaque covering of hair, feathers, or skin pigmentation. It is only within a decade that anthropologists have discovered that the same law applies to man. It is now proved that in every part of the world the native type of man, who is adjusted to the climate, has an amount of pigmentation strictly in accordance with the amount of light to which he is exposed. The degree of heat is immaterial, for we find that Arctic natives and those of the subtropics are equally pigmented, the former for protection from the reflected snow glare and the latter from the direct rays. Only in dark cloudy climates where there never is intense light, do we find the blonds at home, and in this cold northern part of Europe the blondness is an actual advantage in conserving heat. White surfaces radiate less heat than dark ones. Consequently blonds are perfectly adjusted to dark cold climates, and when they migrate to lighter countries they are more or less damaged according to the excess of light to which they are exposed. This fully accounts for the fact that though there has been a succession of streams of blond races, flowing southward in Europe, they do not permanently survive.

It is now necessary to find out the manner in which this extinction takes place. Since America is peopled entirely by European types, many of whom are far south of their natural habitat, it is evident that the same process of extinction is now going on under our very eyes, but so slowly that it has never been noticed. Anthropologists have repeatedly called attention to the fact that Americans are becoming more and more brunet, so as to approximate the complexions of people of similar latitudes in Europe. The ordinary explanation has been in the direction of a belief that our children are becoming darker than their parents. No one seems to have noticed that the blonds are suffering a greater mortality than the brunets, yet that is the real process. It has already progressed considerably in our South, whose vigorous types of white men are notably brunet. America then should be a good field for the study of this process of extinction.

The main result of excessive light which is not of sufficient degree to cause necrosis of protoplasm is some kind of a chemical breaking up which renders it paretic. We see a typical illustration in the low vitality of tissues damaged by the *x*-ray. Another instance is the prolonged and often incurable neurasthenia following sunstroke, and it might be said that the short sun's rays are one of the factors

*Read at the Annual Meeting of the Northern New York Medical Association, at Malone, N. Y., October 24, 1905.

in some of these cases, though thermic fever may be due to the dark infra-red rays alone. It might also be explained in passing that in the therapeutic use of these short rays it is found that invading organisms and atypical new cells are more easily killed than the normal tissue, but that if the light is too strong it kills both normal and abnormal. Indeed normal cells, from repeated damage of minor degree, may be so changed as to take on malignant growth themselves. It may not be necessary even to kill the bacteria, say in lupus, for if they are injured, the healthy tissues can dispose of them. The matter is more fully explained in my work on "The Effect of Tropical Light on White Men" (Rebman Company, 1123 Broadway, N. Y.), but is entirely too big a topic to treat properly in this place.

It has been proved that under the influence of excessive light which is not strong enough to be fatal, metabolism goes on at an increased pace and carbonic oxide is excreted in larger amounts. It is easy to see that this process cannot have any other ultimate result than exhaustion, and this is what we find in the tropics where neurasthenia is a very common condition among those who are careless in exposing themselves to the sun. Dr. L. H. Fales (*American Medicine,* April 1, 1905,) mentions that this condition is particularly common in the women, though several British India physicians believe that the men are the greater sufferers. I have found it quite common in both sexes. In men it is apt to be concealed owing to their greater musculature and better blood conditions, and the disease is rarely mentioned, as there is sure to be some coincident infection or organic trouble for which treatment is given—indeed these conditions invariably magnify the neurasthenia.

In the first few months of a tropical residence the stimulation causes an increased feeling of well-being and greater activity, so that new arrivals are capable of more work than at home. With few exceptions they are deceived as to the climate, and write glowing descriptions of its excellence. There are many curious letters in existence written by these stimulated men who have subsequently been killed by the climate or its infections. This fact will explain some of those remarkable discrepancies published as to the climate. For some reason the obese or those of great musculature suffer from neurasthenia in the tropics to a more marked degree than the little frail people, unless the latter were neurasthenic beforehand. I have been informed that the big Englishmen who go to India are quite apt to break down, while the little men more often pull through for many years.

The most important facts are found in relation to complexion. It has been particularly noticed that blonds suffer in the Philippines more than brunets, have higher grades of neurasthenia, break down in larger numbers proportionately, and in many ways prove their unfitness for the climate. This is the great point in regard to America, and particularly the cities in which the light glare is so intense in Summer. It is known that the inhabitants of European cities are more brunet than those of the surrounding country and the same phenomenon is now taking place here.

This process of the death of blond families of our larger cities, particularly in the South, is very slow, to be sure, and is not generally noticed, but is a painful fact nevertheless, and perhaps the main reason for that other fact, so long noticed, that cities are consumers of population. Growing or germ cells are more easily injured than differentiated adult cells. That is the reason *x*-ray workers are so often sterilized, why the ovary also can be made inert, and why young animals or ova are killed by exposures to radium, *x*-ray, or light in amounts which are harmless to adults. It is why also men who are raised in the country can move to a city and stand the light which kills off all their children or makes them so nervous that they are not fit to procreate a healthy third generation. It is also why we find dreadful neurasthenic states in children in the cities, even babies, when the parents are strong, and it is also why white children in the tropics begin to fade at seven or eight, or about the time they begin to run about. Infants kept indoors and protected from the light apparently do well in the Philippines, though I have seen them very sick, particularly blond children.

I have been informed by a Philadelphia neurologist that most if not all his neurasthenics are from the South, and blond at that. The Northwest corner of the United States is the cloudiest and rainiest. Not only do blonds flourish there, but the report of the Surgeon-General shows that the soldiers in that region have the lowest sick and death rates of any place in the country. As soldiers are all of one type and live under identical conditions, the result must be due to the cloudy climate. It may be remarked in passing that slight degrees of pigmentation are quite good light-screens. The tanning is due to a sunburn prevents a repetition of the damage, and *x*-rays can be applied very strongly after previous applications have tanned the skin. An olive skin, such as is found in the Mediterranean basin is a protection permitting exposures harmful to Scandinavians, so that such dark types show less damage here in America.

Physicians should find more neurasthenic conditions among the city blonds than among the brunets, omitting the Jews, of course, who are notoriously neurasthenic the world over. It will also be found that all conditions having a basis in a weakened nervous system are apt to be more frequent in the blonds, but to particularize would require a very long list of diseases of this nature. In the tropics we have noted that apepsia is very common, and so is amnesia, which may go even to the point of complete loss of memory of recent events. There are a host of other neuroses which can have no other origin than neurasthenia.

It has long been known that suicides and insanity are more frequent in the lighter months of the year than in the darker—phenomena noticed in every part of the world. It seems that the pain or irritation due to the light is the last straw, which forces melancholics to the final act. Chronic manias are reported to be worse after several days of intense light, and school children are known to be better behaved in soothing dark days, but irritable and hard to manage after several days of bright light streaming into the school room. Their sufferings can be imagined when it is known that there is an actual sun-pain, or a curious blinding headache, resulting from light glare in the Philippines, even when there is not an excessive heat. I have found these cases so bad that life was hardly worth the living, and yet complete relief could be obtained through darkening the house with appropriate window shades and verandas. It is a dreadful pain, which is more marked in the blond, the neurasthenic, and in women. Hence it is true that dark gloomy weather has a soothing effect and reduces crime, insanity, misdemeanors, and suicides, and has the exact opposite result of what popular opinion gives to it. (See Dexter's "Weather Influences.")

Dr. Milliner of Buffalo read a very interesting paper last June on the neurasthenic conditions found among electricians who work with high tension currents. It is known that there are streams of cor-

puscles thrown off from these currents, setting up tissue changes similar to those due to light. Many writers have noticed similar conditions in *x*-ray workers. Both of these instances are merely exaggerations of what every blond American is liable to get if he is too far South.

The practical point following from all this is the important matter for the medical profession. If it is true that excessive light is one of the many causes of neurasthenia, it follows that this condition in America should be worse in blonds than in brunets, should be worse in the cities than in the country, and should be vastly benefited or cured by a removal to dark cloudy climates. As a matter of fact severe cases are known to be remarkably benefited by removal from the city in the Summer, and are made worse by remaining; are damaged by a trip to lighter climates and benefited or cured by a sojourn in northern cloudy ones. It is not the heat, for the fact is the same even if the sufferer escapes the heat. Of course cases can arise in cloudy places if there are other causes. It is merely proof that light is one of the causes of this trouble.

The remarkable success of santoria in such places as the lower mountains of New York has been very marked in cases of neurasthenia sent to them from southern cities. No one has ever given an explanation of this phenomenon, and there is a constant tendency to belittle sanatorium treatment because of this ignorance of the reasons. Of course there are very many advantages in getting a patient from his home environments and giving him a complete rest and a relief from all the things which have been injuring him. Nevertheless no one has ever suggested that some of the good might be due to the relief from excessive light. It has been suggested that perhaps the rest treatment of Weir Mitchell has a partial explanation in the fact that the patient is removed from light irritation.

One of the phenomena of our Rocky Mountain tablelands is the neurasthenia which so often compels the sufferer to seek a lower level. All sorts of explanations have been given for this state of affairs, but upon investigation they are found inadequate. The only difference between those elevated regions and lower places, which we can surely accuse, is the excessive light. The ultra-violet rays in particular are exceedingly powerful, and in mountain climbers they cause the well known glacier burns which are actual ecchymoses. It has been found that cloudy days in Denver bring great relief, and an equal relief is found by removal to lower levels to which the ultra-violet rays do not penetrate in such amounts. It has long been known that American women, and particularly the blondes, do not flourish in such parts of the United States as Arizona and New Mexico where the streams of light are excessive. In the course of some years neurasthenia makes its appearance and if the patient does not move to darker places she is liable to go under through some coincident infection. To be safe from such light, one should be as dark as an Apache Indian.

The degeneration, through nervous instability, of the blond families of our Western plains, is a phenomenon which is bound to receive attention in the future. The curious hysterical outbursts, religious or political, which characterize certain of these Western States, has an explanation in a pathological state of the nervous system. It is not the normal slowness of the Baltic breed.

We have, then, in this Northern part of New York, the dark conditions suitable for the care of neurasthenics from the South. We are in the latitude of the Northern Alps, to be sure, where the mountaineers tend to brunetness, so that it is not nearly so well suited as a latitude of 50° or 60° in Norway or Scotland. Nevertheless it is vastly better than that of 30° or 35° which is the zone of our Southern tier of States and of the Northern part of Africa where the real blonds are never found, though there are a few men of light type in the dark valleys of the Atlas Mountains.

In my tours of service in various parts of the country, I have been particularly struck with the fact that neurasthenias are worse in the light parts than in the dark, and am quite of the opinion that the profession could not do better than to send such cases to these Northern latitudes either here or on the Northwest coast, where it is so cloudy and where the people are so enthusiastic over their climate in spite of its clouds.

The slow phlegmatic nervous system of the people of the Northwestern corner of Europe is the normal, and our immigrants from that section become in one generation just as nervous as the rest of us. There is no doubt that these American "nerves" are pathological phenomena due to climate and not due to the strenuous life. On the other hand, this excessive activity, push, energy, and excitement are all not only due to the pathological condition of the nervous system, but act no doubt to increase the existing exhaustion. What better advice then can we give our patients than to tell them to go North to the woods, particularly in Summer. It is regrettable that it is not possible to send more of them, and it is to be hoped that every Summer we shall find a greater and greater migration to the North. There are many conditions, no doubt, for which we should send patients to the South for a short stay—but that is a large matter, requiring much explanation.

For those who cannot afford to travel it is possible to give advice as to protecting themselves from excessive light. Our cities in the Summer do not differ much in sun glare from those in the Mediterranean basin, where the natives themselves are very careful to avoid the light as much as possible, particularly at midday, and it is very wrong not to give such advice to our nervous patients in a city Summer. In other words, we in America can gain considerable practical knowledge from tropical experience, which should put an end to the sun worship which is causing us to advocate too much of a powerful agent. Some light is no doubt essential, its stimulation is beneficial, and we all enjoy a sunny day after a week or two of clouds, but the excessive amounts to which we are exposed in Southern climates, particularly the cities, can do great harm.

In the case of tuberculosis we can all recall the old idea of the scrofulous diathesis—a general tendency to blondness. Since we gained the knowledge of the great tendency of negroes to tuberculosis, the old conception has rarely been mentioned. Nevertheless there is considerable evidence that the white population of any sanatorium in the long run shows a markedly less pigmentation than the population from whom it is taken. This also fully accounts for the growing conviction that there is some nervous element as the basis of susceptibility to tuberculosis. At any rate, the infection in white men in the tropics is so rapid as to be fatal unless the patient is removed to the North at once.

We are now in a fair way to explain the remarkable discrepancies in our views as to the benefits of climate in the treatment of tuberculosis. Blond cases should not go South, as they are so apt to become neurasthenic wrecks. The extreme South has long been known to be very inappropriate for all cases and has been abandoned for the same reason probably that we send the cases out of Manila. I

have been informed that at Dannemora prison it was discovered that in patients prone to hemoptysis, sun exposure was almost certain to cause a hemorrhage. Patients became irritable when so exposed, and bedridden cases did best in a certain shady corner of the ward. Finally we find that there are excellent results in sanatoria situated where there is a minimum of sunshine, both here and in Europe. There is room for investigation of certain bad results in sunny climates which have the greatest popularity. It is quite possible that the worst results will be found more often in the blonds than in the brunets.

Dr. S. A. Knopf, in an address on the sanatorium management of tuberculosis, while demonstrating "the curability of the disease independently of climate" (MEDICAL RECORD, October 21, 1905), has even stated that "while all modern tuberculosis therapeutists now freely confess that there exists no specific climate for the treatment of pulmonary or laryngeal tuberculosis, and that even the so-called best climate can only be considered an adjuvant, it would almost seem safe to say that in the treatment of tuberculous and scrofulous affections in children the sea coast climate in moderate zones is more nearly entitled to the name of a specific than anything thus far known in tuberculo therapeutics." And cures obtained in our ordinary home climate, while often requiring a little more time, seem to be more lasting than those obtained in more congenial climes."

We shall probably be compelled to revise our old estimates of the value of light in the treatment of tuberculosis. It is, of course, proved to be efficient locally at superficial infections, and there is even evidence that if concentrated it can be made to penetrate to the larynx or apices of the lungs and assist the cure, but whether the prolonged sun exposures often advocated are not of more harm than good, is a proper question to ask ourselves—particularly in the case of blonds.

In the case of insanity, it is said that there is a tendency to brunetness because of the large number of our foreign element who are notoriously brunet to begin with, but in the old families it is said that the blonds suffer more than the brunets in this respect as well as in all nervous conditions.

Consequently it is desirable to know whether the proportionate numbers of dark and blond types in any disease are the same as among the healthy population from which they are drawn. To determine this we should first know the complexions of the general population, native born and foreign. This can easily be done in the schools, and it is a valuable work in which the teachers can be of vast benefit to medical science. The matter is strongly commended to the school boards throughout the country, as it is easy of accomplishment by a little co-operation, and it will take but a few minutes of a teacher's time.

In gathering statistics of complexions, it is necessary to have some kind of a system so that we can compare results. I have prepared the accompanying scheme, in the hope of having complexions stated in regard to their protective power or opacity. We do not care whether the skin is yellow like a Chinaman or red like an Indian, as both colors are at the lower end of the spectrum and exclude the ultraviolet and upper colors. If an Albino has zero opacity, and the darkest man of southern Europe has ten (10), the others grade in between somewhere. The estimate is determined from the skin, hair, and eyes combined. The skin of the face is apt to be tanned and give a false idea of the real degree of pigmentation. The real complexion is determined by the skin color where it is protected, say on the upper arm. The eyes and hair vary, but they help materially to determine the matter. The total of the three will give a fair approximation of the degree of pigmentation in mixed types; thus, if the skin appears to be light (3), but eyes brown (7), and hair dark (8), the pigmentation would probably be about 18, or if the skin is dark olive (9), but the eyes dark gray (5), and hair lightest brown (6), the total would be 20 or brunet, like those Mediterraneans usually called blond from their contrast to the prevailing type. Some of the Scotch and Irish brunets have very white skins, and grade low in the scale, though they have dark eyes and hair.

GRADES OF EUROPEAN COMPLEXIONS

| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *Skin.* | Albino. | Very white. | White. | Light. | More or less dark. | | | Muddy. | Light olive. | Dark olive. | Light brown. |
| *Eyes.* | Albino | Very light blue. | Light blue. | Dark blue. | Light gray. | Dark gray. | Hazel. | Lightest brown. | Light brown. | Dark brown. | Very dark brown (black). |
| *Hair.* | White | Yellowish white. | Yellow | Light blond and brick red. | Dark blond and sandy. | Chestnut and auburn. | Lightest brown. | Light brown. | Dark brown. | Darkest brown. | Black. |
| *Types.* | Albino | Blonde and Scandinavian types. | | | Medium and Central European and Mixed types. | | | Brunette and Mediterranean types. | | | |

All other races, as a rule, have black hair (10) and dark brown eyes (9) or (10), the skin pigmentation varying from deep olive (9) to jet black or about (50).

On the coast of Norway there is quite a percentage of so-called brunets who have migrated there from the Continent, though it is probably safe to assert that most of them are not real brunets with a good pigmentation, but are light-skinned types with rather dark hair and eyes, which in contrast to the prevailing blondness make them appear very brunet. It is the opposite mistake to consider many swarthy Italians as blond because their gray eyes and chestnut or red hair afford such a contrast to the prevailing brown eyes and black hair.

If we go a little inland the Norwegians are said to be very blond, with very few brunets, consequently the center of blondness of the world is in this region of central Norway. If a straight line is drawn in any direction from this area, we find along that line an increase of the proportionate number of brunets and their pigmentation. The blonds who have migrated have perished more or less quickly, according to the distance they have traveled, particularly in a southern direction. Those who have gone due west to Scotland and its northern islands have survived in the best condition, but even as far south as England they disappear. In other words, the different types of men are adjusted to the climates where we find them, and every climate on earth is perfect for its own types and injurious to all others. We must study the type of patient as well as his disease. "It is quite as important to know

what kind of a patient the disease has got as to know what sort of a disease the patient has got." (Moxon.) Anthropology is thus an essential part of modern medicine.

Two French writers have recently taken up the question of harmfulness of light—Dr. G. Bohn, of the College of Science, Paris, and Francis Marre. The latter published his remarks in *Cosmos*, and the former in *La Nature*. As the ideas of both these gentlemen are evidently taken bodily from my own work, "The Effects of Tropical Light on White Men," it is a satisfaction at least that the matter is being given the attention it deserves. But it is certainly disheartening that medical and lay writers in America are ignoring the matter almost entirely, while the same ideas, after floating to Europe, are taken up by the lay press as European thoughts and not American. It's a queer world—particularly the part so far south as we are.

Since this paper was read, an interesting article by Dr. Geo. H. Kress on "The Tuberculosis Problem of Los Angeles," has appeared in the *Journal of the American Medical Association* for November 25, 1905. Complaint is made of the tremendous death rate of that city from this disease—greater than any other place in the United States. It is shown that a very great number of the deaths—nearly half—are of people who have resided there less than a year, and complaint is made of the habit of Eastern physicians sending incurable advanced cases to that city. Since he also speaks of the great amount of sunshine, we are quite justified in asking if that is not really a factor in this great mortality, and whether it wouldn't be better to keep all patients further north, particularly if blond. Surely we must injure some of them. The statistics published rather indicate this. The relative tuberculosis mortality of Italians and French in Los Angeles is far less than in the rest of the United States, but the northern races suffer a far greater mortality there than in the rest of the United States—Scandinavians, Germans, Canadians, English, and Russians. The Irish are an exception to this rule, but the figures prove what is indicated from other data, that only tuberculous patients of the types of Southern Europe should be sent south.

It is noted that the least mortality is in July, and that the rate rises gradually to a maximum in the following March, when it drops quickly to the summer minimum. As the damage due to light is cumulative and slow, it would not show its effect until some months had elapsed, yet it is quite likely that there are also other factors to account for the high spring rate—possibly it is due to the fact that many patients go there for the winter and a very large number die within a few months of arrival. Observations of their complexions is greatly needed.

The last report of the Surgeon-General of the army shows that the healthiest spot in the country is the northwestern corner, the Department of Columbia having the lowest sick and death records. As the soldiers are under identical conditions everywhere, this result must be due to the climate, and as this spot is more cloudy and rainy than any other, it certainly shows that we must revise some of our old estimates of the excellence of sunny climates.

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**Post-Partum Eclampsia and Glycosuria.**—J. B. Waters reports this case. The patient, thirty-five years old, was delivered normally of a healthy child. She gave no cause for anxiety until the fourth day, when she had typical convulsions. After treatment with morphine injections, hot packs, and saline enemata, she made a good recovery. The urine showed a trace of albumin and reduced Fehling's solution freely. The writer suggests that the cause of her disturbance may have been lactose, for her breasts were very full and hard.—*British Medical Journal.*

## THE CURATIVE TREATMENT OF PNEUMONIA; WITH POINTS ON HYDROTHERAPY AND THERAPEUTIC FASTING IN FEVERS.

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It is hardly worth while to describe minutely the non-curative, not to say killing, treatment for pneumonia, which is the prevailing one; the results tell the awful story: a death rate of 50 per cent. in hospital practice, and 15 per cent. in private (Medical Record, October 28). This is the natural result from the regular medical treatment—drugs and forced feeding, to clinch the mischievous but natural effects of hot poultices on hot lungs, so to say, which would tend to produce the disease if applied over the chest of a robust man in high health. This statement of fact would not appear at all strange or overdrawn to any one who fully appreciates what is going on in the lungs of a patient suffering from pneumonia. We see, for example, a young man with every evidence of a powerful chest and of great muscular strength, altogether laid down helplessly ill by a failure of the lungs. Even when he was at the worst there was no lack of power in the muscles of the chest, which were lifting powerfully, but in great measure in vain, so far as getting air into the lungs was concerned. The lack was in the lungs themselves, which were allowing the blood to flow in and to remain gorging the vessels so as to forbid, in great measure, the entrance of the vital air into the air-vessels, which have no room for expansion. When all is going well the air-vessels of the lungs on one side and the blood-vessels on the other keep time, so to speak, with the motions of the breathing muscles. As the diaphragm closes upwards, and the muscles of the chest press inwards, so as to expel the breath that has got charged with carbonic acid, the blood-vessels prepare on their side to receive the blood which is in need of the oxygen that should meet it in the next breath. The air-vessels also prepare to open to that air, when the muscles expand the space in which the lungs act and allow the air to flow in. The moment that space is expanded blood and air flow in and meet so as to exchange elements and promote the process of life.

To describe the condition is to suggest the true remedy, viz., local cooling; not chilling by means of ice-packs, but persistent cooling in and in, by means of the cold compress over the entire chest in front, the compress to be freshened as often as it gets hot, until the walls of the engorged blood-vessels have been braced to the point of resuming their normal caliber, thus allowing the air-vessels to open up and receive the air as in health. When this stage of the curative treatment is reached the patient is convalescent and all danger is passed, providing that his therapeutic fast is not prematurely broken.

No greater folly can well be conceived than feeding any patient critically sick with any acute disease, during the progress of the disease, since all the energies of the vital organism are fully engaged in its efforts to "throw off" the disease, by eliminating the disease-producing matters, or, so to say, its efforts to recover "that just balance which we call health." In every such crisis the functions of digestion and assimilation cease for the time being, and for a time all food, save water, is ingested solely for putrescence and blood-poisoning, and to add terribly to the diseased condition.

The disastrous effects of forced feeding have been vividly portrayed by the late Dr. William Jenner.

Twenty years ago Sir William Jenner, in an address before the Midland Medical Society of Birmingham, England, referring to the vicious effects of forced feeding, said: "I have seen the patient restless, sleepless, his temperature raised several degrees above what it had previously been, vomit, eject a quantity of curd, and at once the restlessness cease, the temperature fall, the skin become moist, and the patient drop into a quiet sleep. All the threatening symptoms vanish with the ejection of the offending material. Or, the undigested curds may accumulate in the bowel, inducing flatulent distention, pain, restlessness, and increased febrile disturbance. Under these circumstances I have seen an enema bring away a large vesselful of offensive, sour, undigested curds. Or, again, the undigested curds may themselves (and this has not been an uncommon consequence of milk diet in my experience) irritate the bowels, and produce, keep up, or greatly increase diarrhea."

Hippocrates was a wonderfully wise man, and one of the wisest things he ever said, as it seems to me, was that it is best to withhold food during the progress of all fevers; and therapeutic fasting has from his day to ours been the sheet-anchor of every expert sick-room dietist in all acute diseases.

It must be evident to the most superficial student that this sort of thing fully accounts for perforation of the intestine and all the distresses of a long-drawn illness, and for the excessive mortality. Moreover, food ingested under such conditions sets up or keeps up an inflammatory state of the stomach, which is readily communicated to the lungs by continuity of tissue. Indeed, there is every reason for believing that this constitutes the primary lesion, often, in what finally results in pneumonia.

Dr. Frederick P. Henry has declared ("System of Practical Therapeutics," Hare) that during the progress and at the height of fever, water is the only nutriment we have. He says: "The blood is of a dark, blackish-red color, and is generally obtained by needle puncture of the finger with more than ordinary difficulty," indicating conclusively a deficiency of water." But shall we not nourish the fever patient? Assuredly, yes; but," as Dr. Henry remarks, "the question of nourishment is a relative one, depending upon the immediate wants of the system. To a person perishing from thirst nothing is so nutritious as water. The strongest argument for the cold-bath treatment in typhoid fever is that it prevents tissue degenerations, especially of the heart, which are generally ascribed to long-continued drought. We do not attribute the desiccation and decay of vegetables during the torrid heat of summer so much to the presence of heat as to the absence of water, and the facts with reference to our own tissues during the heated term of a fever are precisely analogous. In a word, our bodies, in health, are more fluid than solid, and cannot perform their functions unless this fluidity is maintained."

The thickly coated tongue, sordes, and the generally parched condition of the mouth indicate quite clearly the utter lack of all the dissolving and preserving juices absolutely essential to the digestion of solid food, or any other food but water. To call milk a liquid food seems to me absurd, when it is stated on high authority that the casein of a pint of milk is equal to a good-sized mutton-chop, and is vastly more difficult of digestion; yet we know that as much as two or three quarts of milk are often swallowed by a pneumonia or typhoid fever patient in twenty-four hours.

When convalescence is fully established and the condition of the stomach such as to indicate the possible digestion of food, and the patient normally hungry, the time has come when food will prove a nutriment instead of a drug. The fasting patient will shortly have no movement of the bowels; there is a normal closure, so to say, under these conditions. There is never any occasion for purging in these cases, and we may well take to heart the dictum of Hippocrates, that "physic is the hardest medicine for the system to withstand." After a few days of feeding, the patient out of bed and exercising, the bowels will get in condition for a natural movement. The diet should be plain and frugal. Until this condition has been reached there is usually no appetite and there is often a feeling of disgust for food. To compel such a patient to take food, or to tempt the appetite with palate-tickling dishes, or to employ "tonics" to excite a fictitious appetency, or to run down a lot of milk (an unnatural food for human beings, and one that many persons in high health are unable to digest)—all this sort of thing is a play for prolonged illnesses and a heavy mortality.

In incipient pneumonia, at the very beginning of malaise and difficult breathing, the application of a heavy cold compress over the entire chest in front, well covered with dry folds of towel, very soon aborts the disease. The procedure is very simple, indeed. A large towel, coarse linen or cotton, is folded lengthwise in the middle, then folded crosswise in the middle, and one-half the length of this four-ply towel is wrung tightly from ice-water, or the coldest water obtainable, and again folded crosswise, so as to give four thicknesses of damp towel next the skin, and the same, dry, outside. This for a robust adult. For a delicate person or a child I use two thicknesses only of damp towel and two, dry, outside. A single towel of right size, folded lengthwise, one-half wrung tightly from ice-water, and folded crosswise, and applied as above directed. Or, a smaller towel may be folded two-ply, and wrung out and applied with another dry, two-ply, as a wrapper. Two sets of damp towel may be employed, one kept on ice while the other is getting hot; thus the changes can be made more readily.

As already remarked, the damp folds should be freshened as often as they become at all hot, whether this be in ten, twenty, or thirty minutes. At first, in severe cases, the changes will be as often as every eight or ten minutes, the intervals lengthening more and more as the inflammation subsides, and breathing consequently becomes deeper and easier. When the patient is able to breathe naturally, and the compress no longer becomes hot, and before it is felt to be an uncomfortable treatment, this local cooling should cease. When applied nicely and in a proper manner, the treatment is in the highest degree agreeable to even the tender infant, though, of course, each first touch of cold is more or less disturbing. When this treatment is indicated, the compress very speedily gets warm and is in every way soothing. It has a good effect upon the general temperature, finally, though no hydrotherapeutic or other treatment should ever be given for the purpose of directly "downing the temperature" of a fever patient, no matter what the disease may be called. While directly lowering the temperature by water is less devitalizing than by means of potent drugs, it is still bad treatment, and is never resorted to by the skilled hydrotherapist, whose aim in all treatment is to banish the cause of the fever, when the high temperature (which is the organism's means of eliminating the disease-producing waste and effete matter, and not at all the disease to be combated) goes down of its own accord, so to say.

Reducing fever directly by means of drugs has been fitly characterized by Dr. Simon Baruch, as

follows: "The chief advantage of the coal tar derivatives seems to be that their use enables the fever patient to die with a fairly normal temperature." Thus is the doctor the ally of the disease. The vitality of the patient goes down with the temperature when influenced by antipyretic drugs.

Pneumonia, as it seems to me, is properly classed among the filth-diseases; the body is ill-conditioned, and the local disease is at the patient's weakest point, the lungs. Along with the local treatment, as above described, therapeutic fasting should always be employed and continued until breathing is easy and the patient absolutely convalescent, and all cause for anxiety passed. It is difficult to decide, as between forced feeding and drugging of such patients, which does the most harm; nor is it worth while to discuss the point, in face of the fact that there is no call for either, and that both are harmful and fatal in their tendency. The fact that both of these procedures are employed as the routine treatment in pneumonia, and that, added to such unphysiological treatment, the pneumonia jacket, hot poultices and skin-irritating pastes are usually employed, fully accounts, in the present writer's opinion, for the terrible mortality in a disease which, rightly treated, is in its earlier stages readily aborted, often within a few hours, as I have proved over and over again in my private practice.

Dr. Simon Baruch's mortality in pneumonia of about 2 per cent., which I judge refers to his private practice, and Dr. Thomas May's mortality of less than 5 per cent., in hospital and private practice, together, may very properly be regarded as the normal death-rate in this disease under wise management. The chief element is chest cooling with both of these gentlemen. We do not lose sight of the fact that some cases as they come to us, especially in hospital practice, are necessarily fatal, such as (to employ the language of the editor of the MEDICAL RECORD) "the old, the social wrecks, those broken down by excesses of all kinds, by exhausting labor, and by privations, and the actually moribund." Some of these patients have, so to say, a right to die; but even these are entitled to a fair chance for their lives, and to die, if die they must, in comparative comfort, as they will if happily they are saved from the stock treatment, the results of which are so fearful as to lead up to the dictum that "pneumonia is a disease which can neither be aborted nor cut short by any known means at our command," which is the sentence which opens the section on the treatment of lobar pneumonia in one of the most popular of American textbooks of medicine. ("Is Pneumonia Incurable?" MEDICAL RECORD, October 28, 1905.)

Between the two extremes—the simple cases, taken at the very onset of the attack and readily aborted, on the one hand, and, on the other, the very worst cases, some of which are necessarily fatal—we have cases of all degrees of severity, but most of them curable, only demanding in the most serious cases the most extreme care and skill of the expert, who knows where, when, and how to cool, and also, where, when, and how to apply genial moist heat, as explained elsewhere in this article.

If ever there is a demand to have "every feather to the good," in the treatment of a patient, it is in pneumonia. In the first place, there should be the freest ventilation of the sick-room. The bugbear of too many, in and out of the profession, is "catching cold"; it is a sort of scapegoat which tends to throw us off the track; that is, when forced feeding and drugging have given a patient a setback, and from apparent convalescence (the product of stimulation) a physician finds his patient in condition of relapse, the change is apt to be attributed to the patient's having "caught cold." The fear of catching cold is mischievous in the extreme, since it operates to shut the patient up to an insufficiency of fresh air, in spite of the fact that, as Dr. Benjamin Franklin long years ago declared, "colds, so-called, are utterly independent of either wet or cold," and as I—the "pigmy on a giant's shoulders," if you please—have urged upon the attention of the profession in numerous articles* during the past twenty-five years. It was the dictum of the eminent Dr. Juergensen of Germany that "a fever patient cannot catch cold." I have caused the almost instant revival of a babe in pneumonia in midwinter by throwing wide open the windows in the stived den in which it was being smothered, though the home was of the palatial order. It is usually in such a close room that the oxygen treatment is employed, a treatment which I have never felt moved to use, feeling no occasion for such artifice, since the fresh cold air supplies oxygen in just the right dilution for the best effects.

In absence of drugging, absence of forced feeding, whether with "predigested food" or not; absence of heating appliances over the chest, and with persistent cooling over the region of the lungs, the use of a small half-cupful of moderately hot water every hour or two when the patient is awake, for an adult, or a few teaspoonfuls, at frequent intervals, for the young child—this kind of treatment will in most cases suffice to bring the patient out all right. Taken early, in the majority of cases, the disease is speedily aborted, often within a few hours; and in a majority of cases it is the only treatment demanded.

In severe cases, as those coming late under treatment, or that have been badly treated before coming under this management; frail and delicate patients, the aged, alcoholics, etc—in these cases, to "stimulate" and counteract effects of local cooling, there is apt to be a demand for a full hot fomentation of the feet and legs by means of a small, clean, woolen blanket, folded and lightly saturated with hot water, and applied as hot as it can be without danger of scalding the flesh, wrapping this snugly with several folds of stout dry sheet to keep the heat in; and a hot-water bag may be a useful adjunct. Nothing of this kind is needed in ordinary cases. In certain cases there may be a period, after the "lung fever" has subsided, but never earlier, when a moderate hot fomentation is useful at the back of the chest, while the cold compress is over the front of it.

As for bathing, there is very little occasion for it, beyond a daily quick sponge bath with lukewarm water, in which a trace of acetic acid is added, to make it very slightly acid to the taste. Alcohol baths, so commonly employed, or alcohol in any form, inside or out, is to my mind contraindicated. How frequently we read the announcement, like one before me at this moment: "Death from heart failure, after pneumonia." It is not the pneumonia, but the "heart stimulants" employed, that play the mischief in these cases. An eminent physician, in a lecture before the Harvard Medical School Association, related the story of two "brilliant cures" of a certain form of heart disease, under his treatment, when he was a young man, by "enormous doses" of digitalis. Both patients had been taking ten-drops doses, and

*"Catching Cold," *Popular Science Monthly* (New York), January, 1884. "Therapeutic Fasting; Should It Be Called Starving?" MEDICAL RECORD, February 24, 1894. Hygienic *vs.* Drug Treatment for Typhoid Fever, *ibid.*, April 28, 1894. "Flannel Underwear and Personal Sanitation," read before the Section on State Medicine, meeting of the Am. Med. Assn., Philadelphia, Pa., June 2, 1897. "Consumption; Roughing It, *vs.* The Coddling Treatment," MEDICAL RECORD, October 20, 1894, etc., etc.

he increased the dose to forty drops. "The triumph seemed complete," said the lecturer, "and so it was for weeks; but mark the ultimate result: Mary, one morning, as she trod the doorway of the market-house, fell dead across the threshold. The banker, stretching his arm across the desk that had been to him the pathway to riches and power, fell hushed and powerless into the eternal silence."

Dr. José M. Ferrer, visiting physician to St. Vincent's and the French Hospital of New York, in writing on the treatment of pneumonia in the MEDICAL RECORD for May 21, 1904, said: "I cannot too strongly deprecate the excessive interference practised in many of the ordinary cases. I have seen patients robbed of sleep, their temperature increased, their hearts overtaxed, their respiration made more labored, and their general condition rendered miserable by pulling and hauling examinations and baths, and injections and poultices, taking oxygen and drugs, all of which seem to me largely unnecessary."

There is a lamentable lack of interest among medical men concerning all such studies as are embraced in this paper. The reason of this is not far to seek: the medical schools give their graduates almost nothing in the way of teaching in hydrotherapy, and it is the almost universal practice with the professors and the hospital physicians to feed early and often, as if the questions of digestion and assimilation, instead of simply swallowing, were not at the bottom of all true feeding. In the discussion following the reading of an essay on "Hydrotherapy, Its Scientific Basis," by Professor Putman of Harvard University, recently, Dr. Coggeshall insisted that "it is disgraceful that students should be allowed to graduate from our medical schools with practically no systematic teachings in regard to non-medicinal therapeutics," and Dr. Rogers remarked, jocosely, that "medical colleges ought to cease to graduate men who don't know the difference between a Scotch douche and a hot Scotch." Kussmaul was quoted as follows: "Of hydrotherapy the average physician knows almost nothing. Here is a great gap in the education of our physicians; here is the real cause of their inability to cope with the empirics for the favor of the public." Professor Credé of Leipzig remarks that, "if physicians were better versed in these branches, the field of operation of many quacks would be greatly curtailed," which is only another way of saying that many quacks are more efficient in practice than the average practitioner. When we speak of a death rate of 15 per cent. the prevailing idea is, that the 85 patients who escape immediate destruction, speaking of typhoid fever or pneumonia, have recovered health. But the fact of the matter is, they are left so badly off that, as the life insurance statisticians assure us, one-fourth of their number die prematurely of consumption. This amounts, then, practically, to a mortality of about 36 per cent., instead of the comparatively trifling 15 per cent., which is the nominal death rate in typhoid fever and pneumonia.

It has to be confessed—and this constitutes the chief hindrance to progress along this line—that skilful physiological, or natural, treatment is apt to be "bad business" for the family physician, especially for the young practitioner striving for a paying practice; for, if he skilfully abort a case of pneumonia or typhoid fever, or other acute disease, and has his patient shortly on the street, he gets no credit for curing a bad case. "It was only a mild attack," it would be said; or, "It wasn't pneumonia, after all." On the other hand, if one of his competitors had treated that same case, and there had been several weeks of painful, costly sickness, with a day nurse and a night nurse, and daily calls of the physician—clever fellow, so kind, so sympathetic, and so well-intentioned—this doctor, whether his patient lived or died, would have gained reputation and a big honorarium. In the one case it would be said that he cured one of the worst cases; in the other, it would be set down to "the will of God."

The late Dr. John Forsyth Meigs, in a lecture delivered at the Pennsylvania Hospital in 1879, said: "When I stand by the bedside of a severe typhoid case, and see the patient motionless, insensible, dead to all the usual senses of the living; when I look at his half-closed eyes, his gaping mouth, his dried and fissured tongue; when I brush the unheeded flies from his poor, unconscious face; and when I touch his hot and burning skin, I ask myself into what lower state the human body can fall. Not only has the patient lost all appetite for food, not only is he dead to all that surrounds him, but his hot and withered body, his dry and pasty mouth, filled with desiccated crusts and sordes, knows no longer even the sense of thirst. This has been the last sense of which he has been deprived. So long as he retained any consciousness at all he would ask for water. Now he feels not even this great want. It is in this crisis of his life that he is to be saved, if saved at all, only by the constant care of his physician, nurses, and relatives. And woe to the physician who can look on such a sight and not yearn to know all that his art has acquired through centuries of experience and study."

Typhoid fever destroys fifty thousand lives in this country every year, and, as we have observed, sadly injures the other two hundred and fifty thousand patients who are said to recover from the disease; or, more correctly speaking, the prevailing treatment does the greater part of all this fearful mischief. Outside of the practice of here and there a physician, who has learned the proper treatment for typhoid fever, there has been little or no improvement in the treatment of this disease, either in private or hospital practice, during the past one hundred years. We have the history of typhoid in the Massachusetts General Hospital for the past seventy-eight years, thanks to Dr. Fitz, whose tables from the records show that from the year 1821 to 1859 the mortality in typhoid fever was 12.75 per cent., and from 1859 to 1899 it was 15.5 per cent. Certainly, this is a very bad showing for medical progress, so far as concerns this disease.

Chrisippus won the title of "irregular" by opposing the prevailing practice of his time of active purging and bleeding, and he introduced the hunger cure (doubtless meaning abstinence till the patient was hungry), which is the dictate of good sense, as it seems to me; and Erasistratus prescribed fasting as the most efficacious remedy in all febrile and inflammatory processes; so that none, who regards antiquity as evidence of the value of a remedy, may sneer at the idea of giving the stomach a rest when this organ is in an exhausted state.

How often I have visited a fever patient day after day for a week or more, observing the tongue changing favorably, the temperature kept down well, strength steadily increasing, and all this on a diet of cold and warm water, until I have suggested at some point that perhaps the time was ripe for feeding, only to have my patient query whether it might not be safer to put it off another day or so! Finally, I will say, that so far as the question of safety is concerned in fasting a fever patient for any required length of time, I am apt to drop all anxiety regarding the outcome of the case if this part of the treatment is strictly adhered to, speaking of the great majority of cases that come under early treatment. And at no stage of any case do I hesitate to apply

the principle in question, as in neglected or badly treated cases coming under my care. The fact seems to be, that the longer the stomach and bowels have been subjected to the forced-feeding outrage the more reason for such rest as may seem to the expert attendant demanded.

In my own practice I never allow the ingestion of a morsel of any sort of food, except water, or perhaps a little orangeade or lemonade, until my patient is practically convalescent; and highly as I value the Brand bath for typhoid fever, which I have used to the limit for twenty odd years past, I would without hesitation, if shut up to the choice, trust to simple sponge bathing with fasting, rather than to the most expert hydrotherapy, with constant feeding. The "starving" plan practically prohibits "complications" and "relapses" (commonly regarded as the effect of "a cold," when, in fact, they are the product of indigestion and "reaction" from the antipyretics and stimulants so freely employed by most practitioners).

The fasting patient is scavenging on, and thereby eliminating the impurities with which his system is saturated, and which to a great degree constitutes his disease; on the excess of fat, if stout, and on the unassimilated nutritive matters which abound in the interstices of the tissues of most fever subjects. He is for the time being a sort of cannibal; but it is "Dr. Jekyll" devouring "Mr. Hyde," and the diet is well suited to his needs. With an abundance of soft water, which is best supplied for the most part at a temperature slightly above that of the blood (though the patient should not be denied a draught of fresh water when desired), he will be well sustained. For adults, from 2 to 4 ounces every half-hour to two hours, according to the amount and complexion of the urine. It is given moderately hot, and always with a placebo in some of the portions. Fasts of five, eight, and ten days have been so common in my practice that they have long since ceased to be at all novel.

## CONGENITAL STENOSES OF THE URETHRA.

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With the exceptions of hypospadias and epispadias, malformations of the urethra do not awaken a vivid interest among surgeons. Some of them are considered as frequent, but unimportant; others are looked upon as anatomical curiosities, often associated with more extensive abnormalities, incompatible with life and beyond the reach of art. While this surgical contempt may be justified in a certain number of cases, there are some few exceptions. Congenital strictures, for instance, deserve a far better consideration. Until recently they had taken their share of the common disdain. No text-book on urinary diseases, even no comprehensive treatise on surgery gives them more than a brief mention. Yet, strange enough, quite a respectable number of cases are on record, and several interesting articles have been published on the subject, but all have fallen into oblivion. A special variety, though, has had better luck, viz., atresia of the meatus, well studied by Otis first, by Tédenat and Desnos later, and which has now found its place in all of the classical books. This latter variety is undoubtedly the most frequent and the easiest to observe and describe, but it is only a special localization, and all anatomical types of stenosis that have been found at the meatus may be found also in the other parts of the urethra. The attention of the profession at large has not been called yet on this fact in an explicit enough manner. Those deep strictures must be promoted from the rank of anatomical rarities, as has been the atresia meati; they are much more frequent than commonly thought, and their clinical importance is not nearly so small as might be inferred from the scant courtesy writers have so far shown them.

My attention was drawn to the subject by a case I observed a few years ago when house surgeon in one of the Paris hospitals. A boy, aged 10, had had urinary incontinence both at night and in daytime, the mother said, ever since he was born. No history of perineal traumatism, no hereditary antecedents, no external malformation. Careful interrogation of the mother and of the boy showed that there was no real incontinence in the daytime, but only an imperious miction. A *bougie à boule* No. 10 was stopped by an annular stricture just before the entrance of the membranous portion. Urine clear, good general condition. Progressive dilatation with bougies proved easy and the incontinence disappeared quickly. The patient left the hospital cured, and could not be seen afterward.

At the time I saw this case I thought it was an exceptional one, inasmuch as I could not find any information in classical books. I made some bibliographical research, and found several similar cases published by Philips, Englisch, De Semet, Bangs, Loumeau, Oraison, but no general study. Recently, Bazy has made several communications on the subject before the Paris Société de Chirurgie, and one of his internes, Foisy, has written for his thesis the so far missing general study. He collected 104 cases from the literature (not including numerous cases of valvules of the meatus, nor of partial bands without clinical history), and since his thesis was printed (May, 1905) several additional cases have been brought up to light, so as to bring the actual total of cases up to 110. The latter figure may seem small, almost trifling, if compared with the enormous number of acquired strictures, but it is by no means contemptible, and, as we see facts much better once we have been taught to see them, we may take for granted that the number of cases will in the future increase much more rapidly than it has done so far. Two and seventy-five hundreths per cent. is the only estimate of relative frequency given up to the present time (Christen), but this percentage we deem only provisional and bound to be modified in a near future.

All malformations find an explanation in embryology. But if this branch of science shows us *how* defects are produced, it does not tell us *why* they are produced. It gives us the pathogenesis of a lesion, but it does not give us the etiology. Be it said at once, we do not know anything more about the real etiology of congenital strictures of the urethra than about the etiology of malformations in general. We might rehearse here all the commonplace topics about heredity, consanguinity, maternal emotions and traumatisms during gestation, which have been used indifferently for harelip, hypospadias, or any kind of congenital deformity, but it would be perfectly idle talk. One group of causes, though, seems to have more scientific value, namely infectious diseases of the parents, especially the mother. Hereditary syphilis may play a prominent part as a determining factor of all congenital malformations, but in the particular case of urethral strictures special conclusive evidence is still lacking. Therefore, we must be contented with the pathogenesis, if we cannot reach the etiology. Let us summarize in a few lines the development of the male urethra and dwell a little longer on the points of special interest in our study.

At the end of the eighth week the cloaca is divided into two by a septum; the posterior part of the cloaca becomes later the rectum, the anterior is the urogenital sinus. The anterior wall of the cloaca is then formed by the cloacal membrane, a thin layer of epithelial cells separating the entoderm from the ectoderm. This cloacal membrane soon thickens by active proliferation of its epithelial cells and becomes the cloacal plug of the French writers, which gives rise by its anterior face to the genital tubercle. The urogenital sinus forms the posterior urethra, that is the prostatic and membranous portions and the portion of the anterior urethra which is situated just before the entrance of the membranous portion.

A little later the cells of the cloacal plug undergo partial resorption and a communication is established between the urogenital sinus and the outside. The slit which marks the opening of the sinus is prolonged under the genital tubercle by the urethral groove. During the third month of gestation both edges of this groove unite together on the median line and thus a canal is formed. But here takes place a most interesting phenomenon, and most important to remember: the canal thus formed does not persist as a canal, it is soon filled by active proliferation of the lining epithelial cells and becomes a solid epithelial tube without central lumen. Later on this solid tube becomes the definitive urethra by resorption of the central cells. The urethral groove produces the spongy portion of the urethra.

As to the balanic portion, its development is still a much discussed question. One point, though, is settled: the balanic portion is developed independently from the rest of the urethra. From the anterior part of the genital tubercle springs an epithelial bud which penetrates forward in the mesoblastic tissue of the glans. The dividing line between this bud and the end of the spongy portion is an epithelial layer, the epithelial wall of the glans. Later on, the solid bud becomes a canal by resorption of the central cells, and by resorption of the epithelial wall is connected with the spongy portion.

The points to be borne in mind by us are the following: (1) The urethra is formed by three embryological portions: (*a*) the posterior urethra developed from the urogenital sinus, and separated from the next portion by the cloacal membrane; (*b*) the spongy portion developed from the urethral groove and closed during the first stages of its development by the cloacal membrane, at its posterior extremity, and the epithelial wall of the glans, at its anterior; (*c*) the balanic portion developed independently. (2) The spongy and the balanic portions, *i. e.* the whole anterior urethra, are not derived as the posterior, from a hollow embryonic organ, but on the contrary develop in a solid, continuous mass of epithelial cells. So that the continuity of the urethra is established from behind forward only by the following series of processes: resorption of the cloacal membrane, resorption of the central cells of the spongy portion, resorption of the epithelial wall of the glans, resorption of the central cells of the balanic portion.

The development of the posterior urethra is relatively simple, but the development of the anterior is complex. Other examples show congenital malformations to be more apt to occur in organs which develop by complicated processes, and at the uniting point of two embryologically distinct parts. Therefore, we may think, *a priori*, that stenoses will be much more frequent in the anterior urethra than in the posterior, and that the elective points will be the premembranous and the balanic portions. Anatomical pathology shows facts to be in accordance with those inductions. Congenital stenoses are exceedingly rare (2 cases) in the male posterior urethra; they are unknown in women who have only a posterior urethra.

In an incomplete resorption of one of the epithelial masses which at one time of embryonic life fill completely the anterior urethra, we have the explanation of most congenital strictures. We understand easily how an incomplete resorption of the central cells will leave a thickening in the wall, the length and inner projection of which may vary considerably. We understand how the non-resorption of those cells will leave a fibrous obliteration of the canal. We understand how an incomplete or a non-resorption of the cloacal membrane or of the epithelial wall of the glans will give rise to an obstructive perforated or unperforated septum. Such an explanation, however, will not hold good for the few cases on record of strictures of the posterior urethra. The latter being derived, as it is, from a hollow embryonic organ, and not from a solid epithelial tube, we must admit here, instead of an arrest of development, an excessive proliferation of the cells lining the urogenital sinus. Such a process must be much less common than an arrest of development, which is the fundamental embryonic base of most deformities, and this is one more reason why strictures of the posterior urethra are so seldom observed.

Guyon, who, in 1863, gave the first classification of congenital strictures, described two types: (*a*) Cylindrical and annular, (*b*) valvular. The small number of cases then on record did not warrant a more elaborate classification, and Guyon's division was adopted by most subsequent writers. In 1880 De Semet split the valvular group in two, because in some cases there is a typically valvular fold, just like a venous valvule, but in some other cases there is a perforated septum, a diaphragm. Recently, Foisy has proposed the creation of a fourth class for those cases in which the stricture is constituted by an incomplete band implanted on part only of the circumference of the canal. We have no capital objections against this subdivision; but hair-splitting must be avoided in nosology, and we wonder if such a complication was called for by necessity or was even an improvement. Partial bands are only diminutive and incomplete types of annular stricture, and the fact that their elective locations and embryogenic formation are exactly the same militates strongly against any artificial division in the group.

But if the annular group is homogeneous, the valvular is not. De Semet's subdivision is an improvement. Septa and diaphragms differ widely from valvules both in location and embryology. The latter is the same for septa and for annular strictures, but valvules, very improperly called "valvular strictures" by many European writers, are simply the exaggeration of a normal condition. "Valvular strictures" in the penial portion are simply hypertrophied normal small valvules, "valvular strictures" in the prostatic part are "constituted by an hypertrophied frenum of the verumontanum," "valvular strictures" of the meatus are simply exaggerations of that very frequent, if not normal, valvular fold of the newborn described, in 1823, by Stiebel under the name of male hymen.

Such valvular formations have nothing common in their origin with the arrest of development which creates annular stenoses or septal obstructions; they are the result of a formative process exactly similar to what gives Guérin's sinus. Consequently, we think it better not to link with congenital stenoses lesions anatomically, clinically and originally absolutely different. On the other hand, we think it

arbitrary to describe perforated septa as strictures, and to make a separate class for imperforated septa. The very small hole found in most cases is not enough to justify the creation of two classes in lesions which in all other respects are absolutely identical. Same reasoning holds good for cylindrical strictures and occlusion of the canal by fibrous transformation. Our conception of congenital stenoses is the following: a hierarchy of lesions all originating in an arrest of development, starting from simple defectuosities and going up to the total obliteration of the urethra. A restriction, however, must be made; obliterations of the urethra do not have the practical interest of strictures, because they are frequently associated with grave lesions and almost incompatible with life.

Incomplete bands are the least accused type of congenital strictures. As Otis and Getz have shown, such congenital bands are very common in the urethra. Professor Guyon (oral communication, quoted by Bazy) says he has found them very often without having ever called special attention on them. A slight incomplete band is almost constant in two normally narrow points of the canal, namely, behind the fossa, and before the bulb. These two points are precisely the elective points for strictural partial bands.

Cylindrical strictures show us a more marked anatomical type. The normal elastic wall of the canal is changed into a thick, dense, inextensible cylinder. But often, when divided, as in urethrotomy, such a cylinder does not give the sensation of a hard and unyielding tissue. Indeed, several operators have noticed, under such circumstances, a resistance not different from that of a healthy tissue: and besides, the section gives comparatively more blood than in the case of a common stricture. Both peculiarities are easily accounted for by the histological structure of the cylinder, which differs widely from the type found in inflammatory cases. Microscopical examination shows the lesion to be a proliferation of the connective tissue of the chorion with perfect integrity of the epithelium; in other words, it is a subepithelial sclerosis (Foisy).

There may be considerable variation in the length, caliber, and number of those strictures. When short, the stricture is termed annular; when long the term cylindrical is used, and in the latter case the length of the cylinder may vary from a quarter of an inch to the totality of the posterior canal and part of the bulbar portion, as in Stein's case, or even to the entire length of the canal as seen by Chopart and Mapather. The average length is one-half to one inch. Some strictures will allow only filiforms to pass, others will simply give a jerk with an 18 or 19 *bougie à boule*. In most cases, the stricture is single, but Englisch and Foisy have found two stenoses in the same canal, Daniels, Bangs, Oraison and Sikora have found three, Getz four, and Bardinet as many as five. In one case a cylindrical stricture was associated with an abnormal valvule. Cylindrical and annular stenoses have been found in all points from the meatus to the neck of the bladder, but the most frequent location is the meatus. Next ranks the deep bulbar portion, just before the entrance of the membranous portion. The case I have reported above belonged to the latter variety, named by Bazy and Foisy premembranous. A third location, though less frequent, is common enough, namely, the fossa navicularis, and the junction of this fossa with the spongy portion of the canal.

The highest type of lesions in that case is illustrated by the few cases of obliteration of the urethra by fibrous transformation, with or without derivative canal. Guyon has collected eight such cases from the literature. Such an obstruction is generally found in the premembranous urethra, but may extend to the entire length of the canal (three cases). There are now in all 40 cases of annular or cylindrical strictures on record.

Urethral septa are generally transparent and thin membranes. They may be perforated or unperforated. If unperforated, they are incompatible with life, on account of their frequent association with more extensive abnormalities, and of the grave lesions they determine during intrauterine life. If perforated, the aperture is generally very small, and located either in the center or in some other point more or less distant from the center. As that aperture is small, symptoms of obstruction are marked. Frequent enough at the meatus, rare in the pendulous urethra, they have been found several times in the bulbar portion. Jarjavay has found a septum perfectly iris-like in the membranous portion. Others have found an obstruction at the neck of the bladder, but such cases are exceedingly rare. In one case there were three unperforated septa: one at the meatus, one at the junction of the fossa with the spongy portion (epithelial wall of the glans), and one in the premembranous portion (cloacal membrane).

Congenital stenoses of the urethra are very frequently associated with other deformities, phimosis, hypospadias, dilatation of the urethra, diverticula, etc. The ascending lesions of the urinary tract are much the same as in other strictures.

The anatomical evolution of congenital stricture compatible with life raises several interesting points. They certainly develop, as does the fissure of a harelip, proportionately to the growth of the surrounding parts, so that the deformity is not any more or any less apparent in adult life than in childhood. But we cannot admit what has been said by some authors, that at the time of maturity strictures so far not developed enough to give rise to any disturbance may grow more rapidly than the surrounding structures and become troublesome. Such a supposition is perfectly untenable so far as normal development of the stricture is concerned. But, and this is probably the cause of the error which gave rise to such an opinion, maturity is precisely the time when extrinsic influences may come and aggravate the lesions of a preexisting stricture. Infection is the principal, if not the only, one of those extrinsic influences, and may be caused by a specific microbe, such as the gonococcus, or by non-specific common germs. The latter come generally from the canal. Above a narrow point, urinary stagnation produces a constant inflammatory condition, by which microbic virulence is exalted. But non-specific microbes may be brought from the outside. In a case quoted by Forgue, a patient used to himself dilate his narrow meatus with wooden mandrins of his own very primitive workmanship. Tédenat reports another case, in which a congenital atresia became a real cicatricial stricture after an ill-timed cauterization of the meatus and fossa.

Gonorrheal infection is more frequent and more interesting. The stricture aggravates the clap and the clap aggravates the lesions of the stenoses. The influence of a narrow meatus on the evolution of gonorrhea is well known, and there is not one physician who has not had to incise such a meatus behind which a clap was raging. But it is an evident exaggeration to say that if a canal is normally developed from end to end, and if it is entirely free from congenital stricture, gonorrhea will be light and disappear in a short time without doing any further mischief. Gonorrhea can produce a stricture by itself without being helped by an anteriorly exist-

ing congenital defect; but undoubtedly when both coexist, gonorrhea finds in the congenital stricture a *locus minoris resistentiæ* where it grafts the lesions of an acquired stricture. Numerous cases are on record in which the symptoms of a tight stricture appeared a short time after a gonorrhea. We shall have to dwell on those facts later on, when we shall discuss the diagnosis.

There is an evident gradation in the anatomical types of congenital stenoses; there is a similar gradation in their clinical symptoms. Many a man may have a congenital band in his canal without ever experiencing any ill effects; many a man has had a congenital stricture and has not felt any inconvenience until a complication, such as gonorrhea, set in; others, on the contrary, have been troubled from childhood; nay, from early infancy. The severity of the symptoms may still be greater since some strictures determine irreparable lesions of the bladder, ureters, and kidneys during intrauterine life, and cause death before birth or during the first days of extrauterine life. But the clinical gradation is not absolutely parallel to the anatomical gradation. The chief anatomical fact is the extension of the lesions: the chief factor for a clinical standpoint is tightness. Of course both extension and tightness may coexist in the same lesion, but such an association is not compulsory. For instance, a thin, transparent diaphragm, with a small aperture, will give rise to much more marked disturbances than a long cylinder with a comparatively large lumen.

When the stenosis is not tight, as in cases of partial bands and short rings, the symptoms of urinary obstruction are generally absent. No strain, no protracted miction. On the contrary, parents bring their children or youths come spontaneously to the physician's office because miction is too easy and they are incontinent. They have wet their bed every night since they were born, or perhaps with the exception of a few short periods. In the daytime micturition is frequent and imperious; if the desire is not promptly attended to, urine escapes in the trousers. Such a condition is invariably called incontinence by the complainants, but interrogation will always show that the desire is felt in the daytime, and that the young patient is able to hold his urine for a short time. Such a clinical association, nocturnal incontinence and diurnal frequency, without any pathological changes in the urine, must be considered as suggestive of stricture, and instrumental exploration of the canal should then always be resorted to. The following mechanism is given by Bazy to account for the seemingly paradoxical fact of a stricture causing incontinence without dilatation of the bladder and without retention. The stricture causes a very small quantity of urine to stay in the posterior urethra, where it incessantly incites the bladder to contract by reflex action. During the day voluntary control partly counterbalances bladder contractions, but during the sleep such a control does not exist any longer, and incontinence is produced. Only in nervous children will such an excitation give such results. Now we find all of those children to be highly nervous or of highly nervous parentage. At the time of puberty, incontinence generally disappears; sometimes, if the patient becomes infected by the gonococcus, incontinence is followed by symptoms of a rapidly growing stricture.

When the stenosis is tight, the clinical picture is much like that of an ordinary inflammatory stricture, but the symptoms appear very early in life. It is often a difficult task to interpret the urinary symptoms presented by a very young child. Often these symptoms attract the attention when the child begins to go to school. He is obliged to leave the classroom hurriedly to empty his bladder three or four times oftener than his classmates. He also stays out much longer. Sometimes a miction lasts five or ten minutes, or even more. The urine flows drop by drop at the beginning, and the stream becomes filiform when the child strains. After a miction, a few tardy drops are voided in the trousers. The little patient is well aware of these facts, but as he does not know how passing water freely feels, and as children do not like to speak about their urinary organs, he very seldom complains. As accessory symptoms, priapism and early sexual habits have been noted. Later, the stricture reveals its presence in many cases by a sudden attack of complete retention, which very often brings the patient under medical care for the first time. Such an attack occurs generally between the ages of 15 and 30 years, but it has been seen as early as the ninth day and as late as the sixtieth year. This appearance late in life of a symptom caused by a congenital lesion is very important to remember. It is one of the reasons why congenital strictures are so frequently overlooked. But is it not understood that what characterizes a congenital affection is the anatomical disposition existing at the time of birth, and not the early appearance of symptoms after birth? We all agree that a hernia in which a special disposition of the sac and the testicle is found is a congenital hernia, though it may not have acquired any considerable volume before adult age. Therefore, why should we eliminate the possibility of a congenital stricture simply because the first attack of retention has not been produced before adult life?

After one or several attacks of acute complete retention, incomplete chronic retention, with distention of all the urinary tract above the stricture, sets in. Then all sequels and all possible mechanical and septic complications may be seen. Congenital strictures then behave just as inflammatory strictures, even if no infection has ever touched them.

If properly weighed, the above-mentioned symptoms should be suggestive of stricture and direct exploration of the canal should be resorted to. We cannot rely much on inspection, except in cases of meatic stenoses, palpation is of little or no avail, instrumental exploration alone with *bougies a boule* is conclusive. The sensations given to the fingers do not materially differ from those perceived in an ordinary stricture, and we do not intend to dwell at full length on them. Though the diagnosis of an affection with such special clinical features would not seem particularly difficult, we may safely assert that the diagnosis of congenital deep urethral stricture is almost invariably passed by, and this for one very simple reason: namely, that those strictures are never thought of by the average physician, and consequently the one necessary examination is not performed.

In children, incontinence, if not accounted for by some evident external malformation as a phimosis, an atresia meati, or the like, is too often pronounced by the physician, without further examination, to be due to neuropathic disturbances, and is called "essential." Or it is attributed to "congenital irritability" of the bladder. "Essential incontinence," when used in such a way, is not a diagnosis: it is only a label pasted on a symptom, the cause of which the physician has been unable to discover. And no wonder he has not discovered that cause, since he has not been looking for it! "Congenital irritability" as a causal diagnosis does not seem to us much better even if introduced in urinary pathology on such high

authority as Thompson's. When we read the latter's description of his so-called congenital irritability of the bladder, when we notice that the principal symptom is nocturnal incontinence in childhood, followed by the development of a stricture in adult years, and, at last, when we hear Thompson declare that gonorrhea in individuals afflicted with "congenital irritability" usually runs a more severe course, and always produces a stricture, we can but agree with Foisy that the explanation which Thompson declared himself unable to give, lies most probably in the existence of a congenital stenosis.

In adults the existence of the stricture itself is generally diagnosed, but its congenital nature is not any more recognized than in children. From the physician's standpoint, a man who has a stricture must have had a clap, or must have received a perineal traumatism. The negative answers of a patient are accepted as reliable authority for the perineal traumatisms, but not for claps. There seems to be among physicians a strong tendency to consider a man with a stricture who denies all previous gonorrheal infection as ignorant or a liar. An ignorant or dull-witted patient may have had a clap without knowing it; some others, through an ill-timed bashfulness, may attempt to conceal the truth. But when we have to deal with men perfectly frank in just as delicate question as clap, who, for instance, will acknowledge unhesitatingly having masturbated, and who are keen observers of their genitourinary organs, is such a prejudiced opinion anything more than an unfair assumption? And when they add, besides, that all symptoms go as far back as childhood, are we not the dull-witted and the ignorant if we prefer to affirm a vehemently denied gonorrhea than to admit the congenital nature of a stenosis? Long ago, some authors, failing to find any apparent cause in some cases of stricture, incriminated masturbation. It is not really easy to conceive how masturbation, alone and uninfected, can produce the sclerous tissue of a stricture; but if we remember that priapism, early sexual habits, and masturbation are frequent in patients endowed with a congenital stenosis, may we not think that here again the cause has been mistaken for the effect?

But, even if a clap is to be found in the antecedents, the diagnosis of congenital stricture must not be rejected *ipso facto*. When a tight stricture is found fully developed, only a short time, say, three months to a year, after the first clap, we must consider as likely the existence of a congenital stenosis aggravated by gonorrhea. Such cases are frequent enough. We know thoroughly the histological constitution of an inflammatory stricture, and we must admit that such a tissue requires years in order to grow enough to form a tight ring around the canal. Therefore, clap or no clap, the congenital nature of a stricture is always a possibility, and investigation must always be pushed along that line.

The inverse mistake, however, is also possible. In young children, a stricture may not be congenital. Cases have been recorded in which young, very young children, have been contaminated by gonococci, and have a few years later developed the symptoms of a common acquired stricture. The consideration of time is therefore very important in all cases. If there is a congenital stenosis, a tight stricture will develop in a few months; if the stricture is really acquired, a few years will elapse before a tight stricture is found, whatever may be the age of the patient at the time of his gonorrhea. Another physical sign is important: congenital stenoses are single; acquired are multiple. In congenital cases, the wall of the canal has kept its normal elasticity except in the stenosed point; in acquired strictures, this elasticity is lost even between the strictural rings.

If the foregoing points be borne in mind, the diagnosis becomes easy. If the proper examination of the canal is made, there cannot be a confusion with foreign bodies or stones. Urethral spasm, frequent in nervous children, will be diagnosed from a congenital stenosis much in the same way as it is from an acquired stricture in the adult.

Progressive dilatation is the fundamental indication of the treatment. Bougies and sounds prove sufficient in most cases. If not, internal urethrotomy, and, as a last resource, external urethrotomy in complicated cases must be resorted to.

616 Madison Avenue

## DYSMENORRHEA AT PUBERTY, AND UTERINE TUMORS.*

By FRANK DE WITT REESE, M.D.,
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For twenty years I have recorded the histories of my office cases, especially of the patients who were suffering from uterine tumors. These records have prompted me to ask this question: Does dysmenorrhea at puberty sustain any relation to the uterine tumors of adult life?

I have been impressed with the fact that nearly all women with uterine fibroids gave a clear, unmistakable history of having suffered pain at the very first menstrual period, and of continuing to suffer until the tumor was developed, unless interrupted by pregnancy or relieved temporarily by some medical agent.

A few years since it was my privilege to spend a time in the clinics and laboratories of the Johns Hopkins Hospital, and while there I became interested in the original work of one of the teachers, Dr. Cullen, who with others was trying to discover the cause of uterine fibroids. I was deeply impressed with the thought that, up to that time, there had been no discovered cause of this frequent trouble of woman. Since visiting the Johns Hopkins, five years ago, I have searched every authority in the text-books and journals that have come to me, and have failed to find anyone who has yet discovered the cause or causes of uterine tumors.

Nor have I seen in text-books or journals any reference or suggestion that possibly dysmenorrhea at puberty is a symptom denoting the presence of a uterine tumor, or that dysmenorrhea at puberty should lead one to think that the patient may develop a tumor of the uterus in the future, if nothing is done to prevent it.

In answer to this question, "Please send me statistics showing the per cent. of your cases, suffering from uterine tumors, that gave a history of dysmenorrhea at puberty," Dr. Matthew D. Mann, of Buffalo, writes: "I am sorry to say that I have no statistics covering the point about which you ask." Drs. Kelly and Cabot give practically the same answer. I have written to other prominent gynecologists, making the same request, but they have not favored me so kindly with a reply, and the fact that they have not leads me to conclude that their answer would have been the same as Dr. Mann's, "They have no statistics covering the point." From the paucity of statistics on this subject it seems probable that we are developing a new field for observation.

I quote, in part, a letter from Dr. Cullen, of May 27, 1905. He says: "We have been working on

*Read at the New York State Medical Association, October 17, 1905.

fibroids for several years and have about twelve hundred cases; unfortunately it is impossible for me to give you any information as to the causation of uterine fibroids from a laboratory standpoint. Looking at the matter clinically, one certainly is forced to the opinion that the uterus must have something to do, and that if no pregnancy takes place fibroids are more apt to form." In discussing this subject, dysmenorrhea at puberty and uterine tumors, I have two propositions to submit for your consideration: (1) Is dysmenorrhea a symptom denoting the presence of uterine fibroids at puberty? (2) Are the causes of dysmenorrhea exciting causes of fibroid tumors of the uterus? My answers to these propositions are based largely upon the histories of cases that have occurred in my private practice, and upon statements of authors whom I have been able to consult.

There is no doubt that fibroid tumors exist in utero previous to menstruation and are the exciting causes of dysmenorrhea in many cases. Why do I believe this? (1) Because of all the cases of uterine fibroids that have come under my observation, and especially the last thirty-one cases, whose histories I have recently studied, all with but one exception, have begun menstruation with severe pain. That one case gave a history of a miscarriage at the third month, which was complicated with a septic condition. (2) Because of the statements of men of standing in the profession like Kelly, Mann, Warren and Gould, Reed, and others.

Howard Kelly says in regard to the existence of uterine tumors, before puberty, in his Operative Gynecology: "Although all myomata probably exist in fetal life in diminutive form, they rarely give evidence of their presence until menstruation has been established for some years." He further says, in speaking of the early signs of uterine fibroids, that among the earliest clinical signs is painful menstruation. Kelly does not say that these signs occur at puberty, but that the earliest sign of uterine fibroids is painful menstruation.

My experience does not concur with Kelly's regarding the length of time the menstrual period has been established, before there is evidence by pain of the fibroid. I believe it is impossible for a patient to have a tumor of the uterus before puberty, and not have the fact announced by pain with the first menstrual period. I am persuaded that careful observation will establish this belief.

Dr. McMurtry, speaking of uterine fibroids, says: "These tumors have been found prior to puberty, but being of slow growth they produce no symptoms until the age of sexual activity."

Reed, in his text-book on gynecology, says: "There have been reported a number of cases of this kind in children." "They may exist before puberty" is a statement taken from an American text-book of gynecology. Mann says he had a patient who never menstruated who had a tumor of the uterus.

The second proposition is of great importance, but perhaps may be more difficult to establish. Are the causes of dysmenorrhea exciting causes of fibroid tumors of the uterus? I assume such to be the case, and will try in the next few minutes to establish my claim.

Dysmenorrhea has various causes. Some of the masters in gynecology assign the pinhole os as a cause. Hewitt asserts that it is due entirely to retention. Matthew Duncan urged that it is neurotic in its origin, but a neurosis is dependent on some irritation. Anteflexion is mentioned by nearly all authors consulted. Displacements are given, but they are comparatively rare causes.

In adults, oöphoritis and tubal diseases with obstruction are prominent as causes of dysmenorrhea. Hendfeldt Jones gives spasm of the uterine muscle at the internal os as a cause.

Now, any and all of these causes of dysmenorrhea mentioned, except the one assigned to neurosis (I consider neurosis only a symptom), are capable and possible causes of uterine fibroids. MacDonald makes Bayle say that one-fifth of all women over thirty-five years of age have fibroids. About one-fifth have dysmenorrhea at puberty.

Dysmenorrhea, as we have seen, has various pathological conditions assigned as causes; every cause assigned is either an irritant or a stimulus to tissue growth. There must be in every cell a substance that has the power to reproduce itself.

Irritation brought to bear upon this substance may destroy the harmony between the cells by producing a new cell or by causing the death of a cell. The one thing a cell inherits above every other characteristic is life. Life responds to stimuli. Prof. Burke's sterilized bouillon responds to the quickening influences of radium. Loeb, by the action of cyanide of potassium on an unimpregnated ovum, has produced the early stages of growth that follow the impregnated ovum.

The cells of the gravid uterus increase and multiply uniformly from the stimulus or irritation of pregnancy. This is a normal condition. A group of cells of the uterus may increase by irritation, forming a tumor; this is an abnormal condition. The one irritation is removed in obedience to nature's laws; the other should be removed by the skilled gynecologist. The equilibrium of the cell-producing power of the uterus should be maintained free from any and all abnormal stimulating influences.

Schaper and Cohen press their theory of "growth centers" into service, to help explain the origin of atypical noninflammatory new growth or tumors. According to the *Journal of the American Medical Association*, they say that it is the persistence of a latent capacity for proliferation in these special growth centers that accounts for the phenomena of regeneration after pathologic disturbance of local correlations of cell function. It is remarkable how frequently the growth centers or places where embryonal karyokinesis persists longest turn out to be sites of predilection for the development of tumors. The growth centers of the uterus are located in the fundi of the uterine glands.

This theory of the origin of new growth accords well with that of Cohnhem Ribbert. He assumes, "First, the presence in the body of cell material capable of proliferation, and second, a stimulus which incites abnormal proliferative activity."

Dr. Mary Dixon Jones claims that all uterine myofibroma are due to a diseased condition of the uterus. In the "International Text-book of Surgery" McMurtry says that uterine fibroma is essentially a pathological condition incident to the menstrual period of woman. Gottschalk thinks that all fibromata originate by an endarterial proliferation, rapidly followed by an increase of the cellular elements surrounding the artery. He says, "Local irritation and circulatory disturbances would be the principal agents in this pathological process."

The theory of the embryonic origin of fibroids was first advanced by Durante, then by Cohnheim, and later adopted by Senn, but was rejected by Veit, who says: "So far as the common myomata are concerned, I hold that their origin from an embryonic

inclusion has not been proved. It appears, however, that heredity plays a rôle therein, and one is able also to understand that irritation acting chronically upon the uterus may give rise to the formation of myomata."

Sterility and virginity are catalogued among causes of uterine fibroids.

I could go on indefinitely enumerating the opinions of master surgeons upon this subject, but will only refer to one more, to which I give the greatest credence. It is the one advanced by Dr. Jones, who says: "For a fibroid to be developed, the tissue of the uterus must be reduced to medullary elements." I quote: "Schultz speaks against the tendency to look upon dysmenorrhea in girls and multiparous women as a functional or neurotic disturbance. It should not be forgotten that the affection may be due to structural changes of the mesometrium, such as insufficiently organized connective tissue in the external uterine layers."

I will recite the history of a case chosen from the thirty-one reported in my private practice.

Miss X. consulted me December 30, 1893, and gave the following history: Age, 30 years; occupation, teacher; always well, except had typhoid fever when 14 years of age. Father died of pneumonia, mother of consumption. Her first menstrual period appeared when she was 13 years old and was accompanied with severe pain in the back and abdomen. She also passed clots.

Examination discovered an extremely anteflexed uterus with the fundus enlarged. After an interval of six years, in 1899, she again consulted me, complaining of backache with leucorrhea, which was worse when she was pursuing her occupation of teaching. The uterus was much enlarged, with a hard, uneven surface of the fundus. At this time she received a few local treatments before she returned to her college work. I did not examine her again for two years; then she had discovered a bunch in her left side which proved to be a well-developed fibroid tumor of the uterus. This was in 1901. I referred her to a New York physician, who advised immediate removal. This was refused and the tumor was treated by electrolysis.

I examined her in 1903 and found the tumor had ceased to grow, at least it had not materially changed in size. Since then she has waited for the climacteric to work a cure.

In analyzing the brief history of this case we must be impressed with the four stages of progress in the evolution of the tumor: (1) Dysmenorrhea at puberty, which was the chief symptom, denoting that there was something wrong. (2) A deformity of the uterus (extreme anteflexion) was discovered at the first local examination, when she was 30 years old. (3) At 36 years of age there were backache, leucorrhea, and an enlarged uterus with a hard, uneven surface. (4) At 38, a tumor of the uterus had developed to such an extent that the patient detected it herself through the abdominal walls.

Is it not safe to conclude that a cause that produces dysmenorrhea at puberty may, if not removed, act as an exciting cause of uterine fibroids?

It is my opinion that the treatment for uterine fibroids should be prophylactic, and that dysmenorrhea at puberty is the pathognomonic sign for the commencement of such treatment. The importance of this treatment, which should include the hygienic care of the adolescent girl, is commensurate with the frequency of the trouble.

Emmett says: "Out of two thousand cases of dysmenorrhea, seventy-five women were sterile." Klob makes the statement that "forty per cent. of women over 50 years of age suffer from uterine fibroids."

If the statistics just quoted are correct, we are morally bound to remove the causes of dysmenorrhea at puberty. This may relieve our patients from being operated upon for the removal of fibroid tumors before and at the menopause.

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## TONSILLITIS.

By R. M. NILES, M.D.,

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TONSILLITIS, while not usually a dangerous affection, often produces much discomfort, and, at times, even threatens life. The disease naturally divides itself into the catarrhal, lacunar, and parenchymatous forms, and each of these forms may be acute or chronic, single or combined. Further, an acute exudative form may be distinguished which, notwithstanding the absence of the Klebs-Löffler bacillus, may be productive of profound depression, alarming constitutional symptoms, and sloughing of the tissues affected. Various organisms are found in the exudate,—staphylococci and streptococci probably are the etiological factors in the greater number of cases. Sloughing is due to round-cell infiltration, followed by defective nutrition and necrosis.

A differential diagnosis between diffuse exudative tonsillitis and diphtheria can be made certain only by microscopic examination. I am convinced that many cases of diphtheria are treated as tonsillitis, while a smaller number of tonsillitis cases are probably treated as diphtheria.

It should be remembered that more marked constitutional disturbance follows severe exudative tonsillitis than ordinary diphtheria; that an ashy-gray membrane, leaving a bleeding surface when detached, is indicative, but not proof positive, of diphtheritis; and that a careful investigation of the case, history, and symptoms is the duty of the intelligent physician.

In the treatment of this affection we should isolate the patient, for many times tonsillitis is contagious. Broken doses of calomel, followed by a saline should be given. If the stomach is irritable, or the patient seriously objects to the salts, one may instead give one-fourth to one drop of croton oil in combination with hyascyamus and a carminitive.

Quinine in tonic doses (gr. ii t.i.d) should be given in the majority of cases. Strychnine may be added if indicated. Aconitine controls fever, and may abort the disease. Sodium salicylate is a most meritorious drug in cases presenting the rheumatic diathesis. Guaiac is also applicable, both as a gargle and as a constitutional remedy. Anodynes may be required for pain, hypnotics for restlessness. The diet should be light, digestible, and fluid, or semi-fluid.

Hot alkaline gargles are comforting to the patient, and as they tend to free the parts from mucus and mucopus, their frequent use should be encouraged.

For years the writer has used the following gargle with the happiest results:

℞ Pot. bicarb. . . . . ℥iv
Spt. menth. pip.,
Spt. camphoræ. . . . . aā ℥ss
Aq. ferv. . . . . q.s.ad ℥iv

Sig.: Use hot, gargle every hour or two.

Atomizers are useful in the application of hydrogen peroxide, in the treatment of young children, and those unable to gargle. Gargling, when efficaciously done, is superior to spraying.

Nitrate of silver in solution, painted over the tonsils, will abort some cases, but to be effective it must be applied early in the disease.

Iodine, bichloride of mercury, turpentine, phenol, sulphur, and a host of other remedies have their recommendors. Numerous pharmaceutical houses have on the market a tablet composed of tinctures of aconite, belladonna, and bryonia, with red iodide of mercury and sodium salicylate. While this is a shotgun prescription, nevertheless the tablet, when dissolved slowly in the mouth and swallowed, gives good results.

Chlorate of potassium is of little, if any, value, its possible beneficial action upon the diseased area being more than offset by its objectionable attributes.

Often the application of the tincture or vinegar of capsicum produces the most brilliant results. Congestion and edema are reduced, the separation of sloughs is facilitated, granulations are stimulated, vasomotor inertia is overcome, and normal tissue metabolism is reestablished.

In cases presenting sluggish ulcerations, massage with cod-liver oil and capsicum has given better results in my cases than any other treatment. If the application of capsicum causes pain, apply cocaine before using. Capsicum enhances the action of cocaine, *i.e.* it tends to make permanent the temporary contractive influence of the latter. Capsicum gives tone to the muscular tissues with which it comes in contact, diminishes the lumen of abnormally dilated vascular canals by local stimulation of their muscular and nervous elements, and promotes the resumption of physiological secretion and absorption.

Tincture of capsicum, full strength or diluted with cod-liver oil should be applied to the Schneiderian mucous membranes in the treatment of the rhinitis, which is a frequent concomitant of the tonsillar involvement. The nasal mucosa is first cocainized, and the capsicum is then applied with a cotton-covered applicator.

Applied to the neck a hot camphorated animal oil may give some relief, and to this belladonna may be added to increase its anodyne qualities.

In conclusion, I would remark that, if every case of "sore throat," so-called, received the care and attention that an affection of so delicate and important a structure would seem to merit, much discomfort and suffering would be avoided, while unfortunate and dangerous complications and sequelæ would become much more rare.

414 Spruce Street.

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**Syphilis Infection and Paretic Dementia.**—James G. Kiernan declares that there are two possibilities which would lead to syphilis infection of paretic dementia—the possibility of reinfection and the possibility of non-syphilitic paretic dementia. The writer reports ten cases that have come under his own observation in which syphilitic infection occurred during paretic dementia. In the majority of these cases preparetic-dementia syphilis can be excluded, while it is a bare possibility in the remainder. The writer believes that at any rate the cases show that the ordinary tests of the syphilitic origin of paretic dementia have no value unless they are carefully scrutinized. One of the cases he reports was that of an Irish hotel man seventy-three years old, whose wife and children were perfectly healthy. He began to have "fainting spells" in the warm plate room. These were followed by temporary motor aphasia and right hemiplegia. There was a decrease in the degree of urinary acidity at the time of these attacks, a few hyaline casts and very exhausting cold acid sweats. There was no albumin in the urine. After the attacks marked urinary acidity and acetonuria were noted. Some months later the patient began to manifest silly optimism, gradiose delusions, extravagance, and irritability. No evidence of syphilis could be found. Still later he showed a tendency to dissipate, and at about this time he contracted a chancre. The secondary eruptions disappeared under mercurial treatment. Another case reported is that of a respectable woman forty-two years old. At the age of thirty-nine she became very boisterous in manner and negligent of household duties. Six months later an apoplectiform attack was followed by physical symptoms of paretic dementia. During a condition of practical nymphomania she contracted a chancre. Secondary fever and eruption followed. The marked depression which developed cleared up under mercurial treatment. The case ran the usual course of paretic dementia. Death finally occurred.—*Medicine.*

**Insanity Precipitated by Pelvic Disease in Women.**—R. R. Huggins declares that the removal of healthy organs in the insane is absurd, and is often followed by an aggravation of the mental symptoms. But the insane woman who has pelvic disease has the same right to treatment as the normal mentally. Some of these cases may be cured if the pathological condition is removed before neurotic habits are established. Our success in operative treatment for pelvic trouble in such cases will depend on our ability to judge the amount of mental instability of each patient. The degree of irritation and character of the lesion must be considered, the previous and family history, and the extent of the degenerative stigmata. The acute psychoses and the chronic melancholias with little predisposing taint will give the best results. Considerable irritation may be observed in healthy women at the menstrual period and during the puerperium. This will be more marked in diseased conditions of the pelvic organs, and must cause irritation which may precipitate an attack of mental disease in one predisposed to it. The psychoses of the puerperium are due in 70 to 80 per cent. of cases to toxemia or infection, combined with psychopathic tendency. There is a greater percentage of pelvic disease among insane than among sane women. Hobbs of London, Ontario, in 1895, selected one-fourth of the female patients of the asylum for gynecological examination, including young and middle aged women who had borne children. In 1,000 patients he found pelvic disease in 25 per cent. of the whole number; ovarian disease in forty-one cases, 40 per cent. of whom recovered after ovariotomy, and ten more improved mentally. Sixty-eight uterine displacements: mental recovery in 48 per cent., improvement in 20 per cent. Sixteen cases of tumors: recovery in two cases, improvement in six. Recovery in nineteen out of sixty cases of cervical lacerations.—*Annals of Gynecology and Pediatry.*

**The Relation Between Anthracosis and Pulmonary Tuberculosis.**—Jonathan M. Wainwright and Harry J. Nichols in considering this subject, refer to the most frequently mentioned theory that has been advanced to explain the observation that anthracotic lungs are less susceptible to tuberculosis than the normal organs, namely, that it is due to the germicidal action of the coal dust. The writers have found from various tests, however, that coal dust has no germicidal action whatever. Another suggestion that has been advanced is that the rarity of tuberculosis among these workers depends upon the fact that the air of the mines is comparatively free from bacteria. This, together with the fact that tuberculous sputum cannot dry, must have some effect in diminishing tuberculosis. But these are probably not the only factors. The writers think that the coal dust in the lungs does exert a true protective influence against the tubercle bacilli, and that it is due to the stimulating effect of the coal dust on connective-tissue growth. This growth is the way in which nature overcomes the tubercle bacilli. It is well known that coal dust causes stimulation of connective-tissue growth. The writers have performed some interesting experiments on guinea-pigs in relation to the effect of anthracosis on tuberculosis, and as far as they have gone the experiments have been affirmative. *American Journal of the Medical Sciences.*

MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery*

THOMAS L. STEDMAN. A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, December 23, 1905.

## ALCOHOLISM AND DRUNKENNESS.

DR. G. ARCHDALL REID is the foremost exponent in Great Britain of what may be termed original views as to the causation of drunkenness and alcoholism. Dr. Reid's theories on the subject have been referred to on several occasions in the editorial pages of the MEDICAL RECORD. He not only is a man of original views, but, like all earnest men, is decidedly dogmatic and is somewhat inclined to beg the argument. He believes that inebriety is a problem of evolution, and that acquired effects of disease are not transmissible to offspring. Also that men drink alcoholic beverages for three distinct reasons: to satisfy thirst, to gratify taste, to produce a direct effect on the brain. Dr. Reid is further of the opinion that men differ in their predisposition to inebriety. As a rule, men drink in proportion to their individual predispositions. Self-control is a subordinate factor in the causation of sobriety. Lack of temptation is the principal factor. Alcohol, argues Dr. Reid, weeds out the unfit, and is therefore, like disease, a selective agency, and also like disease develops resistance. For instance, practically every negro on the west coast of Africa suffers for a prolonged period from malaria, this has been the case for generations. If the environment of the germ-cell causes variations in the offspring, it should do so with these negroes. As a matter of fact, however, neither the negroes nor any race exposed to malaria has grown degenerate. Therefore from these circumstances the theory is evolved that every race exposed to disease, or to any other adverse condition, is resistant to it precisely in proportion to the duration and severity of its past sufferings. It is pointed out in support of these views that Englishmen who have suffered much from consumption are more resistant to it than Polynesians, who have no previous experience of the disease and who are exterminated by it. "Extreme cold has not rendered the Esquimaux degenerate, nor extreme heat the Arabs; they have merely been rendered, by the survival of the fit, resistant to heat or cold, respectively."

Where Dr. Reid especially begs the question is when he asserts that every race is temperate in proportion to its past experience of alcohol. A short time ago he published an article on the matter in the London *Daily Chronicle*, wherein he declared, as he has declared before, that West African savages, who have long possessed unlimited supplies of palm toddy, the Jews, and the inhabitants of the vine countries of the south of Europe are more temperate than North Europeans and infinitely more temperate than most savages, for the reason that formerly they were less temperate. The force of the foregoing argument is by no means convincing. It is denied by many authorities that West African savages, the Jews, or South Europeans were at any time so intemperate as North Europeans. The Jews were ever a temperate race, and South Europeans were not probably in far back times such a hard drinking people as, for instance, the ancestors of the British race. Again, the South Europeans of the present time consume more alcohol than do those of the North. In France the per capita consumption of spirits is greater than in many a more northern country.

The discussion regarding the drink question from a scientific standpoint has been productive of a great deal of hard hitting and mutual recrimination on the part of the champions of the various theories. The biological critic of the London *Times*, commenting upon Dr. Reid's published opinions, delivered himself as follows: "It is not by exercises of this kind that the riddle of the universe will be read, and the demand that our lives shall be compulsorily regulated by laws based on such sandy foundations is nothing short of impudent."

The Research Committee appointed by the British Society for the Study of Inebriety in part reported that they were of the opinion that the continued use, or rather abuse, of alcohol tended to render a race less innately prone to excessive indulgence than it would otherwise have been, and that this result is brought about by the elimination of those with a weak tendency to alcoholic indulgence. They thought that the widespread belief that the indulgence of the parents tended to render the offspring more innately prone than they otherwise would have been to excessive indulgence, was not warranted by the existing evidence on the subject. Many, perhaps, of those who have made a subject of inebriety hold that an inborn tendency to inebriety is most marked in races that have had little or no experience of the poison.

Dr. Reid states that there are two conceivable methods of temperance reform—the elimination of drinking and the elimination of the drunkard, which he terms Nature's method. He contends the reformers' methods have totally failed, while Nature's method has invariably succeeded, but at a fearful cost. In a few words, the doctrine is that of the survival of the fittest. The sole remedy that the champion of this theory, as applied to the drink habit, puts forward is that it may be possible to minimize its dire effects by limiting the output of children by drunken parents—as by spreading abroad a knowledge of the danger of marrying into intemperate families.

Of course the opinions of Dr. Reid and his followers are accepted by only a few scientific men. Views as to the transmissibility of acquired characteristics are by no means unanimous. A great many adhere to the theory that acquired habits can be transmitted, and it would seem to be undoubtedly the fact that the children and descendants of inebriate parents, even if they do not inherit the taste for strong drink, at any rate inherit frequently a neurotic and unstable nervous temperament, which peculiarly predisposes them to alcoholic indulgence. From Dr. Reid's contentions it might be gathered

that the more drunken a race is the stronger it will grow in the course of time. History, however, does not confirm the truth of such a view.

## THE TREATMENT OF SYPHILIS.

It may be safely assumed that mercury will constitute the specific remedy for the treatment of syphilis until a time when science has succeeded in producing a curative serum, which, like that so successfully employed in diphtheria, shall be equally effective against the pathogenic agent of the disease as well as against its toxins. The sovereign form of mercurial medication is, and will probably continue to be, the inunction, for the subcutaneous and intramuscular injections of the various solutions of mercury have by no means overcome the objections so often urged against them. Although the mercurial treatment of syphilis is usually successful, it is a well-established fact that in a certain number of cases a refractory tendency is manifested by the patient against the drug, and its administration fails to constitute an effective barrier to the later appearance of the tertiary lesions of the disease.

It is quite natural that other means of treatment for this widespread affliction should be sought for, and among those which have been most loudly proclaimed were the exclusive hydriatic procedures advocated among others by Father Kneipp, and before him by Priessnitz. The arguments advanced by these men and their enthusiastic adherents appeared most attractive to many of the afflicted, and improvements and cures were reported in many who gave up their mercurial treatment for the new method. It developed, however, that the patients of this class had already been saturated with mercury before they abandoned the use of this drug, but of the many previously untreated or incompletely treated patients who sought the institutions where this water cure was exploited, practically no exceptions were noted in the progress of the disease and in the later appearance of tertiary lesions, even after a prolonged subjection to the hydriatic procedures. The many failures constituted a sufficient basis for the severe criticism which the method met with, and the successes can readily enough be accounted for and depend, as shown by Rudnik (*Wiener klinische Rundschau*, November 5, 1905), on the favorable effects produced on the system in general by the procedure. Thus, the metabolic exchange is stimulated, the excretion of toxic substances is favored, and the number of red cells and the hemoglobin content of the blood are increased. These factors alone may not be sufficient to overcome the effects of the syphilitic virus in the organism, but they may be made to serve as an aid to the specific action of the mercury. Rudnik suggests, therefore, that they be employed as an accessory to the accepted form of medication, and gives his reasons for this recommendation.

The manner in which mercury is taken up by the system is by no means clear. It has generally been assumed that the drug is absorbed from the skin by the lymphatics, but, as Rudnik suggests, it is more likely that it enters the circulation directly through the capillaries, and in this fact is found a ready explanation why the hemoglobin is increased after only a few inunctions of mercury. The virulent character of the infection in anemic persons and alcoholics he also explains by the presence in these subjects of an insufficient capillary circulation common to these conditions, so that the mercury is not promptly enough absorbed to become effective. The arteriosclerosis of older patients presents a similar obstruction to the absorption of the remedy and accounts for the malignant nature of the disease at this time. Hydriatic measures, according to Rudnik, are therefore indicated as an accessory in the class of patients just noted as well as in those who display a refractory tendency towards mercury which defies explanation. He has employed the method with success in a number of cases which received no benefit whatever from the mercurial medication alone, and as the result of his experience recommends the following mode of procedure in a given case of syphilis: (1) From the time of infection to the manifestation of the clinical evidences of the disease, an expectant attitude should be maintained. (2) As soon as the constitutional symptoms appear, an energetic system of inunctions should be instituted, and hypodermic or intramuscular injections should be employed only in those exceptional instances in which the former cannot be carried out for individual or social reasons. (3) A course of thorough hydriatic treatment extending over a term of 6 or 8 weeks is indicated in all cases even when the clinical symptoms have abated after the inunctions have been given. This will not only obviate the possible metasyphilitic states at a later period, but it also serves to eliminate the excess of mercury from the system.

A great deal of time and thought has been accorded to the therapeutics of syphilis, and yet we meet with refractory cases and obstinate recurrences in many instances even when treatment has been most careful and thorough. An increasing amount of light has lately been shed on the etiology of the disease, and if the value of the simple recommendation advanced by Rudnik as an accessory to the usual mode of treatment is confirmed by others, we may expect better results in the future in patients afflicted with this malady.

## DEATH BY ELECTRICITY.

The enormous strides made during the last few decades in the application of electrical energy to the arts and sciences have raised a number of problems, among the most serious of which is the oftentimes fatal effect of the force on the individual accidentally projected into its path. Although we have records of fatalities due to lightning dating back to early historic times, it was not until the 18th century that scientists began to devote their attention to the investigation of death from this cause. They recognized the similarity between the natural atmospheric discharges and the frictional electricity they were able to produce, and we find that experiments were made on animals in order to determine, if possible, the manner of death by this agent. The question of death from the artificially produced currents did not, of course, assume any great importance until the invention of the dynamo with its increased generating capacity, and this also marked the beginning of the study of electropathology. Numerous opportunities have occurred to study the mode of action of the electric current with the increasing number of fatalities which have grown with the development and

expansion of electrical science, yet we are compelled to admit that comparatively little progress has been made towards the solution of the problem, for reasons, some of which will be enumerated later on.

A recent and interesting contribution to the subject of electrical death is contributed by Jellinek (*Wiener klinische Wochenschrift*, November 2, 1905), whose studies have extended over a number of years and include extensive personal experiments. It is well known that the effects of the electric current vary greatly in their manifestations. Death may be caused either by the direct or by the alternating type of current of either high or low tension. In most instances immediate unconsciousness results, although authentic cases are on record where the victims of the shock remained conscious for several minutes before death finally took place. In fatal cases there is an immediate relaxation of the muscular system, unless the individual remains in contact with the conductor; in the latter case a tonic spasm results. Respiration and heart action may cease at once, or a gradual cessation of these functions occurs. Animal experiments and the observations made on the human subject show that there is no definite symptom complex, however, which characterizes electrical death. The explanation of the wide variations which have been noted must be sought for on the one hand in the electrical conditions, and on the other in the resistance of the individual affected.

In any given fatal case the current may be said to exert a double effect. When it enters the body it acts as an enormous irritant which manifests itself as shock. It has been found that this particular effect can be eliminated to a greater or less extent, as shown by the fact that it is reduced to a minimum or absent altogether when the current enters the system during narcosis or during sleep. In addition to the psychic phenomena just noted there is also manifested a dynamic effect on the various aggregations of body cells, which probably amounts only to a disturbance or at the most to an inhibition of one or more of the vital functions. In fact, experience has shown, and this has been confirmed by animal experiments, that the threatening and seemingly fatal symptoms of impending death due to the electric current, are very often only transitory in character. Jellinek justly claims that in most instances death is merely apparent,—"Scheintod," and it is an extremely difficult matter to express an opinion as to the final outcome as regards dissolution. If we are to act on the author's suggestion, a fatal issue should not be accepted as having occurred until energetic and prolonged efforts at resuscitation have been carried out in a systematic manner without result. And this raises again the question as to when death occurs in cases of so-called electrocution—whether it is while the subject is in the chair or while he is on the autopsy table.

### Congenital Pneumonia.

The transmission of various substances through the placenta from the maternal to the fetal organism has been widely discussed in obstetrical literature and many obscure points in the physiology of pregnancy have now been cleared up by the investigations in this field. The passage of volatile anesthetics and soluble drugs from mother to child has often been demonstrated; acquired immunity against a variety of diseases can also be transmitted, and likewise apparently some of the infectious diseases themselves. Instances of intrauterine infection are infrequent, however, and this applies particularly to pneumonia, of which only a very few instances have been recorded. Bochenski and Gröbel (*Monatsschrift für Geburtshilfe und Gynäkologie*, October, 1905) present the history of such a case, where a woman developed a croupous pneumonia during the very last weeks of her pregnancy and then gave birth to a child which died within twelve hours with evidences of pulmonary disease. An autopsy showed the lungs of the infant to be in a state of gray hepatization, and bacteriological examination disclosed the presence of the specific diplococcus. A post-partum infection in this case can be excluded, for both macroscopical and histological appearances of the lungs pointed to an invasion by the disease which failed to correspond in length of time with the brief period of extrauterine existence. In attempting to trace the manner of the transmission of the disease from the mother to the fetus, the only satisfactory solution lies in assuming that the maternal circulation afforded such an outlet and a pneumococcemia existed in the mother in addition to the pneumonia. The lesions which must have been present in the placenta in order to permit the pneumococcus to pass through this barrier are believed by the writers to have resided in some mechanical injury to the placental villi, brought about possibly by the sudden increase of intrauterine pressure during a severe coughing spell which resulted in the condition designated as retroplacental apoplexy. The fact that the pneumococcus was deposited solely in the lungs of the fetus to the complete exclusion of all the other organs demonstrates quite conclusively that the pulmonary tissue is the site of predilection for this type of organism.

## News of the Week.

**Amalgamation of the State Societies.**—The new House of Delegates of the Medical Society of the State of New York met in Albany December 14, together with the Chairmen of the Standing Committees and the Joint Committee of Ten. The Secretary was ordered to notify all county societies of the fact that they should reorganize so as to amend the constitution and by-laws according to the agreement, and to notify all members of the Association of the fact of consolidation. The counsel who made application for consolidation gave the opinion that an order from the Supreme Court made all members of the New York State Medical Association in good standing members of the Medical Society of the State of New York, upon the receipt of a certificate of the President and Secretary of such Association. It was voted to continue the Medical Directory, and to retain the feature of malpractice defense for the members of the Medical Society of the State of New York. The President and Secretary were ordered to continue the *Journal* for January and February, and a Committee was ordered to be appointed by the President to select an editor and to report his name at the annual meeting of the House of Delegates. A committee of five was appointed, of which the President was one, to carry out the referendum as per Section 7 of the court order, relating to the practice of medical ethics. The Constitution of the American Medical Association provided that when any State Medical Society was reorganized according to the plan of the American Medical Association and by resolution expressed its allegiance

to the American Medical Association, it then became a constituent of said Association. Such a resolution was unanimously carried. A tentative constitution and by-laws for the county societies was submitted as being suggestive and which might be adopted with very slight alteration by the several county medical societies of the State.

The New York County Medical Association held a meeting on December 18, under the presidency of Dr. Francis J. Quinlan, in the assembly room of the New York State Medical Association's headquarters, 64 Madison avenue, when several important matters relating to the dissolution of the Association and its charter were discussed. Steps were taken to dissolve the articles of incorporation.

**Efficiency of the Army Medical Corps.**—The Secretary of War has received a letter from Major-General Leonard Wood strongly urging the passage of the bill now pending in the House to increase the efficiency of the Army Medical Corps by making provision for more rapid promotion and giving higher rank to the army surgeons. In emphasizing the urgent necessity for improvement General Wood says: "Our experience during the war with Spain should be sufficient to render a recurrence of the conditions then prevalent impossible. First-class men in sufficient numbers cannot be secured under the present conditions of promotion." He is opposed to the employment of contract surgeons, and says in this regard: "The system of employing contract surgeons is a makeshift and expensive one, as is our policy of expanding the medical department in time of war through the employment of inexperienced civilian medical men. These gentlemen, whatever their professional attainments, know little of army methods or of handling large bodies of men."

**The Southern Medical College Association** held its annual meeting December 11, at Louisville, Ky., under the Presidency of Dr. Christopher Tompkins of Richmond, Va. More stringent rules applying to the admission of students were adopted. Ten of the fourteen colleges of the Association were represented. President Tompkins read an address on "The Advancement in Preliminary Educational Requirements." The suggestions set forth in the address, after considerable discussion, were resolved in a motion which was unanimously passed. The motion provided that from the present time until January, 1908, an applicant for admission to any college of the Association must have had two years in a recognized high school, or a certificate from an acknowledged preparatory school, besides a grammar-school education. After January 1, 1908, the nine requirements for admission will be a high school diploma, or a certificate of graduation from a recognized preparatory school, and the courses at the college shall be for four years of seven months each instead of six months, as is the case with some schools at the present time. Since the last meeting five colleges, not in the Association, have either filed applications for membership or will do so within a short time. Two of the colleges which have filed applications are the Medical Department of Epworth University, Oklahoma City, Okla., and the Medical Department of the Southwestern University, Dallas, Tex. The other three colleges are in Georgia and Maryland. The following officers were elected for the ensuing year: *President*, Dr. Christopher Tompkins, Richmond, Va.; reelected; *Vice-President*, Dr. T. H. Fraser, Mobile, Ala.; *Secretary and Treasurer*, Dr. G. C. Savage, Nashville, Tenn., reelected. *Executive Committee*, Drs. J. S. Kane, Nashville, Tenn.; W. B. Rogers, Memphis, Tenn., and Stuart McGuire, Richmond, Va. The next meeting of the Association will be held in Baltimore at the same time with the Southern Surgical and Gynecological Association.

**Concerning the Registration of Births.**—In August, 1904, the Board of Health sent to every physician and midwife practising within the city limits a circular calling attention to the importance of making a report to the Department of Health of every birth occurring in his or her practice. The rules of the Department of Education require the production of a transcript of birth by the Department of Health for every child seeking admission to school. The Child Labor Law of the State requires that the applicant for an employment certificate shall produce a transcript of his or her birth record. The circular above mentioned directed special attention to these two points and stimulated for the time being the full reporting of births. Recently the births have not been fully reported. Physicians and midwives are earnestly requested to forward at once to the Registrar of the Department of Health the returns of all as yet unreported births occurring under their care during 1905. Overdue returns will now be accepted without penalty. The Board of Health intends, after January 1, 1906, to take legal action against physicians and midwives who have failed to comply with the law in this matter.

**American Association for the Advancement of Science: Section K.**—The session of Section K (Physiology and Experimental Medicine) of the American Association for the Advancement of Science, which will be held in New Orleans on the morning and afternoon of January 1, promise to be of unusual interest. The morning session will be opened by an address by the Vice-President, Dr. William T. Sedgwick, on "The Experimental Method in Sanitary Science and Sanitary Practice." The remainder of the morning session and all of the afternoon will be devoted to a symposium on "Yellow Fever and Other Insect-Borne Diseases." Yellow fever in its various phases will be discussed by Drs. J. H. White, Quitman Kohnke, James Carroll, and H. A. Veazie, and it is expected that Drs. Edmond Souchon, Surgeon General Walter Wyman, Col. W. C. Gorgas, and other specialists will also take part in the discussion. Dr. William S. Thayer will read a paper on "The Problem of Prophylaxis Against Malaria in the United States"; Dr. Henry B. Ward will consider filariasis and trypanosome diseases; Dr. Charles W. Stiles will present a résumé of facts bearing on the principles involved in the transmission of disease by insects; and Dr. Gary N. Calkins will discuss the protozoan life cycle. Dr. L. O. Howard will talk on mosquitos that carry disease, and Mr. Henry Clay Weeks, Secretary of the American Mosquito Extermination Society, will present the practical side of mosquito extermination. The Secretary of the Section is Dr. William J. Gies, 437 West Fifty-ninth street, New York.

**The St. Louis Obstetric Dispensary.**—On December 14, 1905, the St. Louis Obstetric Dispensary was formally opened in its new quarters at 711 Carr street. This institution was founded in October, 1904, under the auspices of the St. Louis University, and is at present maintained with funds provided by a Ladies' Auxiliary Board. A medical report just published by the physician-in-chief, Dr. Hugo Ehrenfest, states that the assistants and senior students on regular duty at the dispensary attended to 166 labor cases. In a speech made by the Health Commissioner, Dr. Snodgrass, the interesting fact was emphasized that this represents 1.4 per cent. of all confinement cases reported to the health au-

thorities of St. Louis during the past year. This fact certainly justifies the optimistic views expressed by all the speakers concerning the future of the St. Louis Obstetric Dispensary.

**The Philadelphia Pediatric Society.**—On Tuesday evening, December 12, Dr. Henry Dwight Chapin, of New York, read a paper on the subject of "Nutrition of Infants" before the Philadelphia Pediatric Society, which was formally discussed by Drs. J. P. Crozer-Griffith, E. E. Graham, Thompson S. Westcott and David L. Edsall. After the meeting a largely attended reception was given to Dr. Chapin at the Hotel Stenton.

**Conference of Surgeons, Illinois National Guard.**—Forty physicians and surgeons, connected with the Illinois National Guard, recently held their annual conference in Chicago to discuss ways and means of improving the physical condition of the State militia. The session began with a series of demonstrations at Rush Medical College. Captain S. C. Stanton, First Infantry, discussed the examination of recruits; Major Charles Adams, also of the First, spoke on medical treatment, while Dr. Nicholas Senn gave a demonstration of amputation on the battlefield. Lieutenant Henry W. Howard spoke on the dressing of fractures. The conference closed with a luncheon at the Presbyterian Hospital. In the evening Dr. Senn gave the association a dinner at the Rothernstein Inn.

**A New Radioactive Substance.**—O. Hahn, a pupil of Prof. Ramsey, is said to have discovered a new radioactive element. The substance, to which the name of radiothorium has been given, is so rare, however, that it possesses only theoretical interest and is not likely to prove commercially useful.

**Tuberculosis Hospital Not Wanted.**—The inhabitants of Staten Island have evinced considerable opposition to the project of building the city's new $2,000,000 tuberculosis hospital in Richmond County, alleging that it would be detrimental to local interests and health conditions. The Medical Society of Richmond County has taken the matter up, and has adopted a resolution condemning the proposition on the ground that the climate of Richmond was detrimental to the successful treatment of tuberculosis owing to its humidity and variations in temperature.

**For Repeal of Anti-Canteen Law.**—A resolution adopted by the Association of Military Surgeons, urging the repeal of the anti-canteen law, has been transmitted to the House of Representatives by Secretary Taft. The tenor of the statement is to the effect that the abolition of the canteen has resulted in an increased consumption of bad liquor by soldiers, tending to demoralize their efficiency, that it has increased the number of saloons and disreputable places just outside garrisons, has caused the spread of disease, and generally has resulted in no good. An association of women, forming an auxiliary to the German-American Alliance, is being organized for the purpose of combating the Women's Christian Temperance Union, and assisting in the restoration of the canteen.

**Gift to the Sydenham Hospital.**—Mr. Isaac Guggenheim has announced to the directors of the Sydenham Hospital in West 116th street that he will contribute $250,000 toward the erection of a new building, provided that the board secures enough other contributions to equal this amount. Mr. Guggenheim has already contributed $20,000 to assist in paying the hospital's running expenses. The hospital was established two years ago with six beds. It now has 86 beds, 70 of which are free. The city gave the hospital an appropriation of $12,500 last week.

**Bequests to Hospitals.**—The will of Mrs. Sarah H. Walker of New York directs that a friend shall have the use of a house in Charleston, S. C., during his life, but on his death it is to go to the City Hospital of Charleston, "for use of white people only." A lot in Montgomery, Ala., also goes to the City Hospital there, to found a surgical ward for white persons only. Besides this, the Montgomery hospital is to have $1,500, and Mrs. Walker's physician receives a legacy of $25,000 and a share in the residuary estate.

**Yellow Fever at Havana.**—Up to December 19 there had been 59 cases with 19 deaths from yellow fever in Havana; ten cases are still under treatment. One hundred and twenty men have been added to the yellow fever brigade, which now numbers 445 men, 325 of whom are engaged in disinfecting, twenty in inspecting tanks, barrels, etc., and 100 in putting petroleum on water where mosquitos might breed.

**Dr. William Osler** is expected to spend the holidays in Baltimore and Boston, and will lecture at the Johns Hopkins University in January.

**Immigration Figures.**—The annual report for 1905 of the Commissioner of Immigration shows that during the year ending June 30 last, 1,026,499 aliens were received into this country This is an increase of 213,629 over the figures of last year. Of the entire number, 23,925 came from Asia, all the others being natives of Europe. Austro-Hungary, Italy, and Russia, in the order named, contributed the largest proportions of the new arrivals, the sum total of immigrants of these nationalities being almost 700,000.

**New York City's Station Houses.**—In his report to the Society of Medical Jurisprudence as Chairman of a committee appointed by the Society last May to investigate the condition of the police stations, ex-Magistrate Alfred E. Ommen denounced most of them as being "pestholes unfit for habitation either by policemen or prisoners." No fewer than nine police stations were reported as being entirely unfit, and the committee declared they should be torn down. Mr. Ommen's associates in the investigation were Dr. R. W. Willcox, Dr. C. A. Ramdohr, S. B. Livingston, and E. V. M. Heermance. The most interesting remedial feature of Mr. Ommen's report was the suggestion that instead of the police-station prisons, district prisons should be established. These district prisons should be located in the center of a police district and joined to the Magistrate's Court. Under present conditions a good deal of time is wasted in first taking a prisoner to the police station, and then to the police court to be arraigned. It was also urged that at present if a prisoner needed medical or surgical attention, it was necessary to send for an ambulance and have him taken to a hospital. In the district prison there could be a small hospital, where surgeons could give emergency treatment.

**A New Medical City Officer.**—The Civil Service Commission, on the recommendation of Comptroller Grout, has created the post of Medical Examiner for the Finance Department, with a salary of $2,500. It will be the duty of this officer to investigate claims against the city for damages for personal injuries. This work is at present done by the police, and it is expected that much money will be saved by having it in charge of a medical man.

**Cerebrospinal Meningitis.**—Five cases of cerebrospinal meningitis, with one death, have been re-

ported from the naval training station at Newport. The disease appeared among recent arrivals, and all new apprentices who were quartered in the detention building have been removed to the former Spanish cruiser *Reina Mercedes*. Other precautions have been taken to prevent a spread of the disease among the remainder of the 1,500 apprentices in the station. The schools of Dunkirk, N. Y., have been closed on account of the same disease. Five cases are under quarantine and the schools will be fumigated before being reopened.

**Valvular Closure of the Gall-Bladder.**—The author of the article on this subject in the issue of November 25 was Dr. A. E. Rockey, and not H. E. Rockey, as the types would have it appear.

**Obituary Notes.**—Dr. Edwin Reynolds of Brooklyn, for twenty-two years chief of staff of the Brooklyn Home for Consumptives, died December 15. He was born in Warwick, N. Y., sixty years ago, and was descended from an old Massachusetts family. Dr. Reynolds was a graduate of the New York College for Physicians and Surgeons, and also studied at the Ecole de Médecine in Paris.

Dr. David Oldham Lewis, Medical Inspector and Fleet Surgeon of the United States Pacific Squadron, died of apoplexy on the cruiser Chicago at Honolulu on December 16.

Dr. Theodore Deecke of Utica, N. Y., died on December 15, after three years of illness. He was 69 years old. For seventeen years he was pathologist at the Utica State Hospital, during which time he brought his department to a high state of efficiency. From time to time he had figured prominently as an expert witness in criminal trials in different parts of the country.

Dr. James Elliott of Newark died on December 15, at the age of eighty-eight years. He had practised in Newark for fifty-six years.

Dr. Solomon B. Wolfe, a retired physician of this city, died suddenly of heart disease on December 13, at the age of sixty-one years. He was in a life insurance office and had asked for a blank application form, but died before it could be handed to him. He served through the Civil War as Colonel of the Seventh Kentucky Cavalry.

Dr. S. B. Sayre of Oelwein, Ia., died suddenly on December 11 at the age of thirty-five years. He attended Rush Medical College at Chicago, and Worcester Medical College at Cleveland, O., graduating from both institutions. For several years he was located in the practice of medicine at Marshalltown, but moved to Oelwein about two years ago and established himself as an eye, ear, and throat specialist.

Dr. H. E. Muller of Oakland, Cal., died on December 12 of edema of the glottis, complicating an attack of tonsillitis. Dr. Muller was born in Switzerland forty-seven years ago. He had been a resident of Oakland nearly thirty years, and for the past twenty-seven years had practised medicine there, having graduated from the medical department of the University of California.

Dr. W. P. Caffrey of Castle Gate, Utah, died suddenly of heart disease on December 3 at the age of thirty-three years. He was a graduate of the University of Michigan, and had been physician to the Utah Fuel Company for five years.

Dr. Jerome Smith of Hodgenville, Ky., died on December 10 at the age of seventy-four years. He was one of the oldest and best-known physicians of Larue county.

Dr. John F. Failing, for many years a practitioner of Grand Rapids, Mich., is dead in Los Angeles, Cal., after a long struggle with pulmonary tuberculosis. Dr. Failing was born in Wayne county, N. Y., on October 24, 1841. He began the study of medicine in Lyons, N. Y., but gave it up to enlist in the federal army in August, 1862, being appointed hospital steward of the One Hundred and Thirty-eighth New York Volunteer Infantry, afterward known as the Ninth New York Volunteer Heavy Artillery. In this capacity he served in the army until the end of the war. He then attended the medical department of the University of Michigan and was graduated from the University of Buffalo in 1868. From that year until 1895 he practiced medicine in Michigan, from 1882 to the time his health gave out, in Grand Rapids.

Dr. William J. McMurray of Nashville, Tenn., died on December 4 at the age of sixty-three years. He was graduated from the University of Nashville in 1869, after having served with distinction through the civil war. He was President of the Tennessee Board of Health and had held many other positions of prominence.

Dr. J. E. Thomson of Delhi, La., died of appendicitis on November 27 at the age of thirty-two years. He was a graduate of the Chicago College of Pharmacy and received his medical degree from Tulane University.

Dr. William S. Forbes of Philadelphia died suddenly of heart disease on December 17. Dr. Forbes was born February 10, 1831, at Falmouth, Stafford county, Va., and was graduated in arts from the University of Pennsylvania in 1850, and in medicine from Jefferson Medical College in 1852. He served with the British in the Crimean war. He had for years occupied the chair of anatomy in Jefferson Medical College. He was senior surgeon to the Episcopal Hospital.

## Obituary.

### NATHAN BOZEMAN, M.D.,

NEW YORK.

Dr. Nathan Bozeman, whose death occurred on December 16, following an attack of apoplexy, was the last of the pioneers in gynecological surgery in this country. Like his contemporaries, Sims, Metcalfe, and Thomas, he was from the South, having been born in Butler County, Ala., on March 25, 1825. He studied medicine at the University of Louisville, receiving his degree from that institution in 1848. He began the practice of his profession in Montgomery, Ala., in 1849, and for a time was associated there with J. Marion Sims. While there he established a reputation as a gynecologist, having devised a new operation for vesicovaginal fistula, and making a record of seven successful cases. He also operated with success in a case of vesicouterine fistula. After a visit to Europe, during which he demonstrated his method of treating fistulas in the female genitourinary tract, he settled in New Orleans in 1859.

During the civil war Dr. Bozeman served in the medical corps of the Confederate Army, and at the close of the war, in 1866, established himself in practice in New York City. He continued for many years in active gynecological practice, adding to his reputation as a successful operator and an ingenious deviser of new methods and new instruments, among the latter being a self-retaining vaginal speculum. He also invented an operating-chair for use when the knee-chest position was called for. Dr. Bozeman was a member of a number of medical societies, local and national, and for many years took an active and important part in scientific discussions.

# Correspondence.

## AMERICAN HOSPITAL ECONOMICS.

To the Editor of the Medical Record:

Sir:—One of the phases of the discussion upon Hospital Economics opened by Dr. Arpad G. Gerster in your columns on December 2, 1905, and continued by Dr. A. L. Benedict in your issue of December 16, 1905, concerns the desirability of centralizing hospital service by the appointment of a small visiting staff who shall undertake continuous duty. As a corollary to this proposition, it is maintained by the former writer that a more economical hospital administration would result. It is pointed out that in continental Europe, where this system obtains, a single medical officer often controls 250 beds, that he is in daily attendance throughout the year (with a reasonable holiday), and that he is required to devote much time to at least the economic side of general hospital administration. Were such a system to be instituted in those hospitals of the Boroughs of Manhattan and the Bronx which maintain a general medical service, that entire service, representing all the medical cases among the sick poor of a population of 2,000,000 would rest in the charge of a medical "trust" of only twenty-eight physicians. (For argument, the *medical* service only is herein considered.) The question, however, is a very much broader one than whether or not any particular hospital or group of hospitals is to be enabled to save a few thousand dollars per annum. Every large hospital is necessarily a great educational factor with influence reaching far beyond its own doors. The nurses, the internes, assistants, medical students, and the visitants themselves are all being trained, gathering experience which is to be for the ultimate benefit of the entire community. It is of far more importance that this training and experience should be liberal and should be shared in by as many practitioners and students as possible without confusion or detriment to the service, than it is that John Doe should have his leg bandaged with cheaper gauze, or take his medicine from a cheaper spoon. That due economy should be exercised in all departments of a hospital supported either by trust funds, contributions, or taxation, requires no argument, but such economy belongs in every instance to the superintendent's office, be he trained layman or medical expert, and while the medical staff should willingly cooperate with him, the suggestions for such economy and its accomplishment are his responsibility exclusively and should not be shirked. The physician who by virtue of his experience and scientific attainment is honored with the charge of a large hospital service, ought never to be expected, much less required to fritter away his time in determining whether it is cheaper to use resterilized bandages than buy new, or whether green medicine bottles are cheaper than white—the more so, were he responsible for 250 sick!

For the internes, students, and nurses it is a distinct privilege to have an occasional change of visitant, who introduces new methods or teaches them new theories. For the chronic case it is often an advantage to have another visitant examine it with fresh interest, and for the acute medical case, it matters little which of several visitants happen to treat it, all being presumably competent. (In one of the largest of the metropolitan hospitals the average stay of all medical patients in the wards is only eleven days.) For the visitant a rotation of service is an advantage, for may he not learn from his colleagues, and is he not less apt to fall into perfunctory methods of routine? I would go further, and say that for the hospital it may even be an advantage, in rotation of service to secure occasionally a visitant who has had experience part of the year in some kindred institution. I have personal knowledge of many important reforms which have been thus extended from one hospital to another.

This whole question is usually argued exclusively from the surgical standpoint. The surgeon requires much more time to train his staff and nurses in his own methods of antisepsis and operation. Moreover, having operated, he should be accorded time to follow his cases to their conclusion, and his successor in a too frequent rotation of service might find disadvantages such as in no wise affect his medical confrère. This difficulty has been met in certain American hospitals by allowing a "continuous" surgical service, but by having several such services conducted in parallel lines. If genuine reform in hospital economics is to be secured, it should be accomplished through cooperation of trustees and superintendents in comparing the experience with their own institutions with others as would be done in the hotel trade or any large business, and by adopting a uniform and intelligible system of accounts, not by lessening the number of their medical advisers or increasing the responsibilities already put upon them.

W. Gilman Thompson, M.D.

New York.

## THE TREATMENT OF PUERPERAL FEVER.

To the Editor of the Medical Record:

Sir:—Referring to your editorial on the discovery by Oliver Wendell Holmes of the true nature of puerperal fever, can you not do proportionate justice to the physician who first published the right treatment of this disease? In the *Chicago Medical Journal* for September, 1873, I published a paper entitled, "Puerperal Fever; Treatment by Intrauterine Disinfection." Reference was made to this twenty years later by Dr. J. M. Baldy (in the *Philadelphia Polyclinic*, May 25, 1895, p. 217) who, referring to puerperal septicemia, wrote: "At this time a free use of the intrauterine irrigator, as first suggested by Dr. O'Brien, of Scranton, will flush out these infected products and end the trouble." The title of my paper expressed the principle involved—*Intrauterine* disinfection, which sharply differentiated it from vaginal injections which are as old, I suppose, as Hippocrates. In the body of the brief paper I said, "The axiom I would give is to neutralize the septic matter by *intrauterine* injections of carbolic acid," meaning carbolic solution, of course. I reported a case in which I used a solution of 15 grains to the ounce, and said, "I believe the proposition is self-evident that if we think there is septic matter in the womb we ought to reach it directly with disinfectants." I mentioned the long, curved tube necessary, and referring to the fear of uterine colic, said. "This objection does not apply to the postpartum uterus, as it has been dilated and is tolerant of fluids and used to expelling them." I also referred to vaginal injections as a curious anomaly when the trouble was in the womb. Whether any one ever made the same clear suggestion before, I can only affirm now, as I did in the paper itself, that it has not come within my limited research. In the spirited controversy at the New York Academy of Medicine in 1883 between Gaillard Thomas and Fordyce Barker, the latter intimated that he had published something of the kind in 1874 (the year after my paper), but the stenographic reports of his clinical lectures at Bellevue in 1873 (Medical Record, pp. 305 and 329) show that in practice he went no farther than vaginal injections. Those reports told a tale of high temperature, aconite, veratrum viride, and quinine, turpentine stupes, and vaginal injections; then death and post-mortem examinations followed by eloquent theories of fever in which "Nosocomial Malaria" (whatever that was) figured largely. And this was a fair index of the treatment of puerperal fever at that time. Thomas, in a correspondence with me in 1883, intimated that intrauterine injections for puerperal fever may have been used before my time, but all the leads pointing to a time before my paper that I was able to follow up led to *vaginal* injections or—nowhere.

It would be scarcely believable now what dread physicians in the early seventies had of intrauterine injections; what the gynecologists knew about them had been derived from unpleasant experiences with the non-impregnated uterus, and I had the greatest difficulty in inducing my brother physicians to use them for puerperal fever. In the next five years after my paper, articles on puerperal fever multiplied in the journals and occasionally casual mention would occur of intrauterine injections, as in a paper by Dr. Rodman of Kentucky (Medical Record, Jan. 8, 1876, p. 18); but it was not until Thomas read his paper (Medical Record, Dec. 15, 1883, p. 646), that the profession awoke to the vast import of intrauterine disinfection. You may wonder why I did not make some claim for recognition at that time, and here is where you may connect me up with Holmes and Semmelweis, if not in honors at least in modesty. The New York Academy of Medicine held an adjourned meeting to discuss further the important topic, and finding that my paper had not been mentioned, I wrote Thomas for an invitation to attend the second meeting to mention my paper. He replied that "Physicians might attend but only members were permitted to speak." I did not call this little bluff, though Dr. Shrady kindly offered me the use of your columns, but having opened wonder's wide and startled eyes on the arena of medical controversy I, like Holmes, recoiled from the conflict and devoted any poetic genius I had to the peaceful field of treating "measles, mullygrubs, and mumps."

If you find that old Galen or Hippocretes published the modern treatment of puerperal fever I will cheerfully join you in honoring him, but if it chance that any bouquets are coming my way you may kindly hand me a spray of edelweis or forget-me-not now, so I may thank you, instead of scattering Carnegie medals on my tomb fifty years hence when I may not be in a position to respond.

One thing is sure—this treatment has, equally with prevention saved thousands of lives from a scourge that formerly slaughtered more mothers than did war and famine.

J. Emmet O'Brien, M.D.

Scranton, Pa.

## THE ETIOLOGY OF TABES.

To the Editor of the Medical Record:

Sir:—In your issue of November 4, page 748, Dr. Joseph Collins raised various objections to my presentation of the etiology of tabes, to which I would briefly reply. Dr. Collins speaks of experience, and quotes for Fournier 1,000 cases of syphilis, and for Erb the widest possible; for himself he quotes no experience in syphilis, but in some four hundred cases of tabes. If I would employ a competent man, by paying a premium for each tabetic found, I feel sure he would fail to find many more than four hundred tabetics with actual symptoms within the boundaries of Greater New York. The average duration of tabes may be estimated at about twelve years. How many tabetics could have existed during the last twelve years? Has Dr. Collins a monopoly on tabetics? It is so easy to quote large numbers, to prove them would lead to great difficulties. I, therefore, attach no importance to the four hundred cases of tabes or to any other number. Moreover, Dr. Collins's tabetic material is practically all public. What interest has a teacher of neurology in tabetics which he exhibits or sees in public service? What else can he do but expound accepted views? For this reason, Dr. Collins cannot otherwise but lean on recognized authorities with large numbers. As a matter of fact, however, very few tabetics, studied from the beginning to the end of the disease, with an occasional postmortem examination of the nervous system, are necessary to teach any earnest and independent worker what a routine inspection of large numbers will fail to perceive. Large numbers, even if actual, are, therefore, detrimental for progress. I have treated only twenty-seven tabetics and sixty-four luetics, but my first five cases of tabes were sufficient to compel me to reject the syphilis theory. I have seen many more tabetics and luetics, and could well my numbers, but it is not for me to do so. That much for experience. Dr. George Franklin Shiels, in your issue of November 25, page 869, expresses a similar opinion concerning large numbers and the relation of tabes to syphilis. I, myself, intended to say something about the exhausted ingenuity of neurologists and their liability to become victims of autosuggestion, Dr. Shiels's expression gives me, therefore, due satisfaction. I have received a few letters from readers of the Medical Record, each one of which contains words of encouragement, and they all inform me that their writers held my opinions for years, but lacked courage to come forward. I am therefore, and after all, not "original," but simply the exponent or the accoucheur of time, which was pregnant with sentiments against the syphilis theory, which I delivered.

Dr. Collins has great difficulty in only one case out of ten to establish pretabetic syphilis, but this difficulty is not serious, for he overcomes it after all. He states that he has examined many syphilitic and tabetic cadavers. It is true we have still many syphilitics, but nobody dies today from syphilis. Where did Dr. Collins get his many syphilitic cadavers? We have, comparatively, but few tabetics; they all die, if not cut off by some other disease, from the tabetic lesions. Very few die in public institutions.

I have examined only two tabetic cadavers, one with a decided history of syphilis and one absolutely without it; and only one syphilitic cadaver of a young man who committed suicide, because his physician had enlarged on the consequences of syphilis. As these examinations gave me what information I needed, I made no efforts for more.

Dr. Collins says my presentation of the etiology of tabes is so full of fallacies that it would take too much space to consider them all, but he singles out: "Syphilis, everywhere, presents itself as a blood disease," and asks wherein the reaction or constitution of the blood of a syphilitic differs from that of a nonsyphilitic, and what book on hematology describes the syphilitic blood. Dr. Collins should know that the condition which we recognize as syphilis is caused by the entrance of a virus in the blood, be it the *Spirochæta pallida* or anything else; and that, as the virus has a great power of diffusion, the lymphatic glands fail to arrest it completely, and it enters the circulation by many other channels, and starts a pathochemical process, which reduces both hemoglobin and red blood-cells, causing true primary anemia. The system immediately begins to resist the invasion by elimination of the poison, giving rise to cutaneous and mucous-membrane eruptions. If the system is not strong enough, or not assisted by art, elimination fails, syphilitic production and later degeneration follow, and the blood-making organs are finally affected, leading, in some cases, even to pernicious anemia or leukemia. This superficial sketch is sufficient to remind those who know that syphilis is a blood disease. There are quite a number of men who have written about syphilis and Dr. Collins can easily obtain all the literature on it without my assistance. He states that nobody has made the syphilis virus "per se" responsible for tabes. I did not say "per se"; however, if syphilis is the cause of tabes, nothing else but the original virus can be responsible, even if it has undergone transformation.

The histories of patients are important instructors, which teach us. The constitution of "us" embraces all those who are mentally free and capable to observe and to perceive conditions as they are, in contradistinction to those who are not, and who pick laurels from spurious trees planted by others. That Dr. Collins denies excessive coition as a possible factor of tabes is consequent to the position he takes, but the manner in which he denies it is not. Concerning coition, this grows excessive not by frequency, but by the detrimental effect on the individual. That sexual impulses descend from the brain toward the sexual organs is self-evident. When a person sees an attractive sexual opposite, when some agreeable odor streams from the opposite, when the opposite possesses some attractive quality, or is surrounded by alluring circumstances, then sight, smell, hearing, and touch report to the brain, and erotic impulses descend toward the sexual organs. When the reproductive organs congest with generative products, the sexual center in the lumbar cord receives the report first, and reports then to the center of circulation, which forces extra blood into the generative organs. So far the process is mechanical. From the moment the extra blood enters the genitals, sensation ascends to the brain, reflex impulses descend now toward the sexual apparatus, and the individual grows conscious of sexual irritation.

My presentation of the etiology of tabes is not, as it seems natural for Dr. Collins to suppose, an outcome of a desire for originality, but a consequence of personal experience and of a sense of duty which prompts me to call the attention of the profession to the established error, to induce independent observation and study. The chemical basis of life was recognized by Aristotle about 350 years A. D. and was in vogue for many centuries. About 1800 years later Paracelsus revived the teachings of Aristotle but gradually they were superseded by other views. Now, however, a new impetus has grown out of advanced knowledge of the workings in the laboratory of nature, which carries new laurels to the memory of Aristotle and Paracelsus and resurrects the principles of their teaching to stand forever. I said life is nothing but the result of chemical action. I add now, that all diseases, without a single exception, as also death, are consequences of pathochemical action, and that bacteria, whatever their names, are equally consequences of pathochemical action.

Dr. Collins and others hold syphilis aggressively responsible for tabes, and I do not expect them to admit trauma or any other factor as a cause, but that is of no consequence for progress, for everybody who has real experience with even only one case of tabes can make some independent observations and studies. I drew attention to some infectious diseases, after which, in some cases, tabetic symptoms appear, and held out the possibility of a predisposition, which, under certain conditions might develop true tabes.

Miss Ida E. had no syphilis, and that she contracted it from a man who died of general paresis is a myth. Dr. Collins should be very careful in making such assertions, the more so as the patient denied syphilis to me, and as her mother and brother state that she never had any symptoms referring to it; nor did her body give the slightest evidence of it.

Fedor von Raitz, M.D.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

GENERAL MEDICAL COUNCIL—SECOND FITZPATRICK LECTURE—CALCAREOUS FLUID IN PLEURA—PERIODIC RESPIRATION—TETANY WITH DILATED SIGMOID FLEXURE—SUNDAY FUND—INDIAN BLUE BOOK—DR. STEWART'S DEATH IN NIGERIA—DEATH OF SIR J. BURDON-SANDERSON.

London, December 1, 1905.

The winter session of the General Medical Council was opened on Tuesday with another address by the president. Many hoped that Dr. MacAlister would abandon this useless function, but he has followed the practice of his predecessor. It seems absurd to consume a day's time of a number of distinguished gentlemen in talking over the program and giving a vote of thanks to their president—gentlemen whose time must be too valuable to sacrifice for the five guineas a day honorarium. An application by Japan has been made for steps to be taken for Japanese physicians to be registered so as to enable them to practise in the Straits Settlement and other parts of the British Empire. The committees have, of course, produced their reports for the Council's decisions on the questions submitted to them. That on the instruction in practical midwifery is one of the most important. It is obvious that there are difficulties in regard to this subject which do not appear in reference

to clinical medicine and surgery. The usual returns on the army service were received and the thanks of the Council voted to the director-general. Communications from colonial governments respecting drugs were referred to the Pharmacopeia Committee. The question of dental degrees referred to counsel has resulted in the opinion that these documents must explicitly state that the recipient is fit to practise dentistry in order to make them registerable as qualifications. Universities conferring degrees in dental science will, no doubt, notice this and word their diplomas accordingly. A resolution was passed directing the registrar to accept for primary registration such degrees conferred after examination by the British universities. The new University of Sheffield has sent Dr. Cocking to represent it on the Council, but this is not to add to the expense, as the university has to remunerate him. This is not approved by many, but after all the new university has not yet a constituency of medical graduates and the Council's finances are in a very unsatisfactory state. On Wednesday the Council set itself seriously to its judicial duties. It is still sitting.

Dr. N. Moore devoted his second Fitzpatrick lecture to Dr. Edward Browne (1644-1708) and the Education of Physicians in London in the Seventeenth Century. Referring to his first lecture, which, as I reported, was on John Mirfield (1393), he summarized his attainments and studies and passed on to notice some of his successors down to Browne's time. First of these was Nicholas de Casa, a very learned man, who introduced a method of counting the pulse which, though felt and discussed long before, had not previously been counted. About the time of his death Thomas Linacre, the founder of the College of Physicians, was born. He and Clement, Wotton, Cains, Doyley, Gilbert, Harvey, Mayerne and Glisson were briefly noticed as representing the kind of knowledge with which the college began and to which it attained during its first century and a half. Edward Browne, son of the author of *Religio Medici*, was then more fully considered in relation to the education of his time and his opportunities. He was examined by the college when he had been studying for some ten years, and Dr. Moore naïvely remarked that there was then "no thorough examination except in this college." Some of us yet living could counter this by saying in their own younger days they had not met with what might fairly be termed "thorough."

At the Clinical Society Dr. Samuel West described a case sent to St. Bartholomew's Hospital as empyema in which, on exploratory puncture, a white fluid was removed which he compared to Devonshire cream as to appearance and consistency. It contained very little fat, no cells, but much lime phosphate. The patient remained pretty well for three weeks, and then died from an attack of bronchitis. His doctor had known that he had fluid in the chest for about twelve years. At the post mortem four pints of the fluid were found and in places the pleura was lined with a thick, mortarlike deposit one-half inch thick, and there were many calcareous plates, some adherent, but most of them detached. No sign of tubercle in any part of the body. The left lung was destroyed, leaving only some fibrous pigmented tissue around the bronchi.

Mr. Clutton said the material resembled that found in old tubercular abscesses, as psoas. In them it was often impossible to find certain evidence of tuberculosis, though that was undoubtedly the original process.

Dr. S. West also read a paper on periodic respiration. The first form—Cheyne-Stokes—consists in groups of respirations separated by long pauses, with gradual crescendo and diminuendo of the movements. The rate while it continued might reach 120. It may be met with in central nervous disease, cerebral or bulbar, when the patient is moribund, and is of no prognostic value. It is more frequent and characteristic in failure of the left ventricle and is then a fatal omen, even though there may be no other alarming symptoms.

The second form—grouped respirations—consists of two, three or four equally deep individual respirations of slow rate—eight to ten per minute. It is met with only in meningitis, especially posterior basic. If recovery takes place the symptom passes off and is of no importance for prognosis. Tracings were shown of the two forms.

Dr. A. Garrod referred to the physiological variety and said he had seen Cheyne-Stokes in a man of nearly ninety while sleeping. In heart disease the end might be delayed for months. Perhaps Dr. West had included uremic cases. Dr. French related a case of sarcoma of both ureters, no urine being passed for twelve days before death, in eight of which Cheyne-Stokes breaths was present and no other uremic symptoms. Dr. West replied that most cases in which Cheyne-Stokes breathing was present in kidney disease were due to cardiac failure, not to uremia.

Dr. Langmead reported a case of tetany associated with dilated sigmoid in a boy of six. There was abdominal distension and a hollow tumor over the left half. Five attacks had been noted, but the last was complicated with diphtheria, which proved fatal. At the post mortem the dilated viscus was seen to be the sigmoid flexure, which was very much enlarged. Two uric acid calculi were found in the right kidney. Only one case of tetany with sigmoid dilatation seems recorded. The dilatation is, no doubt, analagous to that of the stomach, and shows that this organ is not an essential factor in tetany. There seems no record of tetany associated with renal calculus, but three such were found in the post mortem record of the Children's Hospital in ten cases of fatal tetany, though calculi were found in only 0.57 per cent. of general autopsies at the hospital. Mr. Clutton said the case furnished another argument for operation in dilated sigmoid.

The Council of the Hospital Sunday Fund has agreed to include district nursing institutions within the scope of the fund to an extent not exceeding 5 per cent. The Council has further approved the committee's report as to hospitals having schools attached, and resolved to make n ogrant to those hospitals which fail to comply with the instructions founded on Sir Edward Fry's committee.

The Blue Book on Indian Sanitary Measures (1903-4) was issued yesterday. It contains chapters on the health of European and native troops, prisoners in jails, etc. On the health of the population there is much information, as well as on sanitary works and medical institutions.

Yesterday the friends of Dr. J. F. Stewart, of the Government staff in southern Nigeria, were officially informed of that officer's murder by natives. He had gone out on his bicycle and is supposed to have lost his way and to have been attacked by natives.

Sir J. S. Burdon-Sanderson, Bart., died on the 24th ult., at Oxford, in his seventy-seventh year. His death was not unexpected, for he had been in ill health for some time. He had received numerous honors and appointments for his services to science and medicine. He was M.A., M.D., D.Sc., of Trinity College, Dublin; LL.D., Edinburgh; D.C.L., Durham; F.R.S., London and Edinburgh. His latest office was Regius Professor of Medicine at Oxford University, which he received in 1805. He was educated at Edinburgh, became M.O.H. for Paddington and physician to the Middlesex and Krompton Hospitals. From 1874 to 1882 he was Jodrell Professor of Physiology in University College and in the last-named year went to Oxford as Wayneflete Professor of the same subject. Previously he had been superintendent of the Brown Institution (1871-8). Earlier still he had been employed by the Royal Commissioners to investigate the cattle plague of 1865-6, the epidemic in Germany of cerebrospinal meningitis, the health of workers in Cornish mines, etc. He was next a member of the Royal Commissions on Hospitals for infectious diseases, on tuberculous milk and meat, and on the London University. He was president of the British Association (1893). At the College of Physicians he was three times Croonian lecturer and received the Baly Medal in 1880. His reports to the Privy Council on public health and his contributions on physiology and pathology to the Royal and other societies are well known. In recognition of his scientific work he was created a baronet in 1899.

## OUR VIENNA LETTER.

(From Our Special Correspondent.)

THE ETIOLOGICAL TREATMENT OF SYPHILIS—THE UMBILICAL CORD IN INFANTS—THE BIOLOGY OF RADIATIONS—A CASE OF GALLSTONE PERFORATION.

VIENNA, November 20, 1905.

DR. RUDOLPH KRAUS has made interesting studies in the official Institute for Serotherapy in Vienna, on immunity and the etiological treatment of syphilis. Observations on monkeys have served to confirm the conclusions of Metchnikof and Roux that syphilis is transmissible to animals. A noteworthy observation is the fact that the initial lesion is transmissible, no matter whether it is pustular or in the form of a chancre, and each type preserves its own form on inoculation. The initial lesion produces, as many observations have shown, a cutaneous immunity, but specific precipitins are not formed. The foundation for the attempts at etiological treatment, and the allied studies relative to immunity in syphilis, is based on Pasteur's protective inoculation against hydrophobia. It appeared not unlikely that by means of active immunization with syphilitic virus the secondary manifestations, that is, the general infection, might be prevented just as the development of rabies is avoided in animals infected with that disease. By immunization with the virus of hydrophobia immune bodies are formed in the already infected organism, and in consideration of the long period of incubation existing between the appearance of the syphilitic chancre and the secondary lesions it seems possible to produce immunity in a similar way by the subcutaneous administration of syphilitic virus. The patients that were treated in this way all exhibited

what clinically were undoubted primary lesions. With the patients' consent they were treated for fourteen days with subcutaneous injections of an emulsion of excised triturated human chancres. Of thirteen patients treated in this way during the intermediary stage of syphilis eight developed the disease in the customary manner, five of them showing the usual lesions of secondary syphilis six to eight weeks after infection, while in three cases the secondary symptoms did not appear until three and a half months after the infection. In five cases, in spite of observation continued through several months, no evidence of a general infection could be discovered. Although no definite conclusions may be drawn from these results, they are, according to the views of prominent clinicians, of great interest, as the various measures that have so far been experimented with in this stage of syphilis, such as prophylactic mercurial treatment or excision of the chancre, have not prevented the appearance of the secondary lesions. Observations on monkeys intended, by means of active immunization, to prevent subsequent cutaneous infection were negative, the monkeys developing typical primary lesions. Similar results have been reported by Metchnikof, Roux, Neisser, and Baermann. These experiments lead to the conclusion that active subcutaneous immunization is not available to protect against subsequent cutaneous infection, but it is possible that by this means the general infection might be prevented. It is also certain that a cutaneous immunity is produced by cutaneous infection, for both in monkeys and in man one chancre prevents further cutaneous infection. Further experiments along these lines are in progress, and should they lead to successful results they would open the way not only to an etiological therapy, but also to an etiological prophylaxis. By subcutaneous active immunization a post-infectional protective inoculation could be carried out similar to that against hydrophobia, and by a cutaneous inoculation with an attenuated virus a preventative procedure similar to that with vaccine virus could be obtained.

In the City Gynecological Clinic of Budapest numerous observations have been made to determine the value of the pressure forceps of Bar in treating the umbilical cord in the newborn. This instrument consists of a clamp one and a half centimeters wide and half a centimeter thick made of spring steel and so constructed as to exert sufficient pressure on the umbilical cord to express the contents of the blood-vessels and Wharton's jelly, and to convert the stump into a parchmentlike membrane. The amniotic covering of the cord is not torn, however. The instrument can easily be pushed down to the root of the cord, and, of course, can be perfectly sterilized. Twenty-four hours later it is removed, but the stump is not resected. The clamp is applied as soon as the pulsation of the umbilical vessels has ceased; the infant is then bathed and the stump is surrounded with sterile gauze, and, together with the instrument, is covered over with a suitable dressing. After removing the clamp the stump is redressed in a similar way. This dressing is not changed until the fourth day, after which the gauze is changed daily until the stump drops off. In over three-quarters of the cases mummification of the stump followed, and in one-fifth of the cases it was cast off as early as the fourth day, usually without any reaction. In sixteen and three-tenths per cent. of the cases complete mummification of the stump did not follow, but although four hundred infants were treated with the clamp, no undesirable complications were observed in any instance.

Dr. Schlachta has studied the biology of radiations. He subjected hens' eggs to the action of radium and found that changes were produced in the shell, and also that the yolk acquired a pronounced odor and taste of trimethylamin, showing a decomposition of the lecithin. He then exposed lecithin to the rays and found that it was decomposed. Lecithin treated in this way was then injected under the skin of rabbits and it was found that necroses similar to those produced by the radium rays were caused. No very marked changes were produced in the lecithin by the radiations, but the ulcerative processes following injection were very severe. Czerlin assumed that the lecithin itself was not decomposed, but rather that it was rendered less stable. Exner injected cholin, which is a decomposition product of lecithin, and obtained results similar to those following protracted radium exposures. Schlachta began his work with the idea that the radium radiations were simply a form of oxidation, because they ozonize oxygen. Electrical discharges accompanied by the formation of ozone give rise to manifestations similar to those of radium rays, such as falling out of the hair and vascular degeneration. Ultraviolet light has a certain period of latency like radium, and also ozonizes oxygen. Schlachta injected into guinea pigs lecithin, together with peroxide of hydrogen, and also lecithin and eosin, and obtained a falling out of the hair in both instances. The question then arose whether oxygen must be present for the action of radium and Roentgen rays to be unfolded. If lecithin is exposed to the radium rays in a vacuum it remains unchanged and does not give rise to any reaction when injected into animals. Schlachta therefore concludes that the radiations are linked to the presence of oxygen in the tissues. It appears that numerous substances possess the power of radiation. Very small amounts of alkalies and acids, that is, fractions of a milligram, when injected subcutaneously, after twenty-four hours cause yellow discoloration of the skin, followed by falling out of the hair in seven days, and, in some cases, by excoriations, ulcers, or cutaneous necroses.

Dr. Eugen Polya operated on a case of diffuse peritonitis following gallstone perforation. The patient, who was a woman fifty years old, presented a pronounced picture of diffuse peritonitis. As the greatest tenderness was in the region of the cecum an inflammatory process of this region was suspected, but there was also slight jaundice with distinct resistance in the neighborhood of the right costal arch, so that perforation from a gallstone could not be excluded. The first incision was made in the right iliac region and at once a large quantity of mucopurulent bile escaped. Immediately a second incision was made and a perforation was discovered in the gall-bladder, which also contained two gallstones the size of hazelnuts. The patient made a good recovery and left the hospital in perfect health, except for a small sinus in the upper scar.

## Progress of Medical Science.

*Boston Medical and Surgical Journal, December* 14, 1905.

**A New (?) Anatomical Structure.**—Under this title G. D. Hough refers to a fold of peritoneum in right iliac fossa which is a guide to the apex of the cecum and to the base of the appendix: It begins at a rather indefinite place not far from the anterior superior iliac spine and runs transversely, right straight across the iliac fossa, to the cecum to which it is attached just at the base of the appendix. It is half an inch to an inch high and slants upward toward the liver like a fence blown half over by a heavy wind. It is on account of this slant, in all probability, that it is not a well-known landmark. The reason is obvious. Most surgeons, after opening the abdomen, use the index finger of the right hand for exploration and with this finger the fold cannot be easily felt unless (which seems to be rather unnatural) one begins above and passes the finger downward along the iliac fossa. If, however, one uses the left index finger for exploration and, with the palm of the hand turned toward the feet of the patient, sweeps along the floor of the iliac fossa, the first thing one strikes is this peritoneal fold. If it is followed up it leads at once to the apex of the cecum and base of the appendix; the finger naturally hooks under the longitudinal band, and the cecum can be pulled out. Hence under ordinary circumstances the incision need be only large enough to admit one finger.

**The Physician's Duty Toward Tuberculosis.**—A. T. Cabot discusses the duties of the profession with reference to tuberculosis. The first duty is to greatly diminish the amount of tubercular poison throughout the county. Hence bacilli should be destroyed as rapidly as they are thrown out of the body. To do this we must enforce respiration in all communities, must disinfect all premises which have harbored a tuberculous patient, should give instruction in sanitation and sanitary care to patients who cannot be separated from their home, should provide sanatoria liberally, should isolate actively infectious and seemingly incurable cases. Children with contagious forms of tuberculosis should be excluded from the schools. In prisons and reformatories tuberculous patients should be kept apart. The author suggests the county societies in the country regions as the bodies most likely to superintend the carrying into effect of the above-named measures.

*New York Medical Journal, December* 16, 1905.

**Ventral Suspension.**—S. Chandler enumerates the causes which lead to uterine displacement calling for suspension or fixation. The operator must be sure of his diagnosis and ready to perform any additional operation which may be called for at the time. Of the many operative procedures the author prefers that of suspending the uterus by suturing the fundus to the abdominal peritoneum, repairing injuries, and removing diseased parts when necessary. His objection to the Alexander operation is that it is correct only in theory and not always available as the ligaments may not be sufficiently strong to obtain a continued correction and he considers it open to the objection that it does not give the operator the chance to diagnosticate or correct the original cause, or the present cause, as the case may be. He further commends the practice (because of the freedom of action and the giving the uterus an antiverted state) of placing the sutures a little posterior of the central meridian line of the fundus uteri.

**Malformations of the Uterus, with Report of a Case of Bicornate Uterus.**—A. A. Kerr refers to various cases of uterine abnormalities already on record, explaining their mode of formation from the standpoint of embryology. He then reports the case of a young woman of twenty-three, who complained of right pelvic pain and profuse leucorrhea. Examination showed local tenderness, rudimentary uterine cervix, and an abnormal mass in the region of the right tube. Laparotomy revealed a distinct bicornate uterus, the right cornu being slightly larger than the left. The ovaries and Fallopian tubes were both normal. The appendix being found diseased, was removed, and the uterus curetted. The patient made an uneventful recovery and left the hospital in two weeks. The vaginal discharge, however, soon recurred, and an opening was found communicating with what seemed to be the right rudimentary cervix uteri. The opening was enlarged to the right of the left cervical opening, considerable pus found and the cavity packed. The discharge ceased and the patient was up and around in one week.

**The Pathology of Paretic Dementia.**—H. A. Wright dissents from the generally accepted view that insanity is due to abnormalities in the cerebral cortex and does not understand why paretic dementia should be classed as an organic insanity in the sense just referred to. He summarizes the changes noted in the morbid anatomy of the condition, but claims that the workers in the laboratory have failed to make proper deductions from their anatomical findings. The cause of symptoms is then summarized and the author claims that there are no mental symptoms manifested by these patients which are not observed in others suffering from some type of inorganic insanity such as mania, melancholia, primarily dementia, or paranoia. If paretic dementia implies cortical changes why do we not find them in the inorganic insanities? Again, asks the author, if these lesions in the brain, which, in character and extent, are quite similar and identical with what are found in those patients who have suffered from what is described as multiple disseminated sclerosis, cause very manifest mental disturbance in one patient early in the progress of the malady, how may we account for the fact that in disseminated sclerosis, with lesions well advanced, involving similar areas of cortical substance, that mental symptoms or abnormal mental states seldom or never become manifest during the progress of the case? The general contention of the author is that in paretic dementia the patient is suffering from two distinct maladies, one of the nervous system and the other of the mind, each dependent on different causes. The several lesions of the central nervous system in so called paretic dementia may be due to alcoholism, syphilis, or what not, and are solely responsible for the paralysis of muscles in the different parts of the body which are observed. The mental disturbance is induced by circumstances, such as are responsible for what has been designated as mania, melancholia, etc. He could therefore entirely discard the term paretic dementia, and substitute therefor, because much more appropriate and correct in its significance, though somewhat cumbersome, the term "concurrent multiple sclerosis and dementia."

*Medical News, December 16, 1905.*

**A New Procedure in Intestinal Anastomosis.**—The plan advised by B. L. Wright is as follows: The first step is to introduce three temporary or stay sutures, dividing the circumference of the bowel into three parts. The first suture is introduced at the mesenteric attachment, the other two at equidistant points from the first. They should be left long and their free ends secured. The second step is begun by the assistants now taking the first suture in one hand and the second in the other. By firmly drawing these in oppositite directions it will be found that the free edges of the gut naturally invert themselves and come into close approximation, forming a ridge, raised above the general surface of the bowel, through which the permanent suture can readily be passed. The third step is the passage of the needle bearing the suture through the ridge. Each third of the ridgelike elevation is sutured separately, so that when the operation is complete the entire circumference of the bowel has been sutured. The temporary or stay sutures can now be removed or can be tied and cut to give additional security.

**The Dissemination of Tuberculosis by Railway Travel.**—C. B. Dudley discusses this question from the standpoint of the chemist of one of our largest and best-managed railroad systems. His experiments lead him to believe that the dangers from infection due to railroad travel have been very greatly exaggerated. There is very little evidence that the time spent in the car is of any value as a factor in the acquisition of this malady. To acquire the disease prolonged exposure is necessary. Tuberculosis sputum is extremely difficult to dry and pulverize so that it is breathed in again. Dried sputum is more or less tenacious and gluelike. Consequently its reduction into a really fine powder which remains suspended in the air for some time is a difficult matter to bring about. Still further, sputum which has been artificially dried, then beaten and rubbed up into a dust from carpets on which it had fallen, readily falls to the ground. The viscous material in which the bacilli are imbedded is relatively heavy, even when dried, and in a fine state of division. Finally, one must not ignore the effect of light and air upon the vitality of this special germ. The structure of a railroad coach, long and narrow, and made up largely of windows, offers the best possible opportunity for the entrance of light and air. Statistics show that railroad employees suffer considerably less from tuberculosis than does the average of the community. From all these facts the author concludes that the influence of railway travel on the dissemination of the disease has been greatly overestimated. His experiments have led him to believe that the danger of infection from upholstery in cars and coaches is very much less than from naked surfaces, and that the crusade against hangings, carpets, and plush is not founded on careful experimental data.

**Centrifugal Urinary Analysis.**—This method is discussed in full by A. L. Benedict who presents the following conclusions: (1) Considerable centrifugal force should be employed to insure even and dense packing of precipitates, at least 2000 revolutions per minute are necessary. (2) The process should be continued until constant minimum is reached. (3) The inaccuracies of the centrifugal method depend to a considerable degree upon inaccurate graduation of tubes. (4) Fairly accurate estimates of chlorides may be made by counting each percentage in bulk precipitate as 0.02 per cent. of NaCl. (5) Fairly accurate sulphates may be made by counting earth percentage of bulk precipitate as 0.02 per cent. of $SO_3$. (6) Fairly accurate phosphates may be made by counting each percentage of bulk precipitate as equivalent to 0.02 of $P_2O_5$. If the precipitate reaches 10 per cent. or over, the reading should be controlled with a dilluted specimen. (7) The uric acid determination by centrifuge is much less liable to experimental blunders than the Hopkins and allied chemical methods but is either subject to fallacies of unknown cause, or it includes with uric acid other substances, probably basic purins. (8) All centrifugal tests are liable to vary widely from the corresponding chemical tests in individual cases.

**The Detection of Functional Disturbances of Digestion by the Examination of the Feces.**—J. D. Steele calls attention to our lack of knowledge in regard to intestinal as contrasted with gastric disturbances. He has found the examination of the feces to be most useful not in diagnosis but rather in following the digestion and absorption of the various foods and in determining the proper diet for patients suffering from gastrointestinal disease. It may be impossible to say just which digestive fluid is at fault but it is easy to say just which food stuff is not being properly handled and to restrict its ingestion. A "test-diet" is employed and may be expressed in equivalents as follows: 2¾ pints milk, 3 ounces well-dried toast, 2 eggs, 1½ ounces butter, ¼ pound tender rare steak, 6 ounces mashed boiled white potato and gruel made from 2½ ounces of ordinary oatmeal, ½ ounce sugar. This may be given somewhat as follows: Breakfast—2 eggs, 1-3 of the amount of toast and butter, 2 glasses milk, oatmeal and sugar. Dinner.—The steak and potatoes, 1-3 of the amount of toast and butter, 1½ glasses milk. Supper.—2 glasses milk. Remainder of toast and butter.—The method of examining the feces are described in full and must be read in the original paper. Not more than ten minutes are required, when the apparatus is once ready, for an ordinary examination. A plea is made for a more general employment of this method.

*American Medicine, December 16, 1905.*

**Cause, Course, Prevention, and Treatment of Beriberi.**—Hamilton Wright classifies beriberi into (1) acute pernicious beriberi; (2) acute beriberi; (3) subacute beriberi; and (4) beriberi residual paralysis, or the disease as it appears after the specific organism and its toxin have been eliminated and the engendered paralyses have failed to clear up. Acute pernicious beriberi is rapidly fatal as the result of the severe impact of the beriberic virus on the cardiac nervous system. Acute beriberi in its clinical aspect differs from the acute pernicious form only in degree. The gastroduodenal syndrome which ushers in the disease is as marked, and the consequential paralyses, sensory disturbances, and edema may be severe and widely distributed, but the terminations of the cardiac nervous system are never so deeply implicated. Death from cardiac failure is, therefore, a rare event in the early acute stage of the disease. The chief measure in the treatment of acute beriberi is rest in bed. The physician must insist on rest in bed until the pains in the calves subside and the heart sounds approach the normal. Calomel should be exhibited in small doses at short intervals. In the case of parturition or

wound beriberi, carbolic, or other antiseptic lotions, are called for. In the event of threatened cardiac failure, strophanthus is the best drug; for, undoubtedly, a factor in the circulatory disturbance of acute beriberi is a low peripheral pressure due to a poisoning of the nervi vasorum. Strychnine should not be used in the acute stage of the disease. The best results are obtained from absolute rest in bed and restriction of fluids. Rest in bed and the simple diuretics are also the best remedies for the edema. In the stage of residual paralysis, remedies which have proved effective in other forms of chronic neuronal degeneration are called for, such as gentle exercise, massage, electricity, and small doses of strychnine for arsenic. The cardiac condition should be closely watched.

**The Short Narcosis, the Short Incision, and the Short Stay in Bed After Ideal Operations.**—Bayard Holmes a strong advocate of short narcosis, short incision, and short stay in bed after ideal operations. He believes too much time is often spent by the patient on his back after operation, and too little by the surgeon at the bedside and in the laboratory before the operation. In order to make the stay of the patient short after surgical intervention, he should be studied in the hospital for days or even weeks before operation is undertaken. Dr. Holmes has found that patients can readily be kept anesthetized the necessary twenty minutes or half hour by the employment of gas, with only occasional resort to ether. In a few instances, on account of obesity, chloroform has been used to continue the anesthesia. The short incision is one of the dictates of good surgical judgment, as it inflicts the minimum amount of traumatism and gives adequate access to the field of operation. With the small incision, the complications which the protrusion of abdominal viscera add to the operation are unknown. Operators who have been accustomed to use incisions 4 inches to 6 inches long are surprised to find that they are able to accomplish the same results more rapidly, with less traumatism, and with fewer postoperative discomforts to the patient with an incision 2 inches long or 1½ inches long. The duration of the operation is curtailed, the intoxication and the discomforts of the anesthetic are lessened, the danger of hernia is minimized, the necessity of a long stay in bed is obviated, the chances of infection through the introduction of many stitches diminished.

**What Is a Poison?**—R. G. Eccles elucidates that (1) no substances are poisons *per se;* (2) that the idea that minute amounts of poisons are injurious is an error; (3) that different organisms respond differently to different poisons; and (4) that the quality of poisonousness is, for each particular organism, a function of dose. To know whether it is proper to consider any substance as a poison, it is necessary to know the animal or plant to which it is to be administered and the dose in which it is to be given. Under sufficient dilution, so that a large dose cannot be administered, neither strychnine, arsenic, nor other toxic body, can reasonably be considered poisons. Prussic acid, as present in fruit, is as harmless as water, and all so-called poisons, under sufficient dilutions, become absolutely innocuous. It has been experimentally shown that toxic substances, at certain definite dilutions, are not merely innocuous, but that they are positively beneficial. As protoplasm is indifferent to slight warmth, stimulated into greater health and vigor by increased warmth, but killed by excessive heat, so also it behaves to poisons in a somewhat similar matter.

*Journal of the American Medical Association, December 16, 1905.*

**The Tabetic Foot.**—S. I. Schwab and N. Allison have studied the tabetic gait and the factors in its causation, apart from the disturbances of the sensory nervous system, using as material for the study fifteen cases of tabes observed during a period of two years. Their conclusions, in substance, are as follows: The observations show clearly that the foot of a tabetic showing any degree of ataxia is a pronated foot. This pronation leads to muscular strain on the ankle, knee, hip, and spine. This, together with the hypotonia, tends to break down the long arch, thus producing a faulty mechanical instrument for walking. This pronated foot plays an important and hitherto unrecognized rôle in the production of the ataxic gait, and correction of this faulty mechanism tends to increase the power of the tabetic to walk normally. In conjunction with the Fraenkel exercise treatment, the correction of this faulty mechanism of the foot offers the most favorable treatment for the ataxic gait of tabes. The orthopedic appliance, a specially adapted shoe for this purpose, is described.

**Superior Accessory Thyroids.**—These structures are described by J. B. Murphy. It is probable that they often supplement or take on the function of the normal thyroid. They are found usually within a space, roughly represented by an inverted trapezoid, the larger base of which is a line running between the apices of the mastoid processes, the smaller base a line tangential to the arch of the aorta, and the sides represented by the sternomastoid muscles. They have been found outside of this area, in the pleura, bones, abdominal cavity, and elsewhere, but such tumors must be considered as metastatic. They may occur at any age, and are most common in females. In most cases there is no ostensible exciting cause, but in a few cases acute infection may be considered as such, and in several cases puberty was closely related to the development of these tumors. They are generally found at the base of the tongue, and vary in size from that of a cherry to that of an egg, or are even larger. The tumor is well encapsulated, not surrounded by an inflammatory area, and is bluish red in color, owing to the abundance of vessels. The consistency is soft, and it is sometimes difficult to decide whether one has to deal with a soft tumor or a cyst. The usually accepted theory of their origin is that they are remnants of the thyroglossal tract. While they may accompany normal thyroids, they have been found in several instances to be the only thyroid existing. Two personally observed cases are reported. The difficulties of diagnosis are noticed, and the lack of constitutional symptoms and often at first of any symptoms whatever. Generally, however, when the true nature of a tumor of the neck is not well established, an accessory thyroid should be thought of, and if a tumor is found at the base of the tongue, or between it and the hyoid in or near the middle line, if there is no adjacent inflammatory reaction, if there are no marked subjective symptoms, if it undergoes periodic changes in size and tension, if the patient be a woman, and especially if she complains of some disturbance of menstruation, the condition is highly suggestive. In the differential diagnosis, besides the specific differences between accessory thyroids and other growths, particular attention is called to the clinical course, the duration of the growth, and the presence or absence of the normal thyroid. Treatment is both medical and surgical, but the administration of drugs is usually unsatisfactory. Iodide of potassium may reduce the size of the tumor slightly, and Murphy suggests the use of thyroid tablets or the milk of tyhroidectomized goats. The presence of a normal thyroid is to be assured before surgical treatment is attempted. Extirpation is the only effective treatment, and the method of election is by the subhyoidal or submental route. The prognosis is good if the normal thyroid is present; the most unpleasant possibility is myxedema, which occurred in five of the cases tabulated. Recurrence of the tumor has been observed in six of the patients operated on.

**Albumosuria in Phthisis.**—J. F. McConnell says that in making a series of urinalyses for the purpose of computing the prognostic value of Ehrlich's reaction in the tuberculous, his attention was directed to the large proportion of the specimens giving a precipitate with the characteristics of an albumose. Finding little in the literature concerning the significance of this substance in the urine in tuberculosis, he has further studied the matter, and offers as a result a clinical deduction which he considers to be of importance as putting the empiric therapeutic theory of rest in this disease on a rational basis. He found that febrile cases giving a positive albumose reaction in the urine were not improved by exercise, but rather lost ground, while those giving no albumose reaction were injured by the rest treatment and decidedly benefited by regulated exercise. Details are given of the test employed for the detection of albumose in the urine, and illustrative cases are reported.

*The Lancet, December 2, 1905.*

**The Treatment of Tuberculosis by Tuberculin.**—The paper of W. Bueloch comprises a general consideration of this remedy with summarized reports of eleven cases. All of these were severe and had passed from the hands of physicians and surgeons and were regarded as incurable. They included lesions in various parts of the body. The case was markedly benefited, five apparently cured, one improved, in two no benefit whatever was observed, and two are still under treatment. The author thinks we have expected too much from the remedy. He notes that the most recent studies in immunity lead to the conclusion that the inclosure of the bacillus by a wall of poorly vascularized granulative tissue is a drawback as the antibacterial forces which we know to exist in the body humors are kept at bay, the parasite remaining locally, and being at long intervals discharged outward. In general the defense offered by the bacillus is so powerful that only a relatively small degree of immunity is developed by the host. This statement rests on a large body of evidence and it cannot be expected, even from a remedy like tuberculin, that a high degree of immunity can be attained in a short space of time or that the curative effects of the remedy are comparable to its prophylactic effects. The author does not deny that the remedy has remarkably curative powers. Recent ex-

periments show that protective substances of opsonic nature exist in normal serum and that the opsonic content of the serum can be increased by tuberculin injections. It is now manifest that the chief defensive mechanism against tubercle exists in the serum and not in the cells, as was believed, and the destruction of the bacilli by the cells must be preceded by the action of the serum.

**The Descendants of the Tuberculous and Hereditary Predisposition.**—G. Ogilvie notes that the question of a specific disposition to tuberculosis in the human species could be finally decided in a strictly scientific manner only by inoculating a large number of persons in the same way, with the same quantity and the same culture of the bacillus. This experiment certainly is not likely to be performed. But we have certain clinical facts which seem to prove conclusively an hereditary predisposition. Those cases of tuberculosis dying about the age of puberty usually show a small heart and a narrow aorta. Another interesting fact seems to prove or at least suggest a distinctly local predisposition, namely, that tuberculosis in the child almost invariably starts in the same lung which was first attacked in the parent. With regard to a general hereditary predisposition it has been said that a difference must be made between a specific disposition and a general constitutional weakness, and also between a truly hereditary disposition existing in both parent and offspring, and a congenital disposition not existing in one parent but produced in the infant by the parent's disease—*un phénomène para-tuberculeux*. These distinctions, which are certainly of much scientific interest, are, according to the author, of no great practical import.

**The Condition of Patients After the Removal of the Vermiform Appendix.**—L. Jones has investigated the after-history of 87 cases with reference to (1) pain, constipation, flatulence, etc., as referable to possible adhesions; (2) tenderness of the scar and (3) ventral hernia. The results are as follows: (1) In some of the cases in which there was definite suppuration around the appendix the viscus was removed during the patients' stay in the hospital, while in others the abscess cavity was merely drained, the appendix being left untouched. Considering these two classes apart, the first included 22 patients, and of these 12 could mention no defect in their present health, three suffered with slight occasional local pain, three had noticed some bulging of the scar, one was more constipated than formerly, and one was more flatulent. Two ascribed definite lesions to the operation: the first had become ruptured in both groins, an effect, he considered, of his abdominal scar; the second, whose scar had "reopened" after leaving the hospital, wrote pages describing various vague complaints and has probably developed a ventral hernia. Of these two the former has no proper ground of complaint. (2) The patients, upon whom operations had been performed during an acute attack but before obvious peritoneal infection had occurred, numbered 16, and in no case did any of these instance trouble sufficiently severe to incapacitate them in any way. Twelve were in perfect health; in one case the scar was slightly tender on pressure, in two others there was slight pain with some fullness in the scar, and in the fourth there was a definite hernia at the site of operation as large as a hen's egg. (3) Those patients operated upon during a subacute attack or in a quiescent period were 32 in number and furnished the following replies. Twenty expressed themselves as being better in every way and much benefited by the operation, nine could find some symptoms which they thought possibly due to the scar—for example, four had noticed slight occasional pain on exertion or on coughing, one suffered from constipation, one from "flatulent dyspepsia," another from tenderness in the scar, and three thought that the scar showed more prominently than before.

**An Unusual Cause of Sudden Death.**—B. Thornton reports the case of a vigorous man of twenty-eight, who ate a hearty breakfast, went to stool and was found dead in the closet a short time after. Autopsy revealed only slightly emphysematous lungs and a small amount of regurgitated food in the larynx and trachea, but not enough to prevent the entrance of air into the lungs. The author concludes that death resulted as follows: The man was straining to empty the bowels (which had not acted). There was a regurgitation of acrid, half-digested food into the larynx. This caused a spasm of the glottis. Being seated in a constrained position in a very small closet he was unable to recover his breath and the combination of these circumstances inhibited the action of the heart and caused it to stop.

*British Medical Journal, December 2, 1905.*

**A Report on Human and Bovine Tuberculosis.**—H. Kossel presents the following conclusions: By bacteriological investigation of tuberculous lesions in human beings, cattle and swine, two types of tubercle bacilli can be detected which may provisionally be called typus humanus and typus bovinus. The widely-spread tuberculosis of cattle is to be traced exclusively to infection with tubercle bacilli of the typus bovinus. Swine are susceptible in a high degree to the tubercle bacilli of the typus bovinus, in a lesser degree to those of the typus humanus. The tuberculosis of human beings chiefly arises from infection with tubercle bacilli of the typus humanus, which is transmissible from man to man. Tuberculous lesions in human beings can be produced by tubercle bacilli of the typus bovinus. Tubercle bacilli of the typus bovinus can be transmitted to human beings by food derived from tuberculous animals, especially by milk of cows affected with tuberculosis of the udder. The part played by infection from bovine sources in spreading tuberculosis in man is small in comparison to the danger threatening from a consumptive human being.

**Condition of the Skin in Pneumonia.**—Arthur H. Gregson has come to the conclusion that in lobar pneumonia the skin is dry, while in the lobular variety it is moist, at least in the folds of the axilla and groin. He believes that the drier the skin, the more likely is the temperature to end by crisis. He cites the history of two cases. One patient was a boy ten years old who after measles developed bronchopneumonia. His temperature rose to 104° F. The skin was hot and dry. The writer from this sign assured the family that the boy's illness would end suddenly, approximating the date. This proved to be the case, although the physical signs indicated bronchitis as well as pneumonia, and but for the state of the skin the latter would have been considered to be of the lobular type and would have been expected to end by lysis. Instead it ended by crisis. Another history is given. This patient's skin remained moist during the first days of illness. She slowly grew worse for ten weeks, during which time crepitations came and went in all parts of the lung. Death finally ensued.

**The Crystalline Lens in Health and in Cataract.**—William Job Collins declares that the prevalent teaching that the healthy lens becomes more solid as age advances, if this is to be held to mean that the older lens contains more solids in proportion and less water than the young, or that the lens becomes denser in the sense that its specific gravity is increased, is a doctrine not founded on fact and must be considered as fallacious. In so far as such an explanation is given as accounting for the progressive loss of accommodation during advancing years, culminating in presbyopia, such pathology must be discounted. The alleged enfeeblement of the ciliary muscle is no more equal to the task of explaining the progressive loss of accommodation. The writer continues, giving his own explanation of the remarkable correlation between the progressive growth of the lens through life, and the progressive loss of accommodative power from youth to age; as the lens grows into its capsule equatorially, every year witnesses some encroachment upon the intracapsular circumlental space, and as this potential cavity becomes occupied by the augmented lens in a passive state of refraction, less space and opportunity are given for that occasional active expansion which effects accommodation. The writer declares that the prevalent but erroneous teaching of the cornification and solidification of the crystalline lens as a natural senile change is responsible for the equally prevalent doctrine that the changes in the lens spoken of as senile cataract are merely exaggerated and intensified or accelerated senile changes. He believes that they are nothing of the kind. He has rarely found a cataract weighing as much as the ordinary healthy lens at forty years of age. In cataract also the percentage of solids in the lens is increased, whereas age alone gives no increase. He also finds in cataractous lenses certain chemical bodies in relative excess whose presence and amount favor the view that they have been occasioned by transformation of the albuminoid bodies contained in the normal lens—probably due to some failure of nutrition. Traumatic cataract from penetrating injury is due to swelling and solution of the lens substance under the influence of the aqueous humor. The writer then calls attention to the black cataract. As to the maturation of cataracts, those associated with myopia are apt to ripen slowly. Those beginning at the posterior pole or by striæ with anterior concavity stretching thence to the equator, are often slow in maturing. The writer does not think that methods of trituration of immature cataracts with the object of ripening them are very advisable. He believes that etiology is the best basis for classification and presents a scheme of classification accordingly.

*Berliner klinische Wochenschrift, November 27, 1905.*

**Simulation and Mental Disease.**—Siemerling says that the detection of pretended insanity has been greatly facilitated since it has come to be recognized that simulation and mental disease often occur together. On the other hand, it is unwise to go as far as do those authors who claim that pure simulation is never observed. The mere fact that a suspected individual confesses to simulation is not sufficient to permit the conclusion that the condition has actually been a pretended one, for the insane not infrequently make assertions to this effect. Individuals attempting to simulate insanity usually betray themselves through the exaggeration of their actions. It must be remembered, however, that in katatomia, the hysterical psychoses, and the excitable forms of imbecility, abrupt contrasts in demeanor and the grotesqueness of the clinical picture often convey an impression of artificiality. The forms of mental disease which have most often been simulated in the author's experience have been idiocy, mental depressive conditions of slight intensity, paranoia, and lapses of memory. If patient observation alone is not sufficient to unmask the deception, the author recommends hydriatic procedures and the application of the electric current.

**The Bacteriological Diagnosis of Weichselbaum's Meningococcus.**—Kalberlah, in discussing the difficulties attending the demonstration of the meningococcus in the cerebrospinal fluid obtained by lumbar puncture, concludes that in the first place it is necessary to allow the material to escape directly into tubes of Loeffler's blood serum. The tubes must be protected from cooling as much as possible while in transit to the incubator, secondly, the microscopical examination is to be made both on the fresh material and after twelve to fourteen hours' cultivation in the incubator.

**Sahli's Desmoid Reaction.**—Eichler first describes the method for testing gastric efficiency recently devised by Sahli. The fundamental principle involved which gives the reaction its name is the fact that raw connective tissue is digested only in the stomach and never in the intestine. Sahli gave his patients minute amounts of methylene blue or iodoform in little rubber bags tied with raw catgut. If, after swallowing such a bag, iodine or methylene blue could be detected in the urine within a period of 18 to 20 hours later, Sahli assumed that gastric digestion could not be deficient. Eichler first repeated Sahli's experiments in order to determine the correctness of the assumption that the catgut would be dissolved only in the stomach. He found that the presence of both pepsin and hydrochloric acid was necessary for disintegration of the material to take place. If the catgut was partially digested in this way and then subjected to the action of pancreatic juice, no further destruction occurred. The method was then practically tested on 30 patients exhibiting various forms of gastric disease, and the results in each case were in accord with those obtained on analysis of the stomach contents after an Ewald test breakfast. The author therefore concludes that the reaction, when positive, is a reliable indication of good gastric digestive power. In cases of hypermotility, however, the test may not be positive, even if normal amounts of gastric juice are secreted, because the pellet may be expelled from the stomach before time for digestion of the catgut has been allowed. If the reaction is negative, while the inference that the gastric powers are deficient will be a correct one, no definite information is given regarding the nature of the disease. Eichler therefore concludes that while the desmoid reaction will be found of value, it is not destined to supersede the Ewald test breakfast as a means of accurate diagnosis.

*Münchener medicinische Wochenschrift, November 28, 1905.*

**The Value of Bier's Congestion Treatment of Acute Inflammation.**—Danielsen has tested Bier's passive congestion treatment in 105 cases of different inflammatory processes, such as furuncles, carbuncles, cellulitis, panaritium, etc. In 101 of these a cure was effected more quickly than would probably have been the case if the customary methods had been followed. For a furuncle, the plan of treatment was as follows: The local congestion was effected by means of a dry cup provided with a rubber bulb. The degree of congestion is largely a matter of experience, but the patient's feelings afford a useful guide, as the treatment should not give rise to any pain. The cup is allowed to remain in position for three-quarters of an hour, and it was found advantageous in some cases to reduce the suction momentarily every two minutes or so. The treatment is repeated at intervals of twenty-four hours. If suppuration has already begun, the abscess is punctured under ethyl chloride anesthesia, and the cup is applied as before, whereupon a copious discharge of blood and pus, including the necrotic plug, usually follows. In treating cases of cellulitis, the congestion of the entire limb was secured by the application of a rubber bandage; considerable judgment is necessary in adjusting this, and several trials are necessary before the proper degree of tension is obtained. The bandage is allowed to remain in position for twenty to twenty-two hours, and is reapplied after an interval of two to four hours. In carrying out the treatment it is absolutely essential that the patient be kept under medical supervision, and the application of the congestion apparatus should never be entrusted to attendants or to the patient himself. The author considers Bier's treatment of acute inflammations and suppurations as the greatest recent achievement in surgery, and claims the following advantages for it: Painful, large incisions become unnecessary; the small punctures which are sometimes not avoidable may be painlessly performed under ethyl chloride anesthesia; painful packing of wounds need not be done; loss of function in joint or tendon affections is avoided; the length of time required to effect a cure is greatly shortened, and the formation of disfiguring scars is obviated.

**The Treatment of Tonsillar Inflammation by Means of Suction.**—Prym reports favorable results in the treatment of tonsillar angina by means of suction apparatus designed in conformity with the principles promulgated by Bier. Glass suction tubes are used, which are provided of such shape and dimensions as to adapt themselves to different-sized tonsils. The air is exhausted by means of a rubber bulb. The author has not found that their application is difficult, and when properly adjusted he states that the procedure is never irksome or painful to the patient. The effect of the treatment is a very prompt and notable improvement in the subjective condition, so that patients can usually take food after a single application, even if extreme dysphagia has existed previously. The duration of the inflammation is also appreciably shortened, though it is advisable to use the customary measures as adjuncts in addition to the suction treatment.

**The Technique of Pubiotomy.**—Reeb expresses himself as very much pleased with this operation, and reports four cases in which satisfactory deliveries were secured by its means. In each case a living child was obtained, and three of the mothers were out of bed on the twentieth day. In the fourth case, convalescence was prolonged owing to an injury to the bladder caused in passing the saw behind the pubic bone. The author attributes the accident in this one case to the fact that the finger was not used as a guide to direct the course of the instrument, and he advises that this precaution should never be omitted. The patient made a good recovery in spite of the complication, and when discharged her condition was as satisfactory as that of the other three. In a fifth case, in which it was doubtful whether delivery would be possible without operative enlargement of the pelvic outlet, the saw was placed in position but not used, as the birth was effected with the forceps alone. The author considers that the procedure is destined to occupy a prominent position in obstetrical surgery, and believes that by recourse to it the necessity for perforation of the living child and cesarean section will be greatly reduced. He recommends that the delivery be conducted by a special assistant who must not come in contact with the pubic wounds, and he also advises that the labor be terminated immediately after the bone has been sawed through. The lower incision is to be closed by suture, while the upper one is drained.

*Deutsche medizinische Wochenschrift, November 30, 1905.*

**Pseudotubercle Bacilli in the Diagnosis of Tuberculosis.**—Mezincescu says that as time goes on it is being realized with greater and greater conviction that the sources of error in the morphological diagnosis of tubercle bacilli are very numerous. The number of acid-fast bacilli that give the same staining reactions as the tubercle bacillus is constantly being increased. He describes a case in which smears made from an ulcerating tumor of the cheek revealed large numbers of bacilli which in their staining properties and morphology closely simulated true tubercle bacilli. On making sections of the growth, however, it was discovered that it was an epithelioma. Further investigation of the bacilli showed that they were completely decolorized by the action of absolute alcohol. The author concludes that they were smegma bacilli in this unusual situation. He also points out the fact that in smears of true smegma bacilli, certain organisms have been found which were not decolorized by absolute alcohol, and in all respects corresponded closely to the characteristics of the paratubercle bacilli.

**The Treatment of Tuberculous Arthritis.**—Garrè, in discussing this subject, emphasizes the undesirability of incising tuberculous abscesses. In case this is done, a secondary infection with pus organisms is almost sure to result, and should a subsequent radical operation be decided upon, it will have to be carried out in a thoroughly infected region. He has used iodoform injections with great satisfaction in such cases. The pus is aspirated through a

needle and a 10 per cent. emulsion of iodoform in oil is injected. The direct results of this treatment are satisfactory, and it does not jeopardize the success of later more radical measures, should they become necessary. In the treatment of sinuses, individualization is necessary. In some cases a cure can be effected by curettage or conservative treatment, others involve so much danger to their possessor and to his environment that early operation is indicated. A patient with a poorly-cared-for, suppurating, tuberculous process is as great a source of danger to others as a coughing, expectorating consumptive. In discussing the treatment of the different joints, Garrè says that conservative treatment has proved least satisfactory in the management of knee cases. Out of 185 cases, for which 177 resections and 8 sinovectomies were done, the disease was arrested in 94 per cent., although, of course, the functional result was not always very good. In speaking of tuberculous disease of the foot, he says that he restricts the iodoform treatment to recent cases without sinus formation in young patients who are in good condition, or to cases having only one joint involved and the tendon sheathes free in the absence of marked destruction of the bone. It is also serviceable in dealing with patients of advanced years, for whom otherwise amputation would come in question.

*French and Italian Journals.*

**Abdominal Hysterectomy for Infection Following Placental Retention of Two Months' Duration in a Fibroid Uterus.**—Druebert reports the case of a woman forty-one years old, who always menstruated regularly, until June, 1905. At this time the menses did not appear and the lower part of the abdomen at the same time became distended by a tumefaction which at first the patient thought to be pregnancy. In July pains developed and much blood was lost. During the entire month following the patient suffered from abundant and fetid lochia, followed by hemorrhages which necessitated her entrance into the hospital. Examination showed that the uterus had risen to the umbilicus, and had on its right border a fibroma as large as a child's head. A bloody and very fetid liquid flowed from the cervix. The patient denied all possibility of pregnancy. A rapid ablation of the uterus was made urgent by a new hemorrhage. After the operation the specimen showed interstitial fibroma and bits of placenta attached to the uterine mucosa. The patient was a widow which accounted for her silence concerning an abortion which had probably been induced by herself.—*Le Nord Médical*, November 15, 1905.

**Chronic Colitis: Indication for Surgical Treatment.**—V. Pauchet and G. Prieur believe that from a surgical point of view colitis may be divided into two groups, the muco-membranous form and the ulcerative form. Muco-membranous colitis is essentially characterized by three symptoms, constipation, abdominal pains, and expulsion of the muco-membranes. Chronic ulcerative colitis is due to simple ulcer, dysentery, or tuberculosis. Ulcerative colitis has the same symptoms as muco-membranous colitis, the points of difference being the discharge of pus and of the loss of blood. The surgeon ought to intervene in every case of severe colitis which does not yield to skillful medical treatment. In mucomembranous colitis surgical intervention is indicated by the following symptoms: acute and persistent pains, nervous troubles following the suffering, repeated hemorrhages, and progressive loss of strength. Operation in these cases is not serious and it often brings about recovery and almost always a distinct amelioration.—*Archives Provinciales de Chirurgie*, November, 1905.

**Toxic Amblyopia Due to Copper.**—Jean Galezowski reports this interesting case. The patient was a man fifty-seven years old; for seven years he had suffered from clouded vision. His pupils reacted slowly to light. When he was examined he showed all the signs of toxic amblyopia. The cause was discovered with some difficulty. He worked in the fields by day, but it was learned finally, that at night, in order to eke out his income he played sometimes for many hours on a musical instrument. The mouth-piece, originally silvered over, was made of copper. His two upper median incisors were covered at the border of the gums with a greenish substance. He had played upon this instrument since he was twelve years old. In this way he had absorbed a quantity of the copper. This may have occurred both through his lips and by means of his hands as well; for while holding the instrument, he perspired freely and then ate his food without washing his hands. He drank very little, neither did he smoke much. He seemed to be saturated with copper since his teeth and gums were covered with it and his hands impregnated with it. For some years he had suffered from violent gastric pains which were probably due to the copper intoxication. It must be admitted that copper may exert over the optic nerve the same influence as alcohol, tobacco, and lead.—*Recueil d'Ophthalmologie*, October, 1905.

**Two Cases of Dislocation of the Astragalus.**—C. Lepoutre declares that dislocation of the astragalus is of rare occurrence. There are two forms of this affection, dislocation by enucleation by which the bone is completely removed from its position; and dislocation by rotation. In the latter form the astragalus remains in its place but it is so twisted on its axes that its articular facets assume new and abnormal relations. The first case reported here was one of dislocation by enucleation. The patient was a mason and received his injury by a fall. After procuring a radiograph, operation was performed. External incision verified the diagnosis. Astragalectomy was the most simple proceeding; a counter opening was made, and the foot immobilized in a plaster cast. After the cast was finally removed the foot was found to be in good position, and complete recovery is looked for. The second case was one of dislocation by rotation. Operation was followed by excellent results. The diagnosis of this injury may be difficult. Various authorities differ as to the proper treatment. Some believe in bloodless reduction which is always difficult and often impossible. The difficulty of reduction depends upon the obstruction offered by neighboring tendons. —*Journal des Sciences Médicales de Lille*, November 11, 1905.

**Use of Antitetanic Serum, Preventive and Curative.**—M. Pergola has given injections of antitetanic serum in thirty cases, at the hospital of the University of Sienna, two of them having already developed tetanus, and the remainder being cases of wounds in which the treatment was preventive only. The wounds were such as were contaminated by earth, produced by firearms, and others such as are often infected by tetanus germs. In none of the preventive injections was any inconvenience experienced as a result of the injections. The dose varied between 10 and 40 c.c. No cases of tetanus developed after injection. Of the two cases that had already developed tetanic symptoms it may be said that the incubation had been long and they could not be called strictly acute cases. The tetanic symptoms lessened in proportion to the amount of serum injected. After reviewing carefully the literature of this subject the author adds that the mortality of tetanus seems to have diminished since the use of the serum was introduced, especially in protracted cases. The longer the period of incubation the better the prognosis . After the disease had developed the injections should be given at once and in large amounts, repeatedly. In dirty wounds preventive treatment is most important. The intracerebral application seems to have no advantage over the subcutaneous method of injection.—*La Riforma Medica*, October 7, 1905.

**Permanent Enlargement of the Pelvis by Hebotomy, with Two Cases.**—Ettore Truzzi, after recording two hebotomies done by him in the Hospital at Padua, with the best results to both mother and child, directs our attention to the great probability that a permanent increase in the diameters of the pelvis, both anteroposterior and transverse, will result from the operation, so that future deliveries may be carried on without operative interference. Such has been the result in cases reported by Van der Valde. By using no ligatures to connect the pelvic bones, and no fixation apparatus about the pelvis a slight separation of bones is maintained, which becomes filled by callus, leaving the pelvic basin somewhat enlarged. The author advises experimentation as to whether the introduction of a partly decalcified bone plate between the surfaces of the bones may not enable us to increase the permanent separation of the bones, and produce a greater enlargement of the pelvis. An increase in the transverse diameter is as important as an increase of the anteroposterior in delivery of vertex or face cases.—*Annali di Ostetricia e Ginecologia*, September, 1905.

**Agglutination Phenomena of Bacteria.**—Gino de' Rossi gives us the conclusions from his experiments on the agglutination powers of bacteria, thus: 1. Simple destruction of the cilia of bacteria retards, but does not prevent agglutination. 2. Agglutination of mobile bacteria is stopped or reduced by the action of heat. 3. Loss of agglutination power in mobile bacteria is independent of the suppression of mobility by the death of the bacteria, the temperature for sterilization favors phenomena of agglutination. 4. A moderate degree of heat and the destruction of the cilia both favor loss of agglutination. 5. These facts favor the theory of the protoplasmic nature of the cilia.—*Archivio per le Scienze Mediche*, Vol. XXIX, 1905.

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**To Prevent the Vomiting of Tenicides.**—Apolant gives a capsule containing five grains each of menthol and sugar of milk a quarter of an hour before the proposed tenifuge is administered. He states that he has found this measure very valuable in preventing the nausea that so often interferes with the success of tapeworm cures. The dose of menthol is five times that noted in the U. S. Pharmacopeia. —*Deutsche medizinische Wochenschrift.*

# Book Reviews.

Amerikanische Streiflichter. Von Dr. Carl Beck, New York. Berlin: Leonhard Simion, 1905.

The articles which make up this little volume originally appeared in some of the German medical papers, and are mainly sketches of travels and observations on American life and customs. Dr. Beck, a German by birth, an American by adoption, has addressed these writings primarily to numerous friends and colleagues in his native land, to whom this country is most frequently pictured in a superficial or prejudiced manner, very often by travelers whose acquaintance of the land and its people is gained from a two weeks' sojourn, limited, perhaps, to Fifth avenue and Niagara Falls. Recent medical congresses and similar topics constitute the material for most of the articles, and the manner of their presentation will prove interesting, not only to those for whom they were written, but also to the American public. The interest which American physicians have always felt in German medical science has often been interpreted by the Germans to mean a lack of similar progress and opportunity in their own country, and it is only due to the recent visits to our shores of some of the great German medical lights that this misconception is being gradually dispelled and proper credit given for the advances which we have made. Then, again, the German graduate in medicine who settled in this country a few generations ago has often continued to be impressed by the extreme superiority of his medical attainments, and in his retrenchment has remained blissfully ignorant, in most instances, of the advances about him. Dr. Beck has not allied himself to the class referred to, but has noted and kept abreast of this American progress, and has taken every opportunity to condemn the narrow-minded spirit which characterizes certain of his German-American confrères. He is, moreover, well qualified by education and attainments and a long residence in this country to interpret correctly the various phases of American life to his countrymen, and, although not forgetful of his German birth, is ever ready to acknowledge the progress constantly made in the land of his adoption. This appreciation is met with throughout his book, and whatever criticism of our foibles is indulged in by the author is characterized by perfect good nature, and is, moreover, true.

The Practitioner's Visiting List for 1906. Philadelphia: and New York: Lea Brothers & Co.

This is the successor of the *Medical News* Visiting List, which was for many years one of the favorite physicians' diaries. In the text accompanying the blank pages of the visiting list we find among other information a scheme of dentition; tables of weights and measures and comparative scales; instructions for examining the urine; table of eruptive fevers; incompatibles, poisons, and antidotes; directions for effecting artificial respiration; extensive table of doses; an alphabetical table of diseases and their remedies, and directions for ligation of arteries. The blank pages are ruled in various ways to meet all the necessities of memoranda of practice.

The Physician's Visiting List for 1906. Philadelphia: P. Blakiston's Son & Co.

This standard visiting list is now in its fifty-fifth year of publication. In its arrangement and in the quality of its printed matter it is all that can be desired. Preceding the blank pages of the visiting list are dose tables, tables for converting apothecaries' weights and measures into the metric figures, of poisons and their antidotes, and of incompatibles; and following the visiting list proper are special memoranda pages, pages for addresses of patients, nurses, vaccinations, obstetric engagements, births, deaths, bills and accounts asked for, cash account, etc.

Die chirurgische Behandlung der Hämorrhoiden. Eine klinische Sammelstudie. Von Dr. Paul Schlacht. Zweite Auflage. Königsberg in Preussen: Gräfe & Unzer, 1904.

This little book has been developed from what was originally a dissertation, and has been extended to include a concise and terse description of the various methods employed in the treatment of hemorrhoids. The more recent surgical procedures are subjected to a critical analysis and the Whitehead operation is claimed by the author to be the most complete and satisfactory for the purpose.

Manual of Operative Surgery. By John F. Binnie, A.M., C.M., Prof of Surgery, Kansas State University, Fellow of the American Surgical Association, Member of the Société Internationale de Chirurgie. Second Edition, Revised and Enlarged. Philadelphia: P. Blakiston's Son and Co., 1905.

The second edition of this work appears in less than a year after the publication of the first, and in revising the book the author has made several additions based on the suggestions of various professional colleagues. Notice has also been taken of recent advances in cerebral localization, and short articles on the duodenum and tuberculous peritonitis have been appended. The book constitutes a handy reference manual to all those operative procedures which are not ordinarily described in the text-books on general surgery, and we can merely repeat here the favorable mention made of the book in a previous review.

Arbeiten aus dem Pathologischen Institut der Universität Helsingfors. Edited by Prof. Dr. E. A. Homen. Berlin: S. Karger, 1905.

The authorities of the pathological institute of this university have deemed it advisable to issue in regular journal form the results of the investigation and researches carried on in their laboratory, which have heretofore appeared in scattered publications of various countries. Although far removed from the well-known centers of European culture, this Finnish university has long been famous for its contributions to medical literature and its unhampered isolation allows it to draw its material, both clinical and pathological, from a large extent of thickly populated territory. The first number now at hand contains articles on the action of certain anaërobic bacteria and other toxins on peripheral nerves and spinal ganglia; studies on poliomyelitis; a contribution to the knowledge of syphilitic dactylitis; on the changes in the lungs produced by the aspergillus; on the action of certain hacteria and their toxins on the heart muscle; and a report on a series of unusual autopsies. These papers are all of a high standard, and some of them will probably be further reviewed in our columns.

A Treatise on Diagnostic Methods of Examination. By Prof. Dr. H. Sahli, of Bern. Edited, with additions, by Francis P. Kinnicutt, M.D., Professor of Clinical Medicine, Columbia University, N. Y., and Nath'l Bowditch Potter, M.D., Visiting Physician to the City Hospital and to the French Hospital; Consulting Physician to the Manhattan State Hospital, N. Y. Philadelphia and London: W. B. Saunders & Company, 1905.

Sahli's "Lehrbuch der klinischen Untersuchungs-Methoden" has long been known to readers of German medical literature, and it is a matter of congratulation that the work is now accessible to English readers as well. The book is a large one of over one thousand pages, and is fully illustrated, very many of the pictures, especially of the half-tones, representing the physical expression of nervous and other diseases, being from clinical material in Boston and New York hospitals. The author goes at his subject in a rather different way from most of the writers on diagnosis and diagnostic methods. He not only describes the various methods in detail, but he explains why they are used, and discusses the clinical phenomena which these procedures are designed to bring into relief. The American editors have added a few notes where the methods described differ from those in common use in England and America, and quite an extensive addition in the estimation of the blood pressure has been contributed by Theodore C. Janeway. These additions to the text and the illustrations have made the translation of even greater worth than the original.

Physical Diagnosis. By Richard C. Cabot, M.D., Instructor in Medicine in Harvard University. Third Edition, revised and enlarged. With five plates and two hundred and forty figures in the text. New York: William Wood & Co., 1905.

This new edition of Cabot's Diagnosis has been considerably extended and is nearly twice the size of the former editions. Besides the Physical Diagnosis of the Chest the book now includes the entire field of Diagnosis in Internal Medicine. The standpoint from which the volume is written is described by the author as follows: "To gain genuine familiarity with all the technical processes described in most books on physical diagnosis—such familiarity as makes one competent to use them with due regard for the sources and limits of error inherent in them—needs more than the lifetime of one man. But unless one has one's self used a technical process long enough to gain this sort of mastery over it, one cannot properly describe it, far less recommend it to others. Because of my lack of personal acquaintance with such methods as cystoscopy, ophthalmoscopy, and laryngoscopy, I have attempted no description of them, although I believe they should sooner or later be mastered by every internist. All that I have described I know by prolonged use." We have only to add that the book is eminently practical and trustworthy, scientific, and up to date; it is well and sufficiently illustrated, and there is a good index. The student will find this volume an uncommonly reliable guide, with nothing that he will afterwards have to unlearn; the practitioner will also profit by a perusal of its pages. Altogether this is the most useful and satisfactory work on Physical Diagnosis with which we are acquainted.

# Society Reports.

## NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

*Stated Meeting, Held November 23, 1905.*

DR. CHARLES F. ADAMS IN THE CHAIR.

**Specimens of Fibromyomatous Uteri.**—Dr. HERMANN J. BOLDT presented a series of twenty-five fibromyomatous uteri, two of which were removed by vaginal hysterectomy and twenty-three by abdominal hysterectomy. The tumors varied in weight from 410 to 4,700 grammes. In all instances the endometrium, when examined, showed some forms of inflammation, usually the glandular form of endometritis. Tuboovarian inflammation, reported as chronic salpingo-oophoritis, was found ten times. Only three times were the tubes reported as normal. Three times pyosalpinx was present. In not a single instance were the ovaries, when extirpated and examined, found to be normal, all being in a state of chronic inflammation. The blood-vessels were frequently thickened, in a condition of endarteritis. One tumor was found in a state of sarcomatous degeneration. Two were complicated with dermoid ovaries, one with a fibroid ovary. In one case the hysterectomy was done because the tumor caused an obstruction to delivery; was a fibroid of the cervix and it completely blocked the true pelvis. The mother made a good recovery, but the child died a few days after extraction. One case was operated upon at the end of the third or the beginning of the fourth month of pregnancy, because the large tumor forced the uterus into the true pelvis, and in this instance dislocation of the tumor into the abdominal cavity would have been a physical impossibility. The patient, although this was her first pregnancy, expressed a wish to have the uterus and tumor removed. The adnexa were retained. Dr. Boldt followed his customary after-treatment in abdominal operations in this case; that was, the patient was operated upon on October 12 and was out of bed within twenty-four hours; she remained up every day and walked about a little. During the night of the fifth day the woman had a severe attack of bleeding; the blood oozed through the opening of the stump of the cervix and was so profuse as to require a firm tamponade of the vagina. Dr. Boldt mentioned this, not because he had any reason to believe that the early getting out of bed had anything to do with it, but he thought it his duty to report everything unusual. The source of the bleeding was uncertain; it did not interrupt the recovery in any way, because the patient was about attending to her household duties two weeks after operation. This was a case in which Dr. Boldt thought that it would have been possible to save the uterus, but the operation would have been much more risky, and he thought that the patient acted wisely to request the organ to be removed. A full pathological report accompanied all the specimens. There was one fibromyomatous tumor with beginning colloid degeneration. Also one tumor in which tuberculous changes were shown—an unusual condition. Further, there was an intraligamentous fibroid which was interesting, because compression of the ureter on that side had given rise to a probable hydronephrosis. The general result of the pathological findings in this small series about corresponded with those in his former experience. He thought that if the specimens were looked at only with the naked eye it should be sufficiently convincing that it was erroneous to consider that fibromyomatous tumors were benign neoplasms.

**Specimens of Puerperal Uteri.**—Dr. Boldt presented these specimens which he had extirpated for septic infection. One of the uteri showed the injury which caused the septic peritonitis to have been due to perforation with a curette. He called attention to the non-report of the microorganisms occasionally in clear cases of puerperal sepsis, but was unable to explain why the pathologist had been unable to find streptococci in such seemingly clear cases. All the patients, with the exception of one, were in a desperate condition when they were first seen by him, and the one who was not in such serious condition became so within twenty-four hours. Four patients recovered and six died. He believed it to be very difficult for one to learn just when to operate, but he did not hesitate to state that if a patient had severe sepsis following abortion, especially a criminal abortion, and there was nothing within the uterus to account for the infection, and if the infection seemed to be coming from the uterus alone, and if the patient did not very soon show symptoms of improvement, it was better not to wait too long before deciding upon a radical operation; namely, to remove the offending organ, although he believed that it might occur that an operation might sometimes be unnecessarily done.

**Adenocarcinoma of Uterus, Ovaries, Omentum, and Liver, with Gallstones Encysted in the Base of the Liver.**—Dr. C. C. SICHEL reported the case of a woman, aged 40, married, who entered the hospital on October 3. Her family history was negative. Her menstrual history had been normal. She had had three children and no miscarriages. Her habits were good. About seven weeks before admission she began to vomit immediately after meals. There was no blood in the vomitus. There was some regurgitation. There was no pain after vomiting. The bowels were irregular. During the vomiting blood appeared at the umbilicus and there was continuous bleeding at this point, sometimes only in drops, at other times in a flow. The abdomen was distended. During these seven weeks she lost considerable in weight. Physical examination showed a temperature of 100.2°, pulse 90, and respirations 24. Heart and lungs were normal. The abdomen was distended, but not tense. There was a foul discharge from the umbilicus. The liver was normal. The extremities contained dilated veins. Palpation revealed a tumor on the left side, high up in the region about three inches below the locality of the spleen. Blood examination showed the reds to be normal and the whites to be decreased. The urinary analysis was normal. The patient was admitted to the hospital on October 3, and began to menstruate three days later; the flow was normal, lasting four or five days, moderate, and without pain. She had a rather high and rapid pulse. On October 12 an exploratory laparotomy was performed, the abdominal incision going through three to four and a half inches of fat. The abdominal muscles were very thin, about one-eighth of an inch thick. In the abdomen was an immense quantity of fluid. The omentum was adherent posterior to the liver, extending entirely across, adherent to the umbilicus, and the sloughing came from the omentum, which was infiltrated one-half an inch thick. The uterus was bound down by adhesions and was slightly enlarged. A fairly large cyst was found in the left ovary. There was a pyosalpinx on both sides with enlarged ovaries. The base of the liver was slightly nodular. The abdomen was closed. Subsequent to this exploratory operation the pulse became rapid and weak and twenty-four hours later the patient became much worse and died eleven days after operation. At autopsy the uterus was found to be very adherent, broad and large adhesions binding together the entire genitourinary tract. The liver was enlarged and nodular. The omentum was completely infiltrated with nodules, as were the abdominal glands. The other organs were comparatively normal. The microscopical examination revealed an adenocarcinoma of the omentum of very rapid growth. Innumerable epithelial cells were found arranged in their characteristic way, with some necrosis of these cells. The condition was undoubtedly secondary. In the base of the liver was found an encysted gallstone. The multiplication of the small bile ducts gave evidence of an acute inflammation and gave a typical picture of an adenocarcinoma. At the junction of the cervix with the body of the uterus the specimen showed adenocarcinoma. Section of the ovary showed secondary deposits. There was also a double pyosalpinx.

**Specimen Illustrating Panhysterocolpectomy.**—Dr. RALPH WALDO reported the case of a woman, 62 years old, who had

given birth to two children, the labors being normal, the woman remaining in bed but two or three days after her confinements. Her general health throughout life had been good until two years before she presented herself. After severe strain her "womb came out," and she then consulted her physician, who introduced pessaries, which relieved her only to a slight extent. She went from bad to worse and was confined to her bed, and she stated that while she experienced no special pain, there were disagreeable sensations in her body and back and the lower part of her abdomen and she was unable to get about. Examination revealed a procidentia, evidences of a small laceration of the cervix, and also an ulceration of the same. A panhysterocolpectomy was performed, consisting in taking out the entire uterus and vagina and closing the wound from above down, leaving a solid perineal body. The patient made an uninterrupted recovery and to-day was in splendid condition. The speaker here described his method of doing this operation. In these old women there was found procidentia, with cystocele, rectocele, etc., and he said he had not had as good results with other operations as with this one. This was his third case, and he had not yet had a failure.

Dr. Edwin B. Cragin, discussing Dr. Boldt's specimens of fibromyomata, said that in looking at the series of specimens presented one could not but be impressed with the rarity of malignancy resulting from these fibroids, although one must admit that, fibroid being so common, malignancy might be an associated condition. But as to a fibromatous myoma changing into malignant disease, he believed that all would admit at the present day that such a condition was exceedingly rare. He said that disease of the ovaries, when associated with fibromyomata, did not always indicate removal of the ovaries. Again it was astonishing what nature could do during the last months of pregnancy in the way of raising these tumors out of the pelvis and getting them out of the way just before the time for labor. He had seen cases where it seemed that a cesarean section would be the only way to deliver the woman, but nature arose to the occasion and pulled the tumor up out of the way and enabled the child to be delivered.

Dr. S. Marx said that for a long time he favored conservatism in cases of ovarian disease accompanying fibroid conditions of the uterus, but now he thought it was conservative to be more radical. In one instance where he left in the ovaries he had to reopen the abdomen and remove a cystic tumor. Another such similar case taught him a lesson, *i.e.* when ovaries were diseased and hysterectomy was done to remove fibroids, one should remove the ovaries as well. He believed that fibroids did very little harm in the way of causing dystocia from obstruction; most of them were harmless, because they were situated in the fundus. It was the subsequent degeneration and gangrene of the fibroids following labor that gave trouble and, for that reason, fibroids of the uterus which were large enough to be discovered, whether in the child-bearing period or not, should be removed.

Dr. Philander A. Harris of Paterson, discussing Dr. Waldo's specimen, described a procedure that he had used with satisfaction, operating from above and not per vaginam.

Dr. Hermann J. Boldt said that he had never seen simultaneously occurring carcinoma and myofibromata of the uterus. So far as malignant degeneration of these tumors was concerned he did not believe there was a well authenticated case on record. With regard to pregnancy when the patient was afflicted with fibromyomata, he voiced the sentiments expressed by Dr. Cragin; but in the specimen he presented delivery would have been impossible.

**The Treatment of Abortion.**—Dr. Hermann J. Boldt read this paper. He said that the induction of abortion should not be sanctioned in cases where there was dilatation with sufficient hypertrophy to compensate for the dilatation, nor was it indicated in psychical disturbances or in pulmonary diseases. It was indicated in pernicious hyperemesis and in some cases of chorea. If nephritis was present before conception, or during the first three or four months, he thought the induction of abortion was indicated. Due consideration should be given to all features connected with an individual case before an abortion was determined upon. The most favorable time was before the fourth month of gestation. The old method with bougies had proved itself the most reliable and almost invariably effective. If the bougie was not effective within twenty-four or forty-eight hours it could be supplanted with a tampon of a strip of iodoform gauze carried into the uterus, as much gauze being used as could be carried into the uterus without using force. He considered the treatment of abortion at four stages: First, in imminent abortion he advised absolute rest in bed and the internal administration of codeine, doses from .03 to .05 (gr. ½-¾) at intervals of fram three to four hours, until from three to six doses had been tdaken. From his experience he could not corroborate the claims made for viburnum prunifolium. Tampons, ergot, and icebags inthis stage should be avoided. In giving a prognosis in these cases one might be governed to some xtent by the amount of blood lost and by the character of the discharge. Patients who had a dirty, grumous, bloody discharge, although there had been no marked expulsive pains, had, in his experience, always aborted. He had formerly formerly been an advocate of active intervention, but experience had taught him that the expectant plan was better after it was evident that the progression could not be prevented. He had seen a comparatively large number of infections and accidents in the hands of those not experienced in gynecological technique, and, after observing a large number of patients in hospitals and private practice, he had gradually changed his views. Those patients did best in whom nature was allowed to take its course, and no intervention was practised unless there was a positive indication to intervene. When there were indications for emptying the uterus, such as elevation of temperature, decomposition of retained products of conception, or profuse bleeding, they should not be neglected. He had not noticed that the retention of the decidua in women who had previously enjoyed good health gave rise to any trouble during convalescence. Neither did such women seem more liable to endometritis or subsequent sterility. In emptying the uterus of conception products by artificial means it was preferable to use the finger rather than the curette whenever it was possible so to proceed. After all intrauterine interventions intrauterine irrigations were advisable. Unless the finger could readily be passed through the cervical canal and all parts of the uterine cavity be explored, the endeavor to accomplish the task with manual manipulations was inadvisable. However, much depended upon one's dexterity. If a sharp curette was used the endometrium might be destroyed to such an extent that subsequent atresia would result. Perforation in a non-infected uterus was not likely to result in harm if no further manipulating was done. A dull curette was useful only in those cases in which a large piece of the placenta was still in the uterus and was inaccessible to the finger. If a curette were used at all it should be a broad, sharp one, because it was less likely to perforate and covered a larger area. In a case of progressing abortion where there was bleeding and the cervical canal was closed, the ovum and its annex being in the uterus, the spontaneous expulsion might be aided by giving a hot antiseptic vaginal douche and lightly tamponing the vagina with iodoform gauze. The gauze acted as a hemostatic and caused contractions. The internal administration of an oxytocic might be resorted to. The upper part of the vagina was then firmly tamponed; this rarely failed to incite uterine contractions sufficient to expel the ovum. An almost certain sign that it had been expelled was the sudden cessation of expulsive pains. If this was effective nothing further need be done; not even a vaginal douche was necessary. In introducing an intrauterine tampon the strictest precautions in regard to antisepsis should be used. He used an abortion forceps, which was a slight modification of the Winter forceps, in the removal of the products

of conception where an instrument of this kind was necessary. If thought necessary, the interior of the uterus might be explored with the finger. The internal administration of ergot was advisable in such cases, two or three doses sufficing. In patients having progressing abortion with no bleeding and a dilated or contracted cervix nothing should be done except to administer oxytocics. If, after the expulsion of the ovum, there was a continuance of the bleeding some preparation of ergot should be administered. Should this not check the bleeding curetting was indicated with subsequent irrigation with one per cent. carbolic acid solution. A similar procedure was followed if the cervix was contracted under similar conditions. In cases of infection where it was necessary to empty the uterus as soon as possible he used a branched steel dilator like the one devised by Dr. A. Brothers. In some instances he used a heavy rubber one, or two inverted the one into the other, and then ballooned by attaching them to a bulb syringe. After cleaning out the uterus in these cases he irrigated with three or four liters of a one per cent. carbolic acid solution. He thought the intrauterine tamponade detrimental. He related a case of sepsis following criminal abortion in which a timely operation had saved the life of the patient, which illustrated the difficulties one experienced in deciding what was the proper course to pursue in cases of severe sepsis following abortion. Examination of the blood for bacteria, which had been hailed as a landmark to help decide when to operate, had been found wanting in most of the instances that had come under his observation. The silver preparation of Creté and the antistreptococcus serum had also been unsatisfactory. In a patient who had no decomposing elements in the uterus to account for the infection, or when there were reasons why they could not be satisfactorily removed, and if there was no exudate in the pelvis, so that the focus of infection was seemingly limited to the uterus, and such a patient was gradually becoming more ill from the infection, the offending organ should be removed ere it was too late.

Dr. Edwin B. Cragin said that it was not always easy to diagnose abortion. The patient might pass something from the uterus, had she aborted or not. Four years ago he operated upon a patient who stated that she had had a miscarriage while in Canada, and that the embryo was passed and was contained in a bottle. One month later, while in New York, she flowed and had some temperature. Supposing that her statements were correct, he examined her, expecting to find secundines in the uterus, but, instead, he found that she had an ectopic gestation. He believed that many cases of ectopic gestation were diagnosed as miscarriages, and the general practitioner should have his attention called to this fact. Any mass situated at the side of a pregnant uterus was a red flag of danger, and the general practitioner should be told always to examine, not only what comes from the patient, but also the sides of the uterus. In cases of threatened abortion rest in bed and the use of sedatives was the best that could be done. In cases of inevitable abortion the condition of the cervix was the guide for treatment. If a woman was bleeding, with the cervix undilated but dilatable, it was necessary to dilate that cervix, and here the gauze packing was the best method. If the products of gestation had been expelled and there was no elevation of temperature, all agreed that it was best to leave the patient alone, quiet, and clean. If products were not all expelled, rather than tamponading he thought it best to anesthetize the patient and make a careful exploration with the finger, to make sure the uterus was clean, and if not clean, to make it clean. He wished to indorse all that Dr. Boldt had said regarding the use of the finger as a curette; it was the best we had.

Dr. Von Ramdohr emphasized the importance of individualizing in these cases. If there was no elevation of temperature or extreme hemorrhage, he advocated the waiting treatment plus dilatation; the abortion then taking its natural course was preferable to any surgical treatment. He did not advocate the use of ergot until the uterus was empty.

Dr. Ralph Waldo wished to lay stress upon the importance of emptying the uterus after it had partially emptied itself. Of the patients that he had operated upon for pyosalpinx, in six out of every seven the condition followed induced abortion. Pieces had been left behind which had caused a septic endometritis and resulting pyosalpinx. Therefore it was very essential that the uterus should be completely emptied and kept in as clean a condition as possible.

Dr. S. Marx said the definition of abortion was an unfortunate one, some claiming it to mean the emptying of the uterus up to the period of viability, or the seventh month. He limited abortion to the condition up to the third month. The keynote to the situation was the condition of the cervix. He emphasized the importance of reconstructing the fetus outside the body, in order to be more sure of not leaving any part of it in the uterus. In order to soften the cervix gauze should be used; and whether then one removed the products of conception with the finger or with instruments was immaterial so long as the uterus was emptied.

Dr. John O. Polak of Brooklyn said that all agreed that the treatment of inevitable abortion was the controlling of hemorrhage and the avoidance of sepsis, the latter being diminished by emptying the uterus and preventing traumatism. He used the cervicovaginal tampon. In diagnosing the condition one should bear in mind the fact that conditions outside the uterus might cause hemorrhage; therefore, in case of hemorrhage and pain, one should make sure that the pelvis was clear and that tumor was absent, not only at the sides, but behind the organ.

Dr. Samuel W. Bandler said that in the hospital with which he was connected the uterine dilator and curette were almost never used. In cases of abortion the routine practice was to introduce iodoform gauze, particularly into the cervix, and to pack the vagina thoroughly and then to administer ergot. This method would dilate the cervix and without any injury. If examination was necessary the finger was used.

Dr. Charles G. Am Ende reported remarkable success in the septic cases with gauze impregnated with quinine and iodoform.

Dr. Charles A. Elsberg said that more abortions were induced by men who naturally were not good operators, and infection was more or less likely to follow. Therefore he did not believe conservative treatment in such cases was good. He assumed that every case of incomplete abortion was an induced one and treated it accordingly.

Dr. C. C. Sichel continued the discussion, which was closed by Dr. Boldt.

## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Stated Meeting, Held November 27, 1905.*

Dr. Floyd M. Crandall in the Chair.

**Address of the Retiring President.**—Dr. Henry S. Stearns said that his labors as president of the County Society had been pleasant ones. This Society was the largest local medical society in this part of the country and they could offer readers of papers the largest average audience of medical men of any medical society in Greater New York. The great work for the suppression of criminal practice had gone on during the past year even beyond what it had during any year previous, and more arrests of great offenders, but not so many of small ones, had occurred. There had been many convictions and new points of law brought up and established. The trustees had placed their shoulders to the wheel and helped the Executive Committee in continuing their work. Practically every cent they could grind from their careful Treasurer had gone towards the legal expenses. Dr. Stearns then introduced the incoming President.

**The President's Inaugural Address.**—Dr. Floyd M. Crandall delivered this address. He said that the society year upon which they were just entering would be a momentous one. During its course the Society would complete the first century of its corporate existence and enter upon a second. Starting in its infancy with 18 members, it now had 2,100. Amalgamation of the two societies would without doubt occur this year. That no legal difficulties might be raised, the State Society at its January meeting renewed its action looking towards consolidation. The annual meeting of the State Association approved amalgamation by a vote of 1,517 to 2. An order from the Supremee Court alone remained as the final step to complete the union. The functions of the new society, he said, might be divided into six general groups. Three of these (the scientific, social, and disciplinary) had to do with its own membership. Three (the hygienic, legislative, and legal) had to do with the public and the profession at large. The constitution provided five degrees of discipline, of which private admonition had been most frequently employed in the past and had been very helpful. The most important work in public hygiene at present was being done by the Milk Commission. It could not hope to lower the death rate so decidedly by any other means as by securing for the city clean, fresh, wholesome milk, and this was what the Commission was striving to do. The number of attacks made every year upon medical laws was astounding. As many as 397 bills, having a more or less direct medical bearing, had been introduced in a single session at Albany. In the three years from 1899 to 1901, 912 bills affecting medical interests were introduced. These attacks were renewed every winter, and for years the Society had kept a paid agent at Albany, who reported to the counsel every bill having the remotest medical bearing. Every man or woman exhibiting proper qualifications should be admitted to practice. The opposition to pseudomedicine was, and should be, educational, not professional. It was the educational question that was at the bottom of every one of these "isms," and they were the more aggressive as the educational barriers were raised higher. The medical profession approved the system which required the same general professional education for all its members. Every man or woman who entered upon the practice of the healing art should have an adequate education. Equal requirements were asked for all, and all who treated disease should go in through the same door. As medical men it was their duty to take the lead in securing proper medical laws and raising the standard of medicine. The raising of medical standard, and demanding more educational requirements, was not for their advantage but for the people who employ physicians, and, therefore, public-spirited men should take an interest when the standards of education and practice were threatened. He believed the Society should prepare and urge the placing on the statute books this coming winter the following: First, the illegal practice of medicine should be made a misdemeanor, which would carry with it a penalty of both fine and imprisonment for even a first conviction. It should be possible for the court to impose a fine of $500 and imprisonment up to one year. Second, a provision should be made in the medical law requiring all advertising medical concerns to post on their signs the names of the practitioners and in each office the name of the person so practising. Third, the law regarding the use of the title doctor should be made more explicit and the title should not be permitted to anyone who attempted to employ it in a commercial way, unless he was a legalized practitioner in this State. Last year almost $4,000 was spent in the legal work and much more was required to pursue the work that was before them. The awakened interest in patent medicines and the suppression of criminal medical practice was largely the result of their work. Their counsel, when he appeared in the courts, was aided by the fact that he represented more than 2,000 clients. The society needed contributions to pursue this legal work. So far as the speaker could at present see, the most important special features of their work for the coming year were (1) to make those changes in the constitution necessary to bring about an organization in harmony with the new State Society; (2) to obtain those changes in the medical laws necessary to make the legal work more effective; (3 )to devise some means to broaden the legal work and put it on a secure financial basis.

**The Future View-Point and Practice of Infant Feeding.**—Dr. Henry Dwight Chapin read this paper. He said that up to within a few years attempts to solve the problem of infant feeding had been directed towards making cow's milk like human milk. He reviewed the methods usually resorted to in the endeavor to attain this end. He said that percentage feeding had not come up to the expectations that were aroused. All the attempts to establish a scientific basis of infant feeding had resulted in some knowledge, much of which was only negative. He called attention to some of the difficulties that had arisen from different methods of analyses and different nomenclature, and said that chemists were in accord as regarded the composition of milk, although they differed as to the percentage of the different substances. Every food contained these elements in one form or another, and one might make a food from a sandwich and a glass of water that would contain all the elements in the proportion that they are found in milk, but this would not be milk and would not be suited to the stomach of the infant. Thus we might see that the chemist's help was limited in the preparation of infant food. We should study the subject from the infant's side. It would be as logical to analyze the placental blood of the mother and expect to understand from the result how valuable it was to the infant and what a peculiar function it had to perform as to expect to learn from an analysis of the secretions of her breasts what their functions were or how they were made use of by the infant. He said there had not been much attention paid as to how the secretions of the breast were acted upon by the infant. This was the fundamental point that would have to be established before there could be scientific feeding. During the normal nursing period a great change took place in the infant. At the weaning period it could subsist on table food. It was evident that a profound change had taken place in the digestive tract during the suckling period. The first fact that struck us was that aside from the colostrum secreted during the first week the breasts supplied the same kind of food up to the time the digestive organs were able to digest solid food. It would seem that as the infant's digestive secretions became stronger the milk would gradually be digested with less effort; but this was not the case. As soon as milk appeared in the breasts the rennet was secreted by the infant's stomach which acted upon the casein of milk, changing it into a delicate solid. Pepsin would not digest this solid. When a slight amount of hydrochloric acid was secreted it combined with a portion of this solid, which immediately became more solid. Pepsin would not digest this solid. As more acid was secreted a denser compound was formed which was readily attacked by pepsin. It was for this reason that maternal milk was suited to the infant from birth until weaning. This one food was so altered by the infant's digestive secretions before digestion commenced that the digestive apparatus should be fully occupied as it became stronger. As there were radical differences in the stomachs of different animals it was not surprising that their milks were radically different. There were other foods as nutritive as milk, but they were unsuitable because the infant's digestive apparatus was undeveloped. Milk was needed because it was an elastic food in its reaction with the infant's digestive secretions, being changed by them to suit the increasing strength of the digestive apparatus. Profound constitutional disturbances sometimes resulted from absence of food that supplied suitable work for the developing stomach. The art of successful infant feeding consisted in altering cow's milk so that it would bring about perfect nutrition and development in the infant. In practice it was best to use for dilution milk extra rich in fat and then to add some form of sugar. The

freshest milk, put up in bottles and kept cool, should be used. The cream had usually risen when such milk was delivered. Store cream was generally bacteria laden, consequently home cream was preferable. If all the cream in a quart of milk was mixed with enough skim milk to make twenty ounces, a mixture one and one-half times as rich in fat as the original milk would be obtained; all the cream and enough milk to make sixteen ounces when mixed would be twice as rich in fat, and all the cream and enough milk to make nine ounces would be three times as rich. This rule held good with any milk, as had been proven by a large number of assays extending over several years. The percentage of fat in the mixture would, of course, vary directly with the richness of the original milk. Here was an accurate method of getting a uniform feeding mixture if the same milk were used all the time. Fine percentages were obtained more often on paper than in the infant's bottle. A one-ounce dipper was most convenient in removing the cream from the bottle, and aided in securing accuracy. The first dipper should be filled with a teaspoon or the bottle would overflow. It was known to-day that the addition of alkalies did not make cow's milk like human milk, but that their effect was to prevent the stomach secretion acting on the milk and to throw the milk in a fluid state into the intestine for digestion there. Proper testing had shown that breast milk also required the addition of lime water in order to render it alkaline. There were gruel diluents which acted mechanically on the curds of the milk and exposed a large surface to the digestive secretions. Digestive enzymes acted by contact only, and it was essential that a large surface should be exposed to them, and for this reason the food should be broken up or porous. Another reason for preferring a gruel diluent was that all milk was in a form that was readily absorbable and which could supply energy required for carrying on the digestive process, which was considerable. When cow's milk was diluted this portion of the food was reduced. To supply its place a digested cereal gruel could be substituted. In making up food it was only necessary to remove the top nine ounces from a bottle of milk for infants under three months and dilute it with at least three parts of the digested gruel and add one part of sugar to twenty ounces of food. For older infants the top sixteen ounces might be diluted with from one to three parts of the gruel and, later, two parts of the top twenty ounces might be mixed with one part of gruel. By this method the fats and hydrocarbons were kept up to the infant's requirements for energy and the quantity of proteid increased as fast as the infant could digest it. The digested gruel not only acted as a diluent but also supplied additional proteid, thus adding to the nutritive value of the food. If the stomach secretion was too acid, as shown by vomiting or curdy stools, lime water or sodium bicarbonate should be added until a normal secretion appeared. Pasteurization might also be employed, for it reduced the tendency of the milk to form tough curds. Unsweetened condensed milk might also be diluted for infants that had difficulty in digesting cow's milk, but this food should not be employed too long. Additions that either profoundly altered the character of the milk or inhibited the action of the digestive secretions should be used cautiously and with a distinct knowledge of their effect. Whenever possible the cow's milk should be adapted to the infant's use mechanically and not by chemical manipulation.

**Stool Examination in Starch-Fed Children.**—Drs. Charles Gilmore Kerley and William C. Campbell presented this communication, which was read by Dr. Kerley. This work was undertaken with the view of learning something of the digestive capacity for starchy food in children under one year of age. The study comprised observations made on 30 children, 166 examinations having been made. In order to make the test a severe one, raw barley flour was used, which was cooked one and a half hours. In some barley water formed the diluent; in others it was given plain, as the only nutriment. The von Jaksch test was used. In 16 children the examinations were persistently negative to starch; of these, 11 were 6 months or older, 5 being under 6 months. Among those under 6 months, one was 19 days old, and took 142 grains of starch daily, the stool being negative to the two examinations made on two successive days. One was 5 months 26 days old, and was given 375 grains daily; five examinations were made, all being negative. One was 5½ months of age and for three days 450 grains were given, when it was thought wise to push the starch to test the digestive capacity; therefore 1,560 grains were given daily for two days and the stool failed to respond to the iodine test. One was 1 month 22 days old, the condition being thin, and he had diarrhea. Four hundred grains were given the first day, followed by a negative stool; 300 grains were given on four successive days, the stool remaining negative. One was 1 month 19 days old, and 185 grains were given for three days with negative stools. The starch was then increased to 300 grains for two days, the stools remaining negative. Five of these negative cases had moderate diarrhea, and one a severe diarrhea. He reported then three cases which were persistently positive. Among these, two had diarrhea and one was very young. The remaining 11 showed sometimes positive, sometimes negative, sometives red, at the differential examinations. All had diarrhea. Seven were negative in the majority of the examinations on the different days, and were recorded as having a negative tendency. In the testing with iodine of solutions of starch of different strengths, plain and dextrinized, it was found that a starch solution which was boiled, to which diastase was added, and which was then cooled, produced a pinkish-red color upon the addition of iodine, this being the reaction of dextrin to iodine. The first step in the digestion of starch was the formation of soluble starch, amylodextrin. In the second stage, the soluble starch was decomposed into maltose and a substance giving a red color with iodine, to which had been given the name of erythrodextrin. In the third stage, the erythrodextrin was further split up into dextrin, which gave no coloration with iodine and was called achroödextrin and a further quantity of maltose. In short, the digestion of starch consisted in breaking up by several more or less well-defined stages through a process of gradual hydrolysis of a very complex molecule into much simpler ones. Starch and water and the presence of a suitable ferment yielded maltose and the different dextrins. The dextrin reaction was present in 10 children, having been found in 18 examinations. They interpreted this reaction as meaning that dextrin was present in the stool, representing an incomplete starch digestion, due, perhaps, to the too rapid passage of the fecal contents, as was present in several diarrheal cases, or it was due to a deficiency in diastatic enzyme, not enough to produce a complete splitting up of the starch product.

Dr. D. L. Edsall of Philadelphia insisted upon a point made by Dr. Chapin, *i.e.* any system of infant feeding must be simple in order to be accurate in the end; accuracy must be striven for, but elaborate methods of preparing foods should not take the place of preparing them in a simpler manner; less accuracy was attained in this way than by accepting analyses that were approximate only. Two or three years ago, he said, he had published figures showing the analyses made up by nurses and mothers, and many of these figures convinced one that unless the doctor took all the complexity on himself little good would follow. Digestive disturbances *per se* constituted the most important part of the pathology in infancy. A few years ago enthusiasm followed the coming out of the stomach tube and an overwhelming importance was attached to gastric disease. At present broader-minded men taught that gastric disease was of comparatively mild importance and was more dependent upon general well-defined diseases elsewhere, and they pointed to the stomach as a supply tank which gave out material as required. In pediatrics there had been too much of a tendency to consider digestive disturbances as almost the whole thing; this was an error not only in the treatment of children but in the treatment of adults. He said he was more inclined to look upon these disturbances

in infants and young children as nutritional, and the essence of the whole thing lay in the fact that one could not separate the digestive tract from the tissues and their effects upon each other. The carbohydrate intake was much too low in many children. Excessive amounts of fats, of course, would produce digestive disturbances. He thought there was too strong a tendency to feed too small an amount of proteid to infants, and disturbances in infancy might be corrected by more attention to this fact. In many cases the digestive organs were upset because nutrition in general was upset. He referred to the studies of Prof. Chittenden, who showed that men could go for many months without disturbances of health on a general diet much lower than one was accustomed to recommend, and particularly upon a proteid intake that was not more than one-half or one-third the amount usually taken. Children would succumb more rapidly than adults when there was a reduction in the general diet, or a reduction in the proteid intake. He hoped other methods might be devised by which a child could be prevented from going into proteid starvation. In the observations made upon infants and early childhood, the ideal standard intake of proteid was unquestionably quite as high as that of mother's milk. The proteid of cow's milk was less readily assimilated than that of mother's milk. He asked how a child could digest readily and assimilate vegetable proteid as it could animal proteid. So far as adults were concerned the investigations upon this point showed that the vegetable proteid was as well assimilated as was the animal. In some infants it had been found that the absorption of vegetable proteid was quite as good as the absorption of milk proteid.

Dr. J. P. Crozer Griffith of Philadelphia said there were two factors which appeared to be difficult ones in infant feeding; one was the absolute inability to find an artificial food similar to the mother's milk, and the second one was to lack of studying the individuality of the baby. The infant should not be studied as a class but as an individual. In illustration he referred to twins who had flourished for months upon the same food. One of them was taken ill, with vomiting, etc., and the father became quite excited, sending to the laboratory a sample of the food for analysis, looking for streptococci, etc. The food in this instance was all right, but something went wrong with the child's digestion. The great tendency now in cases of digestive disturbances was to see if something was not wrong with the food; this he believed to be the wrong view-point. One should not forget the individuality of the baby, but should study the baby and see if anything had gone wrong with it. Therefore he believed it was wrong to assume that a child at a certain age should take a certain food; that was all right for the mass of babies, but not for the individual one. There were biological differences between the milk of all animals and just what these differences were was not exactly known. To be sure, one could substitute to a certain extent. He wished to emphasize the necessity of having proteid present; in some cases he had seen scurvy develop in babies who had a low proteid. He believed one should attempt to get a food as near like the mother's milk as possible; but one should always be ready to change that food for another when circumstances seemed to demand it. Every method of artificial feeding was bad, and he advised that one should not speak ill of another person's method and yet praise his own.

Dr. Henry Koplik said that they were taught that cow's milk for infants was an unnatural method of feeding and also that not enough stress had been laid upon the fact that intestinal digestion was particularly at fault when babies were fed with artificial foods, such as cow's milk. The infant should be more studied and not so much the charts and percentages. In feeding these infants one should only deal with proximate percentages.

Dr. Walter Lester Carr said that some years ago proprietary foods were given with a small percentage of proteid, while now the reverse seemed to be the custom.

Dr. Thomas S. Southworth said the only basis for artificial feeding of infants was that presented by Dr. Chapin. The general practitioner should better inform himself regarding the appearance of stools in babies. Too much cereal could be given as well as too much proteid and fat, and he believed too much latitude was allowed in the use of cereals.

Drs. Chapin and Kerley closed the discussion.

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### Northern New York Medical Association.

At the annual meeting of this Association, held at Malone, October 24, 1905, Major Charles E. Woodruff, Surgeon U. S. A., read a paper on "The Neurasthenic States Caused by Excessive Light" (see page 1005).

Dr. J. H. Pryor of Saranac Lake, N. Y., opened the discussion and stated that the new facts recently presented showing the effects of light revealed a new field for investigation. In his opinion certain clinical facts and hints of therapeutic value could be explained on this theory. As a result of observation he had learned to doubt the recovery of a tuberculous patient if the individual had red hair and a lack of pigment associated with it. He had long doubted the alleged favorable result of continued sunshine in tuberculous patients who were of nervous habit or neurasthenic. They quite often developed nerve symptoms, particularly if they were of a distinctly blond type. These questions should be studied in the South and West, but it must be remembered that altitude and temperature were factors. At the present time the tendency to send consumptives to a warm sunny climate in the hope of securing an arrest was being more and more recognized as a mistake, and the benefits of cold and cloudy regions were growing more apparent. He held a strong belief that in the course of time patients with nervous manifestations would be sent more and more to cold and darker regions. Continuous sunshine produced symptoms and conditions which have been overlooked, and a cold climate certainly increased resistance and promoted nutrition more rapidly than a hot one, which caused languor and enervation. In endeavoring to determine the color of the eye only one method was known which would promise accuracy, namely, the Bertillon system of dividing the individuals into three classes dependent upon the amount of orange yellow in the iris. This had proved successful in identification, and the author of the paper was asked to consider the suggestion. Finally, study of the effects of light upon types of beings as elucidated by Dr. Woodruff might help to illumine many inexplicable clinical and pathological phenomena, which were now quite obscure. The line of investigation which he had started, if continued, might help very much in deciding what climatic conditions were necessary in a given case. Certainly the whole subject of climatology was in a transition stage to-day and many accepted theories would have to be revised in accordance with clinical facts. It was a pleasure to know that attention had been directed to the deleterious results of too much sunshine and that there were people and people, stomachs and stomachs, nervous systems and nervous systems, which had never conformed to theories and special scientific views. There was no ideal climate for all people and every attempt at differentiation would be a distinct gain, but it should be based upon clinical observation.

Dr. R. H. Hutchings, Superintendent of St. Lawrence State Hospital, Ogdensburg, N. Y., said that he had listened with great interest to Dr. Woodruff's paper and would like to supplement it by a statement of the complexion of the patients in St. Lawrence State Hospital. Our general knowledge of the influence of light upon the metabolism had had to be revised since Major Woodruff had pointed out in his book upon "Effects of Tropical Light Upon White Men," that light was not the good genius of health, that we had once believed it to be, and that the good effects which followed exposure to sunshine were really due to the fresh air obtained at the same time. The speaker was particularly interested in this paper, as it presented

many suggestive thoughts bearing upon the occurrence and prevalence of insanity among the various types of blondes and brunettes. He had recently examined carefully the patients in three of the buildings of the St. Lawrence State Hospital, who were largely native born. They were drawn from the rural counties of Northern New York. There was included in that district but one large city, Syracuse. In making this enumeration he had omitted all old persons in whom the color of hair and complexion in youth were doubtful, and had therefore been limited to an examination of 734 insane patients. Of this number, dividing them broadly into light and dark, he found that there were 349 light and 385 dark. Just what bearing these figures had upon the prevalence of insanity among the light and dark people could be understood only when we knew the proportion of each in the general population, but since in Northern New York there was a large admixture of the French-Canadian element, who were uniformly dark, these figures would appear to show that there was in the locality a preponderance of insanity among patients of light complexion. As to neurasthenia, it had been his experience that in Northern and Central New York the majority of neurasthenics were blonds. Thinking back over the cases of neurasthenia that stood out most clearly in his memory very few would be called dark and several were very light blonds.

## New Instruments.

### A VENEPUNCTURE TROCAR (STERN'S TROCAR).

By HEINRICH STERN, M.D.,

NEW YORK.

By venepuncture I understand the direct insertion of a needle or a trocar into a vein for therapeutic purposes. Venepuncture is destined to take the place of venesection in almost every instance. The advantages of venepuncture over venesection are: greater simplicity, greater safety, greater convenience for both patient and physician, greater cleanliness, more rapid accomplishment of the purpose, possibility of immediate intravenous saline infusion after abstraction, rapid healing of the small

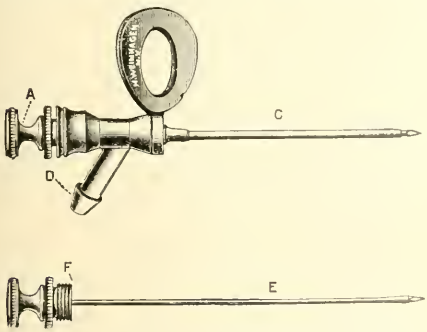


Fig. 1.—Stern's Trocar; A, trocar handle; B, thumb-rest; C, cannula; D, blood outlet or infusion inlet; E, perforator; F, packing box cap.

puncture wound. Some years ago, Strauss devised a needle for needling the veins. This needle is nothing else but an aspirating needle to the cannula, of which a small handle is attached vertically. The venepuncture instrument, described in the following, is constructed on the principle of the trocar which, when *in situ*, with withdrawn perforator, cannot injure the blood-vessel, as Strauss' needle is apt to do. Besides this, it exhibits various other advantages which will be readily appreciated when perusing the description.

The entire instrument is 7 cm. (3 inches) long. The cannula alone measures 4 cm. (1⅝ inches.) The cannula is made of sterling silver. The perforator, entering the cannula, is of steel heavily nickel-plated. The thumb-rest is in the shape of a ring, which may be detached. The outlet, which is to be connected with a rubber tube, is at the side of the thumb-rest when the latter is *in situ*, so as to interfere as little as possible with the operator. The perforator can be withdrawn far enough to permit

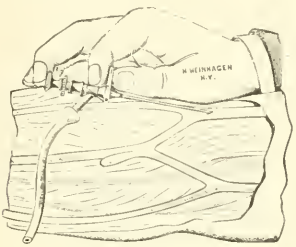

Fig. 2.—Illustrating mode of introduction of Stern's trocar into the cephalic vein.

passage of the blood through the outlet. This outlet serves also as the inlet for a saline infusion.

In an aseptic case together with the trocar are packed (1) a piece of narrow rubber tubing fitting into the outlet of the instrument, and (2) a connecting tube made of glass which is to be attached by its wide end to the tubing of the fountain syringe containing the solution to be infused, while the narrow end is made to fit into the narrow rubber tubing leading from the outlet.

*Mode of Employment.*—After the arm is corded as for venesection, a piece of rubber tubing being well adapted for the purpose, the handle or thumb-rest of the instrument is held between thumb and index finger, while the middle finger rests against the handle of the perforator to prevent the latter from sliding backward. The operator then thrusts the trocar directly into the most prominent vein of the forearm—the right one, if possible. (See Fig. 2.) The puncture is made so that the point of the trocar is toward the axilla, and although the needle points in the same direction as the blood current, the blood flows out readily when the perforator is withdrawn beyond the outlet. The piece of rubber tubing packed into the aseptic case should be attached to the outlet before the instrument is introduced into the vein. This rubber tubing should lead into a graduated vessel, so that the operator may ascertain the amount of blood withdrawn. Immediately after depletion, when the cannula is still in position, an infusion may be administered through the same

Fig. 3.—Glass connecting tube.

tubing and outlet. All that there is to do to accomplish this purpose is to connect the narrow tubing leading from the outlet with the tubing of the fountain syringe by means of the specially constructed glass connecting tube which accompanies the instrument, and to remove the rubber tubing used for cording.

*Notes.*—The chance of injuring nerves and arteries is reduced to a minimum by inserting the trocar into the cephalic vein, which is not situated in as close proximity to these structures as the

median basilic, which is the vein generally chosen for venesection.

The vein in either arm may be punctured; however, if the vein on the left arm is not more prominent, it will be found more convenient to needle the cephalic vein of the right arm.

The chance of admitting air into the vein when employing this trocar is entirely eliminated; a needle may possibly permit the passage of air, a trocar, constructed like the one here described, never.

Venepuncture and subsequent needling of the vein may be accomplished in about 95 per cent. of all cases in which depletion is to be performed. Only in cases when the arms are very fat or when, on account of edematous swellings, the course of the vein cannot be recognized, is it necessary to resort to venesection.

The rubber tubing used for cording should be drawn sufficiently tight to make the veins stand out prominently, but not so tight as to suppress the radial pulse. The instrument is manufactured by H. Wainhagen, of New York City.

## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 16, 1905.

| | Cases | Deaths |
|---|---|---|
| Measles | 673 | 5 |
| Diphtheria and Croup | 409 | 30 |
| Scarlet Fever | 170 | 4 |
| Smallpox | ..... | .... 0 |
| Chickenpox | 196 | ..... |
| Tuberculosis | 406 | 144 |
| Typhoid Fever | 117 | 17 |
| Cerebrospinal Meningitis | 29 | 17 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | .. ... |
| Totals | 1,900 | 217 |

**Supernumerary Thyroid at the Base of the Tongue.**—Dudley P. Allen, John M. Ingersoll, and A. I. Ludlow report this case, which is especially interesting on account of the rarity of benign tumors of the tongue. The patient, a girl, eighteen years old, was anemic. The personal and family history were negative. Three years before her entrance to the hospital an enlargement on the dorsum of the tongue had been observed during an examination for "chronic catarrh." The present examination revealed a hemispherical shaped tumor about four centimeters in diameter, covering the base of the tongue. The swelling projected backward till it touched the posterior pharyngeal wall. There was no glandular enlargement and no pain. The growth was removed under chloroform anesthesia. Since during the first part of the operation, no appreciable hemorrhage occurred, it was thought that the lateral attachments might be safely separated. This was begun on the left side by cutting through the mucous capsule. This incision, however, was followed by a flow of blood so copious as to threaten asphyxiation on the one hand and a fatal hemorrhage on the other. The remaining attachments were instantly divided and the cavity packed with gauze. The flow of blood not yet being controlled, ligature of the lingual artery on the left side was accomplished through an external incision. This maneuver, together with the pressure of gauze in the wound, controlled the hemorrhage. But the patient by this time was thoroughly exsanguinated and in collapse. Tracheotomy was performed later on account of embarrassed breathing, doubtless due to the large amount of gauze packing. Two days after the operation, the packing was removed, and from that time the patient's recovery was rapid. The writers append an interesting pathological report.—*Surgery, Gynecology, and Obstetrics.*

**Rheumatics in Relation to Climate.**—Leonard Williams includes in the term "rheumatics" chronic articular rheumatism, chronic articular gout, rheumatoid arthritis, myalgias, and neuralgias. The condition is invariably associated with cold and damp. A low temperature increases metabolism, and of itself tends rather to prevent than to favor the production of the arthritic state. But if there is also a high degree of humidity, the largest exit for the effete matters—the skin—is effectually shut. The climatic factors which are found in association with rheumatics are those which interfere primarily with the cutaneous functions; and such interference plays an active part in the production of the malady. As to the effect of sunlight, a normal exposure to the sun's rays must act as a direct stimulant to the skin, maintaining all its functions in full working order. In sum, climatic conditions which favor the disease are precisely those which most conspicuously interfere with cutaneous activity. The writer concludes that to avoid rheumatics, it is necessary to pay particular attention to the maintenance in full vigor, of all of the cutaneous functions; and that the damper and colder and more sunless the climate, the greater and more urgent is this necessity. The writer emphasizes the importance of the consideration of proper clothing. Instead of flannel and wool clothing, which is so generally advised, he insists upon the urgent necessity of substituting silk, linen, or cotton, any one of which is not wholly devoid of absorbent properties. He mentions the importance of the open window, and the value of the daily cold bath. He also suggests that Turkish baths, radiant heat baths, massage baths, and even the ordinary hot soap bath are not prescribed as often as they ought to be. Finally, he believes that the vast majority of people are overclothed.—*The Birmingham Medical Review.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended December 16, 1905:

SMALLPOX—UNITED STATES.

| | | CASES. | DEATHS |
|---|---|---|---|
| California, Los Angeles | Nov. 18–Dec. 2 | 4 | .. |
| District of Columbia, Washington | Dec. 2–Dec. 9 | 3 | .. |
| Florida, Jacksonville | Dec. 2–9 | 3 | .. |
| Illinois, Galesburg | Dec. 4–11 | 1 | .. |
| Kentucky, Covington | Dec. 2–9 | 1 | .. |
| Louisiana, New Orleans | Dec. 2–9 | 4 | .. |
| Maryland, Baltimore | Dec. 2–9 | 1 | .. |
| New York, New York | Nov. 25–Dec. 2 | 1 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Africa, Cape Town | Oct. 14–21 | 4 | .. |
| Brazil, Pernambuco | Oct. 14–31 | .. | 93 |
| Chile, Iquique | Nov. 4–11 | 7 | 5 |
| China, Hongkong | Oct. 25–Nov. 1 | 1 | .. |
| Shanghai | Nov. 1 | Present. | |
| France, Paris | Nov. 18–25 | 21 | 2 |
| Great Britain, Liverpool | Nov. 11–18 | 1 | .. |
| India, Bombay | Oct. 31–Nov. 7 | .. | 1 |
| Madras | Oct. 28–Nov. 10 | .. | 27 |
| Italy, Catania | Nov. 16–30 | .. | 3 |
| Russia, Moscow | Oct. 7–28 | 18 | 3 |
| Odessa | Oct. 21–Nov. 11 | 41 | 10 |
| St. Petersburg | Oct. 28–Nov. 4 | 6 | 1 |
| Spain, Barcelona | Nov. 10–30 | .. | 11 |

YELLOW FEVER.

| | | | |
|---|---|---|---|
| Cuba, Havana | Oct. 16–Dec. 13 | 43 | 13 |
| Matanzas Province | Dec. 8–13 | 4 | 1 |
| Honduras, Puerto Cortez | Nov. 14–21 | .. | 1 |
| Mexico, Tehuantepec | Nov. 25–Dec. 2 | 1 | .. |
| Panama, Colon | Nov. 21–28 | 2 | 1 |

CHOLERA—INSULAR.

| | | | |
|---|---|---|---|
| Philippine Islands, Manila | Oct. 21–28 | 4 | 3 |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| India, Madras | Oct. 28–Nov. 10 | .. | 26 |

PLAGUE.

| | | | |
|---|---|---|---|
| India, Bombay | Oct. 31–Nov. 7 | .. | 14 |
| China, Hongkong | Oct. 14–Nov. 1 | 5 | 5 |
| Nuchwang | To Oct. | .. | 4 |
| Japan, Formosa | Oct. 1–31 | 1 | 1 |
| Kobe | Nov. 8–10 | 13 | 11 |
| Osaka | Nov. 2–17 | 23 | 15 |
| Strait Settlements, Singapore | Oct. 14–21 | .. | 1 |

# Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 68, No. 27. Whole No. 1834. | New York, December 30, 1905. | $5.00 Per Annum. Single Copies, 10c.

## Original Articles.

### CHRONIC DISCHARGE IN ORGANIC AND FUNCTIONAL DISORDERS OF THE DEEP URETHRA; DIAGNOSIS AND THERAPY.

By JOHN M. THOMPSON, A.B., M.D.,

BOSTON, MASS.

Among the varied phenomena present in organic and functional disorders of the deep male urethra, chronic discharge is not only the most common, but also the most significant; and yet, despite this fact, it is the particular manifestation above all others that proves the most indomitable stumbling-block to the physician in point of therapy,—apparently, no doubt, through either an insufficient knowledge of, or a sheer indifference to, correct diagnosis.

The majority of practitioners realize the widespread prevalence of chronic processes in the deep urethra, but it would seem that only few properly appreciate their importance and serious consequences. For instance, it is rarely that the physician ventures to compare urethritis with syphilis, and yet statistics prove that the former is a far more destructive foe to humanity than the latter—not because the local process *per se* is of necessity more destructive than the constitutional, but because more dangerous results ensue from its chronic, deep-seated character.

When one contemplates for the moment the fact that the particular disorders which it is the purpose of this paper to consider are the principal agents concerned in rendering urethritis such a formidable destroyer of human life and barrier to human progress, one is assured that a knowledge of the differential diagnosis and treatment of these processes should commend itself to the attention of the reader even more forcibly than that of other more novel and, perhaps, more interesting lesions in the domain of genitourinary medicine. We shall first take a cursory glance at a few facts in the literature of our subject, and then shall endeavor to consider the cardinal points of diagnosis and of therapy proper. It is not deemed essential to enter into details, in view of the necessarily limited scope of this paper. The many accepted truths pertaining to the subject do not call for discussion; besides, the interest of the great majority of physicians centers in such information as enables them both to determine the correct nature of a process and to apply the proper agencies for its removal.

It is a conspicuous fact that failures are lamentably, and oftentimes inexcusably, common in the management of all chronic disorders of the male sexual organs, especially in the case of those we are about to take up, in which discharge is a prominent symptom. And, inasmuch as successful therapy is dependent upon correct differentiation, emphasis will be placed upon the diagnostic features of each process.

In the literature of the genitourinary tract, while it cannot be denied that sufficient attention and prominence have been given to chronic urethral disease, still, there is apparent cause for regret that such marked discrepancy of opinion prevails in regard to their classification, diagnosis, and treatment. For example, some of the textbooks include under the term spermatorrhea every species of seminal discharge, irrespective of cause. No less eminent authorities than Dr. S. D. Gross and S. W. Gross, his son, of Philadelphia, confounded the three affections—chronic prostatitis, prostatorrhea, and urethrorrhea—and the latter even went so far as to say that "prostatorrhea may exist with or without inflammation of the prostate, and is a catarrhal affection." It need hardly be said that true prostatorrhea is never a catarrhal inflammation. Overall, in his work "The Prostate Gland and Adnexa," one of the latest, tells us that "prostatorrhea is due to an inflamed condition of the gland as a result of gonorrhea." Belfield, in his chapter on "Diseases of the Prostate," contributed to Morrow's "System of Genito-Urinary Diseases, etc.," correctly remarks: "All modern works on genitourinary surgery devote a chapter to chronic prostatitis (often miscalled by one of its symptoms, prostatorrhea)." Strictly speaking, however, the latter is not a symptom of the former. Prostatorrhea has no connection whatever with chronic prostatitis (which generally follows a history of urethritis), and occurs in those who have had no venereal disease; furthermore, it represents a functional and not an inflammatory disorder. In an article on "Functional Disorders of the Male Sexual Organs," contributed by Morrow to the voluminous and exceptionally valuable system of genitourinary diseases which he has so ably edited, spermatorrhea is used as "a generic term to denote all abnormal or pathological losses of the seminal fluid." Without detracting in the least from the merit of this article, it seems misleading to the rank and file of medical readers to employ the term spermatorrhea, which, like prostatorrhea, is a true functional process from a pathological viewpoint.

The reader's attention has been called to this phase of the subject in order to enable him to avoid that endless confusion which is found to exist in nearly all of the works on genitourinary diseases by our latter-day recognized authorities. There is no doubt that correct diagnosis of the different chronic deep-seated urethral lesions is to some extent dependent upon a proper classification, quite as much as upon a thorough knowledge of the etiology and significance of the discharge associated with these conditions. And when the fact is considered that these different lesions simulate one another very closely at times in point of subjective phenomena, that

correct diagnosis finally turns upon the differentiation of persistent or intermittent discharge that is to all intents and purposes the same in one process as it is in another—under such circumstances it becomes obvious that proper classification of the chronic functional and organic processes peculiar to the deep urethral region is positively essential to their successful management.

Among the different factors that conspire to defeat the physician's efforts in the treatment of these cases should be mentioned the patient's indisposition to cooperate with his medical adviser, who, with Nature, is perforce obliged to assume entire responsibility. Then, too, the genitourinary specialist is unable oftentimes to utilize in his treatment the advantages that result from rest, isolation, hygienic and dietary precautions, temperance, and abstinence from customary pleasures and other indulgences —all potent agencies in the progress and outcome of disease processes. Surely, he is oftentimes also far from being master of his situation, and has occasion to see failure ahead—and that, too, in the very cases where he would be sure to succeed under favorable conditions.

The processes peculiar to the deep urethra that are characterized by persistent or periodic discharge from the meatus, or appearing in the urine, may be divided conveniently into two types, namely, *organic* and *functional*. In the former are classed chronic posterior urethritis, chronic prostatitis, chronic seminal vesiculitis, and chronic cystitis—processes that follow a history of simple or specific inflammation of the urethra due to the gonococcus, pus organisms, traumatic, and toxic sources. No matter how closely the discharge may resemble that in the functional disorders, it is to be remembered that *pus* is the distinguishing element. The functional disorders include urethrorrhea, prostatorrhea, spermatorrhea, and phosphaturia, all of which result from what may be termed abnormal physiological activity, due to sexual continence, excess, indiscretion, or persistent ungratified sexual desire. At times it is possible to find these functional disorders referable to derangements of the nervous system, from illness, neurasthenia, overwork, persistent worry, etc., in short, from whatever sources are productive of excessive wear and tear on the nervous system. The functional types are noninflammatory, and pus is not present in the discharge, whether it appears at the meatus or in the voided urine.

Let us sum up in a word under what conditions these processes occur clinically: (*a*) One of the organic lesions may exist alone or in combination with one or more of the others; (*b*) the same is true in the case of the functional conditions, though not to such an extent; (*c*) an organic affection alone, or with another, may exist in combination with a functional; (*d*) discharge may be constant or intermittent, and when apparently absent can be squeezed out with the thumb and forefinger passing vertically toward the meatus; (*e*) when a specimen of discharge is not obtainable at the meatus, the urine will always supply the necessary amount for examination.

Inasmuch as the majority of physicians are disposed to turn to the printed page (not having the advantage of visiting hospital and dispensary clinics) when in need of information, it is essential to guard against the mistake so common to our modern textbooks, namely, devoting too much space to accepted facts, as well as treating from entirely different and remote viewpoints diseases that closely simulate each other. We shall, therefore, consider each condition as briefly and as coherently as possible, and in such order as the reader will find convenient when studying the points of resemblance and difference.

I. *Chronic Posterior Urethritis*.—This is the first process listed under the head of organic, and is therefore of inflammatory origin, generally from an anterior inflammation with or without gonococci. The most frequent symptom is a mucopurulent discharge, which appears at the meatus, especially in the morning ("good morning drop"). Some patients do not detect it, except on squeezing. Micturition is frequent, difficult, and painful, with tenesmus varying according to the backward extension and nature of the process. Discomfort is felt at the vesical neck in uncomplicated cases, and rectal examination finds nothing abnormal. Upon irrigating the anterior urethra the first urine voided will be found turbid and shreddy, and the second will be clear; but in cases where the amount of secretion is too copious for the deep urethra to hold between the periods of micturition, the overflow will be caught in the bladder, when, of course, the second urine will be turbid and the pus shreds will appear in the last portion of the urine passed. This is a very important point to observe, as it is necessary to bear in mind that cystitis is not always present when the second urine is turbid.

To confirm diagnosis the microscope must be employed. In uncomplicated cases of chronic posterior urethritis there will be revealed pus in clumps and isolated gonococci or diplococci, columnar and pavement epithelium, collections of mucus, blood corpuscles, and shreds. Naturally, some of these elements may be absent, while it is not uncommon to find a few scattered spermatozoa, and possibly prostatic elements.

II. *Urethrorrhea (ex Libidine Sexuale)*.—Although a functional process, this is the one that closely simulates the above, and for this reason we shall consider its diagnosis in this connection. It is important to bear in mind that it is not dependent upon venereal disease, and frequently is not the result of coitus, but is caused by ungratified sexual excitement, perverse practices, excesses, coitus reservatus, and mechanical irritation.

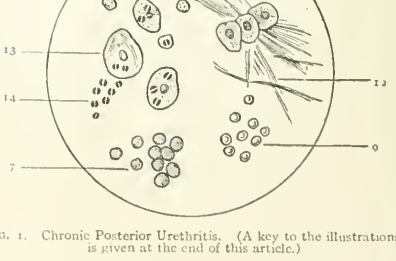


FIG. 1. Chronic Posterior Urethritis. (A key to the illustrations is given at the end of this article.)

The first symptom to be noticed is a thin, sticky, tenacious, and transparent discharge, without odor, at the meatus, especially in the morning. While it may stiffen the linen, it does not stain like the purulent discharge of urethritis. It may follow straining at stool and micturition, but only rarely. It causes no physical, but

oftentimes mental, effects from unnecessary brooding and fear, and produces no change in the sexual function.

Microscopic examination reveals a few flat or round urethral cells, mucous corpuscles, free mucus and shreds but no pus.

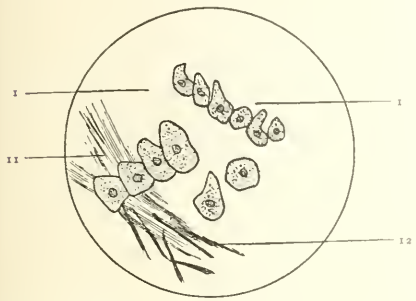


Fig. 2. Urethrorrhea. (A key to the illustrations is given at the end of this article.)

III. *Chronic Prostatitis.*—Commonly termed chronic prostatic urethritis, since the deep urethra and prostate are frequently found to be involved together, is perhaps the most serious disorder of a chronic type that is found in connection with the deep urethral region. But what is of far greater moment, it is the most stubborn and resistant to treatment, and consequently the process in which therapeutic failures are more likely to occur. Whenever the prostate is the seat of an inflammatory process, alone or accompanying chronic urethritis, the physician is likely to find some derangement of sexual function and disturbance of the nervous system. Then, again, in the early stages, patients may not complain of anything outside the urethral and prostatic regions.

In addition to the train of symptoms associated with chronic urethritis, there is pain on erection and at the time of ejaculation, owing to the obstruction that naturally occurs in the prostatic ducts. There is throbbing in the perineum and rectum, with a sense of fullness and weight. Pruritus ani and hemorrhoids may be present. Pollutions and reflex erections are common. Premature ejaculations tinged with blood are the rule, always causative of mental depression, lack of confidence, and aversion to female society, followed by neurasthenia, sexual debility, and fear of marriage.

Rectal examination with the index finger is imperative, and discloses more or less prostatic enlargement, tenderness, induration, and nodules. Irrigation of the anterior urethra back to the bulb should be carried out first; then, if the urine voided after this does not contain shreds, usually comma-shaped (Fuerbringer's), from the prostatic glands and their excretory ducts, the posterior urethra is involved. If these shreds are present in the second portion, particularly in the last few drops, they are evidence of prostatic disease.

The microscope, however, must be regarded as the final court of appeal, and should be employed in every case to supply confirmatory evidence. Chronic prostatitis will reveal pus, isolated and in groups, glandular, desquamative, tubular, or cylindrical epithelium, blood, caudate and round cells, in proportion to the stage of the process. Occasionally, dead and living spermatozoa appear, and prostatic elements. One must be careful not to confound this with prostatorrhea, which we shall now consider.

IV. *Prostatorrhea.*—This is a functional process, pure and simple, not dependent upon specific causes, and is found in those who are continent, if anything, more frequently than in those who present a history of urethritis. The discharge is thin, turbid, milky white, excreted at stool, and at the end of micturition. Subjective disturbance is referable to the perineum and rectum, in the form of a tickling, irritable sensation, although at times there may be smarting, burning, and tenesmus. As patients who have prostatorrhea are generally neurotic, depression of spirits, hypochondriasis, melancholia, or neurasthenia is likely to obtain.

In view of the fact that the subjective phenomena strongly suggest chronic prostatitis, the physician must needs rely upon objective signs in order to confirm the diagnosis. Unlike the urine of prostatitis, that of prostatorrhea is normal, and while rectal examination finds a normal prostate, one should bear in mind that massage forces out an accumulated material. The microscope will supply confirmatory evidence in the form of cylindrical cells, amyloid bodies (not constant), lecithin, and the pathognomonic Boettcher's crystals. A few scattered spermatozoa may be found, but it should not be inferred from these that the vesicles are involved.

Fig. 3. Chronic Prostatitis. (A key to the illustrations is given at the end of this article.)

V. *Chronic Seminal Vesiculitis.*—Notwithstanding the opinion of Fuller, experience appears to substantiate the views held by most authors, that vesiculitis *per se* is rarely met with. In view of the anatomical position of the vesicles and their physiological association with the prostate, the disease is found as an advanced process accompanying chronic prostatitis.

The subjective symptoms are pain and discomfort referable to the bladder, testicles, and end of the penis. At times patients complain of lumbar pain. Micturition may be urgent and frequent, or inhibited. The discharge from the vesicles is thick, gelatinous, glairy, and sticky, and is forced out frequently during defecation and micturition. There is nervous derangement and undue sexual ardor, followed, however, by marked impairment of the sexual function. The external genitals in time become cold, shrunken, and anemic.

The objective signs are more significant and valuable than the subjective. Rectal exploration finds the vesicles enlarged, indurated, and tender to touch, while the perivesicular tissues are likely to be relaxed. The microscope, how-

ever, furnishes conclusive proof of the existence of vesicular inflammation, and when in this thick, lumpy discharge are found an abundance of spermatozoa, dead and alive, it is safe to infer that the patient has vesiculitis. Of course, an accompanying prostatitis and urethritis will reveal their characteristics, which have been enumerated above.

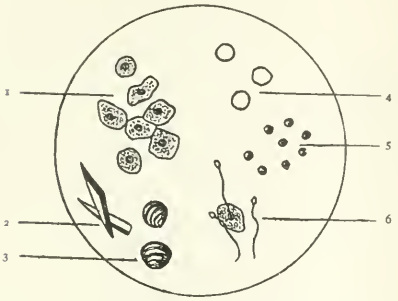


Fig. 4. Prostatorrhea. (A key to the illustrations is given at the end of this article.)

VI. *Spermatorrhea.*—Of all the processes associ- with the urogenital organs, this is no doubt the one least understood. Unfortunately the term is used to designate every species of seminal loss, irrespective of cause. True spermatorrhea, however, should be regarded as a functional disturbance resulting from insufficiency of the ejaculatory ducts. Inasmuch as it is due to a variety of causes, the symptomatology is at times varied. The chief factors are mechanical pressure, extension of posterior urethritis, prostatitis and vesiculitis, and disturbances of the nervous system.

The first symptom noticed is the discharge, which is sticky, and appears after stool and micturition. Patients complain of moisture and dripping, which may not be visible. There is pain in the head, burning of the eyes, and redness of the lids. They are apt to feel drowsy, depressed, and chilly frequently. As a rule these patients are seldom hypochondriacal, but they suffer with shortness of breath, wheeziness (*asthma sexuale*), palpitation, cardialgia, faintness, loss of memory, lack of confidence, and fear of their future health and welfare.

The diagnostic symptom under the microscope is the presence of spermatozoa. Of course, as this process is not inflammatory, it is easily differentiated from sexual vesiculitis by the absence of symptoms per rectum and in the urine.

As a matter of fact, spermatorrhea should be regarded in the light of a symptom and not of a malady. The writer is disposed to agree with Keyes, who terms it "a fetich created largely by Lallemand."

*Chronic Cystitis.*—This very common affection betrays itself at once in the majority of cases by its symptoms. Micturition is very frequent and painful, with extreme tenesmus, and in some cases blood accompanies the last few drops. Pain may extend in all directions from the vesical neck, causing distress in the bladder, scrotum, and rectum. The urine is cloudy and muddy in both glasses, with clumps in the last portion of the second; it is acid, except when alkaline fermentation goes on.

The microscope shows pus in abundance, mucous corpuscles, blood, large flat epithelium, and the other varieties peculiar to the deep urethral region. Gonococci and diplococci may appear also, with detritus and bacteria.

*Phosphaturia.*—While likely to occur during the progress of any of the above, this is more familiarly associated with cystitis, and for this reason can be considered in this connection more fittingly than elsewhere. It is the least important of the processes described, but one that should not be overlooked.

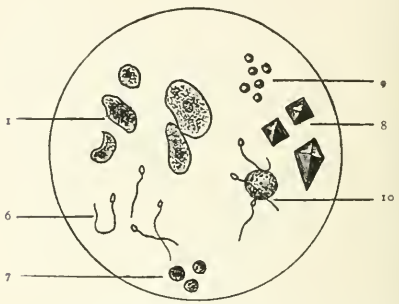


Fig. 5. Chronic Seminal Vesiculitis. (A key to the illustrations is given at the end of this article.)

Phosphaturia is simply an excessive elimination of phosphates, due to an inordinate or excessive wear and tear of nervous tissue. It is found in neurotic, neurasthenic, debilitated subjects. In phosphaturia the urine is alkaline, and for this reason murky and opaque, forming in a cloud-like mass upon standing. It is easily recognized by adding a few drops of acetic acid, which causes the cloudy mass to disappear.

Nothing further need be said, beyond warning the physician to be on the lookout for it, since it acts as an irritant to the mucous membrane and proves to be very depleting to the patient's vitality.

[A key to the illustrations will be found at the end of this paper.]

*Therapeutics.*—The first thing to determine when starting out to treat these cases is the nature of the process, that is, whether it is organic, functional, or a combination of both. Should the physician have to deal with a functional disturbance, it is obvious that results will depend upon an exact knowledge of the cause and the patient's assurance and determination to cooperate with the medical attendant. And since such a patient is likely to be of a neurotic type, more or less hypochondriacal, he will not be disposed to reveal his complete history. It is

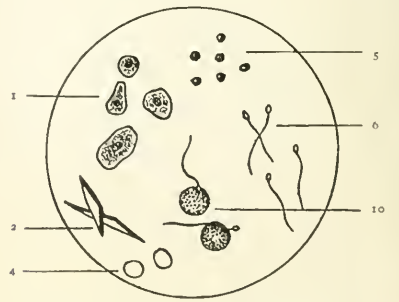


Fig. 6. Spermatorrhea. (A key to the illustrations is given at the end of this article.)

always prudent for the physician, therefore, at the start to gain his patient's confidence; and there is no more certain means to this end than that of sympathy and personal interest in his recovery. Under no circumstances should the physician hold his patient up as an object of ridicule, while, especially in the beginning, talks on morals and sexual perversion are decidedly out of place. Then, with the patient resolved to strive to the utmost to abandon all habits and practices causative of his trouble, and the practitioner earnest in his promise to cooperate, both will work together in harmony, and good results will follow in due course.

In all *functional* derangements of the sexual organs one will find mental and nervous disturbances and some local defects. The mental are generally due to unnecessary fear and brooding, aggravated, of course, by the unbalanced nervous system, over which the patient appears to have little control. Now, there is scarcely need for saying that the mental condition is not a necessary consequence of the disease; besides, it is not serious; in truth, the physician can, and should, inform his patient, with a satisfied conscience, of these facts; and also that this mental derangement is encouraged and increased by injudicious reading, unwholesome associations, and intemperate habits. In short, the sufferer from chronic functional disturbance of the sexual apparatus is responsible to himself for transgressing Nature's laws, and he holds firmly within his grasp the remedy for his own salvation.

The patient should abstain from all sexual and nervous excitants, and leave no stone unturned to restore his lost nervous force. Abstinence from tobacco, alcoholic drinks, worry, overwork, and extreme mental effort is imperative. A congenial occupation, regularity in his mode of life, with good habits in a wholesome environment, are all essential and productive of positive and beneficial results.

Medicinal agents hold a subordinate place in the therapy of all functional disorders. Some cases will require tonics, such as iron, strychnia, malt, and the animal extracts, while others will call for sedatives, like the bromides and valerianates, isolation, and rest. Exercise, diet, hydrotherapy, and electricity at times, also fill an urgent want.

When the physician is assured that his patient has conquered both the direct and contributing causes of the nervous derangement, the most efficient means of bringing about the cessation of discharge and of restoring normal physical, mental, and sexual well-being will be found in the skillful and judicious passage of cold steel sounds, alternating with gentle but thorough massage. Of course, the last maneuver will not be indicated in urethrorrhea and phosphaturia. In all cases there is likely to be present sluggishness of the bowels and fecal impaction in the rectum. Mild laxatives should be used in preference to drastic purgatives for the former, and cool enemata for the latter, in order to remove the impacted mass, to promote tone in the organs and muscles of the deep urethra, as well as to relieve congestion.

It is to be hoped that the physician will not allow himself to fall into that very common and unfortunate error made by followers of the older teachings, namely, that functional sexual disorders are the result of imaginary ills, and are not traceable to any well-defined psychical cause. For it is a fact that the influence of the mind is a formidable factor in all deviations from normal well-being; and if the laity were as cognizant as physicians of what constitutes the absolutely real ills in distinction from those in which the imagination is the chief determining factor, there is little doubt that many of us would be forced to seek sustenance "in pastures new and green." The practitioner knows full well that in the treatment of physical ills proper respect for and attention to the mental are oftentimes the essentials, if not the secrets, to success. As hinted at above, these cases require kindly interest and sympathetic appreciation; and, even if the medical adviser considers they do not need active medical treatment, he wrongs himself and his patients whenever he is blind to (and withholds) the necessary sound advice concerning the causes, nature, and consequences of their troubles.

In the treatment of the *organic* processes the personal equation does not call for anything like the important and serious attention so essential to the functional disorders. The former, except when associated with the latter, must be treated just as any inflammatory condition, although the destruction of the gonococci, or the diplococci, is as essential a factor in the therapy of chronic as it is in that of acute conditions.

As the plan of treatment necessary to pursue is practically the same for all the organic lesions enumerated above, the reader will find it an advantage to be familiar at the start with the following principal remedial mea ures indicated during the therapeutic management of each process:—

1. Gradual dilatation with steel sounds.
2. Copious irrigation with dilute solutions (pure astringent, pure antiseptic, or antiseptic and slightly astringent).
3. Topical applications with concentrated solutions (same as in 2).
4. Internal urinary antisepsis.
5. Meatotomy when the meatus is constricted, to permit proper dilatation.
6. Massage of prostate and seminal vesicles.
7. Administration of oleoresins for acute exacerbations and relapses.
8. Hydrotherapy, electricity, medicinal tonics, reconstructives, etc., p. r. n.

As the majority of patients seek the physician's advice during what appears to be a relapse or acute exacerbation, it will be expedient to administer a good reliable balsamic at the start, and the one to be preferred is oleum santalum, in ten minim capsules after meals and at bedtime. An efficient adjuvant to the oil and a necessary agent preliminary to the employment of those local measures, so indispensable in the treatment of all cases, is a reliable urinary antiseptic.

Under this treatment discharge and inflammation will be reduced to a minimum, while the urine will be rendered sufficiently clear and sterile. When this has been accomplished, resort may be had to local measures. Now, it is at this stage that the operation of meatotomy suggests itself in a large proportion of cases, and when marked constriction exists there is no procedure that is more certain to pave the way to success. It should be said, however, that, although a minor operation, meatotomy must be done in strict accordance with Otis's rule, under antiseptic precautions, and by no means regardless of the physiological necessity of a certain amount of narrowing at the anterior end of the urethra to ensure proper removal of the urine. Careless,

ness in the character and size of the incision will not only affect the propelling force, but will prove a constant eyesore to the patient in after-life.

In cases of chronic prostatitis and seminal vesiculitis it is better to apply massage before dilatation and irrigation, in order to remove the most formidable source of irritation to the urethra. But the physician should be well acquainted with this maneuver, and be able to discriminate between the prostatic lobes and seminal vesicles, before he can hope to confer the benefit which this remedial measure alone possesses.

As the technique of massage, or stripping, is no doubt familiar to the reader, it will be sufficient to recall only a few essential precautions. In the event of both the prostate and vesicles being involved, they should not be massaged at the same time, but preferably on alternate visits. The patient should call with a comfortably full bladder and empty rectum. He should void a small amount before and the remainder after the manipulation. It is advisable to caution him also to breathe naturally, so as to avoid straining, and to relax the deep urethra and surrounding tissues during the massage. The physician should manipulate with care, depending upon the cushion of the index finger, moved in the direction of the urethral end of the ejaculatory ducts, to remove the inflammatory product. It will be necessary to learn from experience how much massage to employ and how often. Usually from two to five minutes on each side every two to seven days will answer in the great majority of cases.

After massage gradual dilatation, followed by copious irrigations, will be in order; and when it is clearly understood that in the chronic processes the deeper structures are involved, that the follicles, glands, and crypts are impacted with mucopurulent and other material, it becomes obvious that dilatation must be carried to the maximum calibre of the urethra, in order to ensure not only the emptying of these traps, and the removal and absorption of all infiltrated morbid material, but also the restoration of normal circulation, on which *vis medicatrix naturæ* must needs depend in the work of repair.

The steel sound should be followed at each visit by copious irrigation through a soft flexible rubber catheter. Solutions of permanganate of potassium, 1 to 3000, and of nitrate of silver, 1 to 4000, have certainly stood the test of time, but the recently introduced silver derivatives possess the same virtues without the irritating effects of the permanganate and nitrate. These salts are practically non-irritating, and can be used in any strength. From a pint to a quart of solution, 1 to 3000 and stronger, acts as an efficient antiseptic, hastens the removal of all inflammatory products, and encourages repair of tissue. For topical applications in cases that have resisted other remedial measures, such as localized erosions and granulation areas, a few drops of a strong solution may be instilled through an Ultzmann-Keyes syringe, which is lubricated with glycerin, and passed behind the compressor muscle. This, while productive of tenesmus for a short time, proves very beneficial in some cases. The same solution may be used for applications through the endoscope.

A word should be said concerning the importance of urinary antisepsis, which is an essential factor to successful treatment in many of these cases. In these deep-seated chronic lesions of the posterior urethra the urine often acts as a source of irritation and infection. It has therefore been a custom to administer internally such remedies as would be eliminated by way of the kidneys and would sterilize the urine and convert it into an antiseptic fluid, thus supplementing local medication. For this purpose hexamethylen-tetramin has been largely employed of late. As is well known, this drug sets free formaldehyde in the urinary passages, and the urine thus becomes charged with one of our most potent antiseptics. In place of this preparation I have more recently resorted to the anhydromethylen citrate, which, judging from my experience, acts more efficiently and agreeably and can be continued for longer periods without causing irritation. It is very pleasant to take, and I have noticed in some instances that it promptly relieves painful micturition. Whether this be due to a special analgesic action, as has been noticed by others, I am not prepared to say. The ordinary dose is 15 grains, three or four times daily, taken in at least one-half glassful of water.

In suitable and properly selected cases, cold baths, douches, surf and still-water bathing prove very beneficial. Electricity, too, should be employed, if called for, while in some cases psychical treatment meets with ready acceptance and is productive of wholesome results. The personal equation should never be lost sight of, as the physician will be forced to depart from all routine measures in occasional instances.

A few typical cases are subjoined in order to illustrate the plan of treatment described above:

Case I. A single man, aged thirty, cook; habits and mode of life, temperate. Previous history negative up to June, 1902, when he sought the writer's advise for what he considered was an attack of gleet, following his first gonorrhea contracted in February, 1902, without complications. Physical examination revealed chronic anterior urethritis (and a patch of granulations in the urethra), but this process yielded to appropriate treatment so that he was entirely well on September 1. His next misfortune came on April 13, 1904, in the form of syphilis, for which he received the necessary aid, and in three months became apparently well, but continued treatment. On April 13, 1905, eventful as the first anniversary of the day he learned he was a victim of specific disease, while in the best of health, he noticed a thin, glairy discharge at the meatus; and finding it to be recurrent, applied for advise on May 3rd, when there was some burning and uneasiness in the rectum. He noticed, too, a decline in his sexual ardor, and was somewhat depressed. Sexual and alcoholic indulgence provoked no obvious change in his symptoms.

In view of his previous history he was at once put on oil of sandal wood, combined with a urinary antiseptic, and cautioned to observe the same suggestions as in his previous urethritis.

The fourth day found him much improved, so that the anterior urethra was irrigated and the rectum carefully explored. Both lobes of the prostate were found enlarged and indurated; the vesicles normal. Massage expressed nothing through the urethra, but the last urine contained fully a teaspoonful of secretion, which, when submitted to microscopic test, revealed the elements represented in Plate III. It was noticeable, too, how scanty these were in proportion to the abundance of expressed product.

Treatment with the urinary antiseptic was com-

bined with massage every third day, till June 3; then gradual dilatation with steel sounds, followed by protargol irrigations (1-5000) every other day up to June 17, when he was discharged at his own request, apparently cured. It should be said, however, that the patient was unemployed during the treatment, and took every precaution to hasten recovery.

Case II.—A short but physically strong man, aged 41, single; occupation, mechanical; habits, exemplary; surroundings, congenial. Previous history, negative up to three years ago, when he contracted gonorrhea that terminated in gleet for many months and disturbed the nervous system markedly, but not seriously. Fearful of another attack, and being congenitally neurotic, he resolved upon a life of continence, and continued association with a young lady for whom he appeared to have a Platonic regard. About two years ago he began to notice some sexual decline, and soon found that erections were at times productive of involuntary emissions. He became more nervous and frequently depressed, and any attempt at sexual gratification proved a failure and increased the depression, nervous irritability and indifference to all female society, including that of the one above mentioned. He sought medical aid of all kinds, even that of the advertising fake. His many repeated failures in obtaining relief, added to his inability to abandon his calls on the young lady, whose companionship for some time had proved more exacting than helpful, conspired to make him a pronounced neurasthenic at the time he came under the writer's care, in September, 1903.

The history of the case can be told in a word. Periodic discharge at the meatus of thick, starchy, gelatinous, glairy material, noticeably after straining at stool, or at the end of micturition; nervous system easily upset, with a disposition to brood, borrow trouble, and to magnify the dark side of life; the face had an anxious expression. He went to the Massachusetts General Hospital for expert opinion and advice. He was told he had heart disease, and later when he found his voice affected he was asked by a reputable practitioner whether he filled the position of towncrier or sold vegetables on the street? The fact is that he had palpitation, which oftentimes affects the sexual neurasthenic, and what, to those unfamiliar with the symptoms of spermatorrhea, seemed like partial aphonia, was nothing more or less than "asthma sexuale," symptomatic of which are shortness of breath and wheeziness. At times he noticed impairment of memory and lack of self-possession.

Under the microscope the discharged products contained the elements seen in figure 5.

Treatment was begun at once by placing the patient under a urinary antiseptic to render the urine sterile and bland. Massage was employed every five days for four months. Then the cold steel sound was used, at first regularly every week, then every two or three weeks, and allowed to remain in the urethra from five to twenty minutes. The result has been satisfactory in every way, especially of late, since he succeeded in isolating himself from the society of females and in abandoning all thoughts of and interest in them completely.

It will be observed in the above that the symptomatology of each organic disorder is coupled with that of the functional which closely resembles it. The writer has carried out this plan in order to help the reader in differential diagnosis, with which he must be unmistakably familiar before he can hope to be successful in his treatment.

The majority of physicians find themselves at sea in the management of these processes, and when they consult the literature of the subject for the desired help are confronted with such a crazy quilt of confusion that they are likely to give up in despair. The writer feels confident that in the above arrangement he has simplified the problem which has long been a veritable *pons asinorum* to the rank and file of medical men, and trusts that the reader may feel equally confident that as much has been done for the solution.

*Key to Illustrations.*

1—Epithelium.
2—Böettcher's Crystals.[a]
3—Amyloid Bodies.[c]
4—Hyaline Bodies.[d]
5—Lecithin.
6—Spermatozoa.[b]
7—Pus—Grouped and isolated.
8—Calcic Oxalate.
9—Blood.
10—Spermatic Cell.
11—Mucus.
12—Shreds.
13—Epithelium with gonococci and diplococci.
14—Isolated gonococci and diplococci.

a, Diagnostic of Case IV; b, Diagnostic of Case VI (when abundant); c, Rare; d, Not essential.

134 Huntington Avenue.

## EPILEPSY THE STRANGEST DISEASE IN HUMAN HISTORY.*

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More than twenty-three centuries ago Hippocrates wrote an astonishingly accurate clinical description of the "sacred disease," as epilepsy was frequently called at that early day. So much obscurity and mystery, so much that was indefinite, intangible, and seemingly unsolvable, has surrounded this extraordinary malady for thousands of years that until recently we seemed to accept the general decree of its almost complete hopelessness so far as absolute cure was concerned, and did but little to offset this ancient conclusion.

In 1867, a distinguished German who had large sympathy for afflicted mankind began to demonstrate with four epileptics in a single cottage what could be done in a practical way for this class. Twenty years later the splendid example set by Pastor Von Bodelschwinde at the Bielefeld Colony in Germany, reached out across the Atlantic, and it is to our great credit that in imitation of it, State after State in the United States is creating colonies and special hospitals for as many as possible of the 150,000 epileptics resident in the northern half of the Western Hemisphere, 14,000 to 15,000 of whom are to be found in the great State of New York.

*The "Epilepsies" Instead of "Epilepsy."*—It is an indisputable sign of scientific progress that the time has forever gone by when we can speak simply of "epilepsy," and particularly when we can say "This man has epilepsy—give him some bromide."

We now make repeated and thorough physical, clinical, and microscopical examinations of cases of epilepsy to determine if possible the cause or causes of the disease before any treatment is applied; and we must now perforce speak of "the epilepsies" instead of "epilepsy," for the types and subdivisions of the disease are exceedingly numerous.

*The President's Address before the Fifth Annual Meeting of the National Association for the Study of Epilepsy, etc., held at the Academy of Medicine, New York City, November 29, 1905.

Fancy a surgeon applying a poultice to remove a splinter, or a lotion for the extraction of a piece of steel. So with epilepsy. The physician seeks to elimiate, to take away the cause, root and branch, even though it takes years to do it—for no case of epilepsy can be cured in less time than two or three years—and the symptoms complex that we too often regard as the disease will disappear.

*What Are the Causes of Epilepsy; Are they Always Discoverable?*—The causes of epilepsy are many and, unfortunately, they are not always discoverable; but they are discoverable in a far greater proportion than we often think, because the treatment of the disease to this time has so often been so absolutely, so unscientifically, so dogmatically empirical that the cause or causes have gone largely unstudied. We have dosed the epileptic without rhyme or reason, consequently we have too often failed to cure. We have literally saturated him body and mind with a single drug that in my judgment never yet cured a single case of the disease, and which in my fifteen years' experience in the treatment of some 2,500 cases, I have for the first time yet to prescribe for its relief to the point of feeling that through its use alone I could effect a cure.

The bromides have the power to palliate the severity of epileptic phenomena in selected cases, and even to arrest the attacks for long periods; but I do not believe they possess in themselves the inherent power to cure.

*What Is Epilepsy?*—Clinically, and from the more important viewpoint of treatment, we have learned much of epilepsy in the past twelve to fifteen years. But when we come—and I say this with the deepest sense of regret—when we come to the final analysis of our actual knowledge of the intricate biologic problems that lie inherent in the cells of the brain, and that under their own, or under associated, immediate, or remote stimuli are capable of inducing epileptic phenomena, I deplore the fact that we are still in semi-darkness.

But the light is breaking. More concise and widespread attention is being given to its etiology, and this attention is sure to bear fruit in time. As smallpox under Jenner's wonderful discovery lost much of its terrors, diphtheria under Behring's antitoxin was robbed of its high death rate, and yellow fever under our own confrères, Reed and others, seems destined to lose its demoralizing terrors, so will epilepsy yield up the long-kept secret of its cure.

I point to-day to the indisputable fact that the way is open, that the cause of neurology as represented in the need for a better knowledge of the etiology of epilepsy is pressing, and that the innermost problems of this fearful disease must sooner or later lie revealed to the patient, tireless, persistent efforts of a particular class of investigators we, in the United States, need to publicly encourage.

As a nation we are exceedingly wise and wonderful in many things; in other things we are almost without a vestige of wisdom. Witness the honors paid medical men and discoverers of great scientific truths in the countries of Europe; then turn the page and witness on the other side the complete lack of recognition by our own Government, State and Federal, of the great attainments of many American physicians, surgeons, philanthropists, and scientists, past and present. For this state of affairs we have ourselves most largely to blame. Let us rectify it if we can, and because it is right that we should do so, in time I am confident we can.

Epilepsy is the strangest disease in human history. It stands incomparably alone. It respects no race, no class, no age, no occupation. It afflicts the poverty-stricken wretch in the hut as it does the monarch on the throne. It may be in the infant at the moment of its birth, or it may be delayed until extreme old age, even ninety years or more.

Its attacks may come with lightning-like rapidity, striking its victim to the earth in the twinkling of an eye, or they may be preceded by warnings of days or weeks. It may destroy as quick as a flash the conscious life of the individual, leaving him absolutely undisturbed so far as his physical composure is concerned, or it may wholly destroy his physical composure and leave him in almost complete possession of his mental faculties.

Some forms of it may cause the victim to suffer many attacks daily from birth until senility, without any appreciable impairment of the faculties of the mind; other forms may destroy the mind in a few years.

That it is a disease of the brain no one of this age will probably deny. That it may have its origin in some cases in causes remote from the brain, cannot be denied. That its causes are multiform seems easy of proof. Some cases are unquestionably due to gross organic causes; others to organic causes the minute nature of which we have yet to determine, while others still are due to deep-seated errors in metabolism; to wavering, fluctuating factors that destroy or temporarily disintegrate or undo the biochemical relations of the organic elements of the body.

Its attacks may vary anywhere from two or three in a long life, or they may occur hundreds of times in a single day. They may occur only by night, or by day, or both; or again, they may never appear except when the patient sleeps, no matter whether it be night or day.

We have not yet reached a point where we can stand and declare a satisfactory prognosis of the many forms of this strange disease. So far we have based our knowledge of it upon symptomatology, but we are just now beginning to understand something of its etiology; not in the refined sense in which we must ultimately understand it before we can thoroughly know the disease, but in a more or less promising form.

The public care of epileptics in this country and abroad during the past 15 to 20 years, under the Colony System, has taught us one great truth, namely, that in the treatment of this disease we must never neglect to treat the individual first, for every malady is modified by individuality. To fail to do this is to confine our efforts to the treatment of a symptom, and not the treatment of a disease.

Had anyone stood in your presence 25 years ago and told you that to-day tuberculosis would be a curable disease in 25 to 30 per cent. of all cases, you would have received the statement with great incredulity—perhaps with positive disbelief. But to-day such a statement can be proved to the satisfaction of whoever is willing to believe. We have only to witness the splendid results attained in an open air, entire bodily, entire individual treatment of this disease, during the last fifteen to twenty years, to understand how true this statement is. The demonstration now in progress in this city wonderfully illuminates the splendid fight against the great white plague.

And I confidently make the prediction to-day that when we shall finally come fully to understand the necessity of treating the epileptic bodily and as an individual, as a preliminary step in the more specific treatment of his disease, and after we shall have pursued our laboratory methods to the point where we need to pursue them in order to get at a closer

knowledge of the true etiology of epilepsy in its various forms, we will cure epilepsy as often as insanity is cured to-day, that is, in from 25 to 30 per cent. of all cases. A great lesson we have yet to learn is that freedom from epilepsy is often a matter of right living.

It is most gratifying to this Association that several states in this country have taken up the question of making public provision for their dependent epileptics. But it is a sad commentary that there are no suitable institutions to be found in the United States to-day where epileptics with means—those who are not poor to the point of needing to become state charges—can go and be treated for their disease. The home treatment of epilepsy is too often unsatisfactory for the very good reason that the absolute control of the patient which is essential to success cannot there be obtained. I do not for a moment claim that the colony system, or any institutional system, is a sovereign remedy for the successful treatment of all cases of epilepsy. But I do claim that a colony system such as is being maintained, and particularly such as is being aimed at, at Sonyea, in the State of New York, has shown, and will further show, its capicity to bring about greater improvement in the mental and physical condition of the epileptic than any system heretofore devised.

The great work of this Association in the future should be to encourage other states in the United States to create colonies or institutions for the care and treatment of epileptics; in short, to carry out the objects set forth in its by-laws and which are as follows:

OBJECTS OF THE ASSOCIATION.

1. To promote the general welfare of sufferers from epilepsy.

2. To stimulate the study of the causes and the methods of cure of this disease.

3. To advocate the care of epileptics in institutions where they may (a) receive a common school education; (b) acquire trades; (c) be treated by the best medical skill for their malady.

4. To assist the various states in America in making proper provisions for epileptics.

There is still a vast uncultivated field for the workers of this body—a work destined to help a people already too long neglected.

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## BACTERIA IN THE NORMAL ADULT INTESTINE, WITH SPECIAL REFERENCE TO THE ETIOLOGY OF ENTEROTOXISMUS.*

By HARRIS A. HOUGHTON, A.B., M.D.,
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If the rôle of enteric intoxications in the etiology of nephric, hepatic, and arterial scleroses is to be appreciated—and, according to Metchnikoff, Bienstock, Rogers and others, there *is* a causal relationship—and if the surgeon is to have a working conception of when and where he can safely enter the intestinal tract, a study of its bacteriology is of prime importance. This study should include not only the relative and absolute bacterial content at different levels, the varieties usually present, and the normal volumetric fluctuations, but also a knowledge of the factors which diminish or exalt their virulence, promote or retard their propagation, and the chemical methods employed by the organism to detoxicate the products of their activity.

In forming such a mental picture, it will be seen that areas, here and there, fail to develop a clean-cut outline and clear detail. Instances can be cited. Assuming that a complete analysis of the crystallized protein molecule, showing the relations of the atomic groupings to each other and in graphic terms will soon be completed, it cannot be said that the lines of cleavage under different disintegrating influences always remain the same. Is it possible that atomic groupings of two or more protein molecules can be synthetized into new and saturated molecules? Can the chemistry of the test-tube be made to coincide with that of the duodenum? The physiological chemist must answer.

The bacteriologists are still unagreed as to the immutability of microbic species. When this point alone is determined finally, the whole subject of enteric putrefactions and fermentations will either be greatly simplified or further complicated. There is much to learn of the symbiotic influences which bacterial species exert upon each other; or, to speak of it in another way, there is much to learn of the significance of microbic associations, especially in those combinations in which the thermophilic and anaërobic organisms seem to play an important part. Vaughan and his pupils are now investigating the biochemical composition of the *Bacillus coli communis* and the environment necessary for the release of its cellular toxins. This line leads directly to the domain of natural and acquired immunity and all its peculiar problems.

From the viewpoint of the physiologist, more knowledge of the laws which govern the absorption of peptones and products of molecular disintegration and synthesis in the intestine is much needed. What factors accelerate or delay such absorption? With delay are the proteolytic enzymes capable of breaking down the protein molecule *in situ* into molecules smaller than those of peptone, and of a toxic nature? Under what circumstances may enteric poisons pass the barrier usually offered by the liver and become a greater menace to the whole organism? Are normal enteric bacteria essential to the maintenance of life in the higher organism, either in the preparation of foodstuffs for absorption or in preventing the aggression of more pathogenic bacteria? On the other hand, is their presence the determining factor in the invasion of certain enteric diseases, such as typhoid fever?

Such interrogations plainly show how limited is the present field of view, and how interdependent are medical sciences for progress. Much of the simpler and more fundamental work has been done and the evidence is ready for collaboration. The first point which naturally presents itself is a quantitative estimation of the bacterial content of the adult intestine at different levels and its variations in health. This is the subject to which I would direct your attention to-day. Paralleling this is one of equal or even greater importance, involving the study of the character of the intestinal flora, both facultative and obligatory forms, and how they are affected by diet. Julius Mannaberg[33] has reviewed the literature on this subject, and names nearly thirty species of bacteria and blastomycetes which have been found in the human intestine. Metchnikoff[38] has recently completed the work to date. Lembke[29] alone has cultivated forty-one and Matzuschita[36] forty-four varieties. While for the sake of reference, many have been classified as independent species, their right to such a position is very doubtful.

Before determining what may be considered normal when speaking of the bacterial content of the intestine, it will be wise to consider a question originally propounded by Pasteur[46] in

*Read before the Queens-Nassau Medical Society at Jamaica, Long Island, N. Y.

1885, and to which reference has been made. Basing his opinion on vegetable experimentation, Pasteur expressed himself as believing that bacteria were essential to animal life. He suggested the experiments carried out many years later by Schottelius [48-51] of hatching and rearing fowls in aseptic surroundings, feeding them sterile food, and allowing them to breathe sterile air. Chickens so treated lived only 17 days, and those which had lost weight during this régime quickly gained when allowed a normal germ-laden diet.

Prior to this, Nutall and Thierfelder[43-45] had tried similar experiments on guinea-pigs with signal success. The experimental animals developed as rapidly as control pigs from the same litter, reared normally. Confirmation of success was obtained on autopsy, when the intestines were found to have sterile lumens. The real value of such observations has been questioned, and with reason, for it is only with the greatest care and patience that they can be brought to a successful conclusion. Experimental animals live under very restricted surroundings, more onerous to fowls than to guinea-pigs. Both are in the main herbivorous, and as a broad principle it has been found that the intestinal tracts of herbivorous animals are often sterile, even at the height of digestion, while in carnivorous animals, a similar condition rarely, if ever, occurs. It may be possible that chickens do not thrive without bacteria any more than they would without gravel, and that the same rule does not hold for higher animals.

It seems as if the weight of evidence rested against Pasteur's assumption in the light of some observations made by Levin, the Scandinavian physiologist. Levin[30-31] stated that the feces of animals indigenous to that portion of the Arctic region in the neighborhood of Spitzbergen were usually sterile. Food and water bacteria of all kinds, and particularly the *Bacillus coli communis,* having fewer animal hosts, are prevented from ready propagation by the cold, and are therefore less ubiquitous. This was questioned by Cheauveau (quoted by Bienstock,[4] observations unpublished at that time), who joined the Princess Alice expedition to the Arctic regions with the Prince of Monaco in 1899. Levin replied by recording in detail 480 examinations made on the feces of 53 different kinds of animals, fish, and birds. It is perfectly reasonable to assume that if Arctic animals were dependent upon the establishment and maintenance of an intestinal flora, it would have been revealed in the feces. Aseptic intestinal tracts in the torrid and temperate zones are probably laboratory curiosities, and if by chance they do occur we may look for compensatory reactions on the part of the organism.

Bacteria not being essential, we are in a position to draw an arbitrary line of distinction between what may be considered normal and what abnormal when speaking of the occurrence of bacteria in the intestine. The following will undoubtedly help: *Any bacterial content from complete negation to saturation may be considered normal when the numbers, virulence, and microbic association fall short of overcoming adverse influences provided by nature for preventing the formation of substances detrimental to the welfare of the whole organism.* If bacteria do aid digestion, and form substances which are utilized by the animal organism, that may be considered normal. But if the environment becomes more favorable for the bacteria, and their numbers and virulence increase beyond the point indicated, that would be considered abnormal. This distinction accepted, it is obvious that the urine of perfectly healthy individuals should be practically free from ethereal sulphates, assuming, of course, that the formation of their bases is impossible in any other place than the enteric tract or in any other manner than the one under discussion.

This definition cannot be allowed to pass, however, without further explanation. It is quite probable that a state bordering on enterotoxismus or enteric intoxication is possible only by the constant ingestion of microorganisms with the food and a marked decrease in natural protective agencies. Take this fact in conjunction with another, that if we were to look for a perfectly normal man, we would hardly expect to find him in the adult New Yorker, who is in a continuous struggle against sclerosing organs, warped digestion, and sensitive prostate; whose bread is largely prepared in cellars; whose meat and milk are transported over miles of dusty railroads; whose food is subject to adulteration; and whose resisting powers are impaired by unnatural habits. But we should be obliged to turn back for a few centuries and seek out a primitive man from a primeval forest. Such an one ate his food as he killed it, drank water rarely contaminated, and moved from place to place with few associates as fancy dictated. He was untrammeled by the necessity of preserving his food in cold storage or of caring for his feces. So far as absence of microbic hosts allowed, conditions approached those which now exist in the Arctic regions. This primitive man could have ingested but few microorganisms or passed very little indican in his urine. If in the case of the latter-day urban, nature's protective agencies still protect, even with an enormous number of germs in the intestinal tract, their presence may still be considered normal.

Four methods have beeen utilized to determine the bacterial content of the intestine. The first of these is microscopical and cultural examination of the feces. Antony von Leeuwenhoek, F.R.S. (1632-1723),[52] that quaint Dutch character, who was a messenger to the town council of Delft, first described in the feces what he called animalculæ, afterwards named infusoria by Wrisberg. In his odd moments, von Leeuwenhoek made himself a microscope and subjected various animal and vegetable tissues to examination. He observed in saliva obtained from the mouth of a young lady who was "accustomed to keeping her teeth clean," animalculæ similar to those which he saw in feces, and said that they danced about "in a manner very pleasing to behold." Franz Simon[65] holds the credit of being the first to examine the feces chemically. No systematic bacteriological researches were made until the latter part of the seventies, when Szydlowski,[62] Nothnagel[42] and Bienstock (particularly the latter) began to attain the scientific accuracy which would be demanded to-day. But to Vincenz de Giaxa[16-17] of Naples belongs the honor of first showing that the enteric flora differs both quantitatively and qualitatively at different levels. During the past two and a half decades, the bacteria of both human and animal feces have been subjected to the most careful scrutiny, and at one American university it is the custom to require students to thus examine their own excreta for practice.

Some exceedingly interesting and even somewhat fanciful conclusions have resulted. For instance, Strasburger[58] declares that one-third of the fecal material after drying is bacterial remains. With the ingestion of easily absorbed food, one-half of the total nitrogen of the feces is of bacterial origin, and he places the total number of bacteria excreted daily by man at 128 billions. Klein's[23-24] estimates are lower, at eight billion eight hundred million. Woodward,* [66]

*Woodward's observations, recorded in 1878, are interesting in the light of present knowledge (the italics are

Nothnagel,[42] Uffelmann,[64] and Escherich,[12] while not venturing exact figures, say that the fecal bulk consists of bacteria. Others, such as Eberle,[11] Hellström,[21] Hehewerth,[20] and de Lange,[26] made counts by various methods, and were rewarded with varying results. Winterberg[65] introduced the use of the Thoma-Zeiss instrument for this purpose.

Many things must be considered in an effort to harmonize the work of these different investigators. In the first place Winterberg[65] and Hehewerth[20] have shown that on the same specimen, counts made with the Thoma-Zeiss and by cultural methods differ, the latter showing many less than the former. Strasburger's[58] method of approximating the number by weight has been criticised. When counts are made by cultural methods, only a very small percentage of the bacteria grow. This conclusion has been unanimously reached by Hellström,[21] v. Mieczkowski,[37] Eberle,[11] Sucksdorf,[61] Fürbringer,[14] Stern,[57] Gilbert and Dominici,[18] Salkowski,[47], Kumagawa,[27] Sherwald,[54] Hammerl,[19] and Kuisl.[26] The last two named blamed the culture media, but variations have failed to produce better results. There are certainly present in the feces some living species which are rarely grown. Two are known. Bienstock[3, 4] has lately shown that the *Bacillus putrificus* and a common inhabitant of the bowel is an exquisite anaërobe, and can be cultivated only when uncontaminated or when the symbiosis of aërobic organisms has been very carefully regulated. This organism doubtless causes the first break in the protein molecule, further disintegration being completed by members of the colon group. Another species not often cultured belongs to the thermophilic group of bacteria and they form a goodly percentage of the fecal flora. They are not culturable in temperatures ordinarily attained in the incubator. Their significance in intestinal putrefactions is not known. Klein[24] and Eberle[11] have shown that from 90 to 97 per cent. of all fecal bacteria are dead. The peculiar appearance of many under the microscope has been the subject of much comment. Their condition is such as would be designated by Grover Cleveland as one of "innocuous desuetude." In some the propagating power is materially reduced, while in others the cytoplasm has actually been dissolved out, leaving but the cell wall behind,with an appearance analagous to the "shadows" of red blood cells sometimes seen in the urine of nephritics. In other words, they have succumbed to the adverse conditions in their recent environment.

In judging of the numbers, varieties, and distribution of the germs of the intestine, what value can be placed upon the bacteriological examination of the feces? Very little, except stringent limitations be granted. Strasburger[59] has shown that the ingestion with the food of a large number of colon bacilli does not materially increase the bacterial content of the feces. Schütz[52] experimented with the vibrio of Metchnikoff, a species not usually met in the intestine and yet easily recognizable. After ingestion, it could not be recovered from the feces except in marked diarrhea. Escherich[13] has shown that qualitatively the bacteria of the feces may differ greatly from that of the duodenum, cecum, and colon. But following the conclusions of Escherich, Nencki,[39] and others, it may be said that a large number of a given species could not flourish for any length of time in the intestine without disclosure in the feces, although bacteriological examination of the feces will give no certain clue to either the numbers or distribution at different levels of the canal above.

Bacteriological investigations of the gastrointestinal tube of cadavers has given disappointing results. The notable lack of harmony again calls attention to the sources of error mentioned in connection with the examination of the feces, with other sources peculiar to the conditions. Examinations conducted immediately after death produce different results from those after the lapse of many hours, or when the sickness preceding death has been a wasting one. When the restraining influences of vitality are nullified, the *B. coli communis* immediately becomes a saprophyte, driving many bacteria from the field of activity. Cushing states for the late Dr. Livingood[8] that he found the duodenums of cadavers usually sterile when food was absent, but when food was present the results were so conflicting that the method of investigation was abandoned. Smith and Tennent[56] arrived at the same conclusion, but made particular note in one instance of a cyclist who had been killed, and they confirmed their observations on dogs. No details were given. Gessner[15] examined the intestines of 18 cadavers, death coming to many from accident, but he made no note of the stage of digestion, and did not examine by means of cover-slips. Dallemagne[9] reports the examination of 20 cadavers, but the work was mainly for qualitative purposes. Gilbert and Dominici[18] made counts of the bacteria found at different levels, and averaging observations made on animals with those of two cadavers, present the following figures: 50,000 per milligram in the stomach; 30,000 in the duodenum; 100,000 in the neighborhood of the ileocecal valve; from 25,000 to 30,000 in the colon, followed by a slight fall in the rectum. They estimate the whole number in the gastroenteric tract of the healthy adult at 411,000,000,000, which could be reduced to some extent on a milk diet.

In judging of the value of researches on animals, another difficulty presents itself in the discrepancy which exists between the habits and diets of animals and those of man. Cushing and Livingood[8] examined 27 dogs and 8 rabbits. They found that the duodenum, jejunum, and upper part of the ileum were nearly always sterile after a fast. The largest number of bacteria was found in the cecum. Ballner[1] examined six dogs. Dyar[10] has shown that the duodenums of rabbits are often sterile even at the height of digestion, and that the feces of goats and rabbits are often in a similar condition, partly accounted for by the character of the diet.

Reports of observations made on living human beings, either on the operating table or after the establishment of fistulæ, are of course more rare. It is obvious that in either case only one area can be examined at a time. Where patients have been subjected to preparations for an operation, the usual period of fasting has a marked tendency to reduce the bacterial content above the ileocecal valve. The causes which lead to operations are usually sufficient to disturb the normal bacterial balance. In the case of fistulæ it cannot be said that the conditions are entirely normal. Hewetson[22] made a large number of observations on the operating table, the patients in every case having fasted from five to eighteen hours. In cancer of the esophagus, the stomach was sterile in 50 per cent.; in gastric dilatation without ulceration, the stomach was sterile in 83 per cent., and the jejunum in 82 per cent.

mine: "My own observations have satisfied me that a large part of the substance of normal human feces is made up of these low *vegetable* forms, in numbers which must be estimated by hundreds of millions in the feces of each day. * * * They have recently acquired considerable interest on account of their supposed relation to the causation of diarrhea, as similar organisms have been supposed to act as the cause of dysentery, typhoid fever, cholera morbus, Asiatic cholera, and other diseases.

In gastric dilatation with ulceration, the stomach was sterile in 28 per cent. and the jejunum in 40 per cent. He made anaërobic cultures and found that the procedure disclosed no more species than did the ordinary methods. Cushing and Livingood[8] completed their observations on animals by 14 examinations on patients who came to the operating table or had fistulæ. They were able to vary the character of the flora of the small intestine or its quantity by variations in the bacterial content of the food. Klein[23] found the duodenum sterile when free from food. MacFadyen, Nencki, and Sieber[34] studied the celebrated case of Madaline Spycher in Kocher's clinic at Berne, a patient who had a fistula at the ileocecal valve. The flora varied with the food, and they were always able to make cultures. A similar case was presented by Chiechowski and Jakowski[7] with similar results. Tavel and Lanz[63] reported a case of resection of the pylorus for cancer, in which a sterile duodenum was found,

Notwithstanding some apparent contradictions, a rough harmony seems to underly these various observations, and we are able to form a very good conception of what may be expected in the healthy intestine. In the first place, there is a short neutral zone just above the ileocecal valve, where the findings are more or less constant. The bacteria are less in numbers here than in the cecal region below, and sometimes more and sometimes less than in the duodenum and stomach above. This is the point where the onward flow of intestinal contents becomes more steady and is less subject to the fluctuations following the ingestions of mealtime than any point above. From the stomach to this neutral zone, the bacterial content both absolute and relative is a varying quantity, depending on a number of factors. At all times the numbers are less than in the cecum or colon. The percentage at any one point will rise and fall in waves during the day, coincident with the rise and fall of the food content; the rise coming after meals as the chyme is passed along.

As the ileocecal valve is approached, and this neutral zone is passed, the stream becomes more constant, and we find the picture somewhat different. In the cecum there is an enormous rise in both the relative and absolute values, both to decline again in the colon. The feces move onward more slowly, and water is absorbed, leaving the microorganisms caught in the meshes of fecal matter, hindered to a large extent in activity or propagation by the physical conditions present.

It does not seem at all probable that a "terminal stage of absolute amicrobism" is ever achieved in the stomach and small intestine of the normal organism. The frequent ingestion of food and the swallowing of saliva tends to make such an event very unlikely. The separation of germs from the blood stream by the liver and consequent discharge into the duodenum with the bile (Buchner[6]) can be ignored under ordinary circumstances. But the stomach and the small intestine down as far as the neutral zone to which reference has been made can be made sterile in all probability. Marfan and Bernard[35] have shown that bacteria do not linger in the glandular ducts except in diseased conditions, and the fact that they do not has led Klein and Kohlbrügge[25] to undertake experimental work with a view to discovering on what factor such power of autosterilization depends. From the evidence at hand it can be stated with confidence that withholding of food for a few hours, care of the mouth, and antiseptic stomach lavage will produce the desired end.

The cecum may be said to act as a mechanical equalizer of bacterial content, and under normal circumstances there is very little fluctuation in either quantity or quality of bacteria between the valve and the rectum. This part of the gastroenteric tube responds very sluggishly to dietetic and medicinal treatment, but it seems to respond to a degree in time. We have no reason to suppose that it can be made sterile or that the mucosa of the colon has the power of autosterilization, which seems to be an attribute of the mucosa of the small intestine. Even the most rigorous régime of starvation, cathartics, and enemata fails to empty the cecum of its germ-laden contents, a fact which immediately suggests a point in the etiology of appendicitis.

This numerical estimation just given, taken in inverse ratio with the virulence and microbic association, when any given effect is produced, may be called the bacterial equilibrium of the intestine. When any or all are increased at the expense of the whole organism, that certainly is a deviation from the norm.

Now a word concerning the drug treatment of conditions arising from disturbed bacterial equilibrium. Numerous intestinal septics have been put on the market by enterprising manufacturers. Some are semi-proprietary, with longer chemical names than their importance warrants, and they are usually accompanied by more or less voluminous explanations as to their supposed mode of action. Every active practitioner constantly uses some intestinal antiseptic in an empirical way. Perhaps if his attention is drawn to the subject at all, he finds that some investigator has demonstrated beyond a shadow of a doubt that his own particular favorite is of no possible value. Shifting from one to another in response to such external stimuli, he comes finally to regard intestinal asepsis as an unattainable condition. For instance, Brotzu[5] has endeavored to show the value of various substances, such as salol, calomel, salicylates, and others, by the effect they produce with constant diet on the number of bacteria in the feces. His results could not make us enthusiastic users of any one drug. Stern has done the same for beta-naphthol and demonstrated that there is no decrease in the microorganisms of the feces following enormous doses. But it has been just concluded that judgment based on examination of the feces is more or less fallacious, so whatever is said must be taken with reservation.

Chemical examination of the feces with a view to determination of the amount of intestinal putrefaction has proven to be of some value when taken in relation to urinary examinations. But the procedure is disagreeable and not ordinarily available in clinical medicine.

If the subjective symptoms are to be a basis for our judgment, almost any drug will do, as the subjective symptoms of enterotoxismus are notoriously ephemeral and evanescent, now coming, now going, and now shifting, with apparently no reason. But if the value of any drug be judged by the effect that it has on the indican reaction of the urine, in general the judgment will be a good one. There is a certain percentage of cases where there may be an increase in the total ethereal sulphates without proportionate increase or with positive decrease in the excretion of indican. But an indican reaction once established, which decreases under treatment, shows the efficacy of the methods employed.

Manifestly it is impossible to continue the dosage of drugs over any protracted length of time, and the point quickly comes when the practitioner must turn his attention from endeavoring to kill the intestinal bacteria to treating the patient in such a way that appeal is made to the normal antagonism of the organ-

ism. Then, it must be remembered that enterotoxismus is the price which humanity pays for its artificial environment and urban congestion. In most cases it means some wrong habit of living somewhere. In others it seems as if it meant a marked diathesis, which can be overcome only with the greatest difficulty. Its successful treatment in the long run depends, as it does in a multitude of other ills, on teaching people how to live, proper balance in diet, exercise, and good habits—in other words, it consists in developing the organism to such an extent that no matter what the quantity or quality of germ-life ingested with the food, the forces employed by the organism to restrict their activity will always be in the ascendancy.

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BAYSIDE, QUEENS BOROUGH.

## OSTEOSCULPTURE; AN ORIGINAL METHOD FOR THE STUDY OF OSTEOLOGY.

BY H. C. GIFFORD, M.D.,

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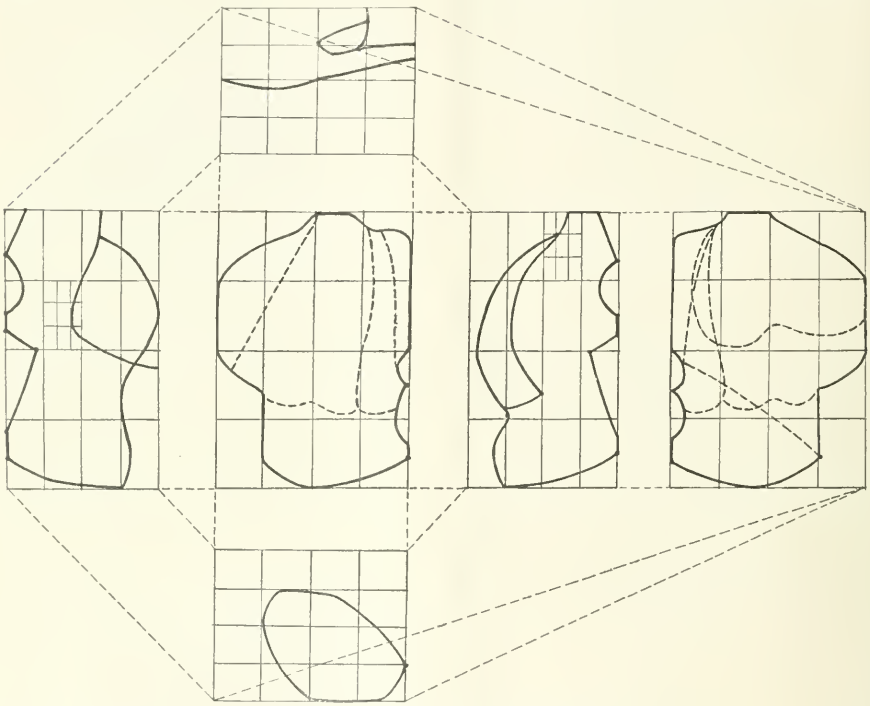
THAT anatomy is the basis of surgery, and osteology of anatomy, are two facts universally conceded. Reasoning from these two facts, together with the fact that prevailing methods for the study of osteology seem hardly adequate to the demands upon them, the idea was conceived that if one could sculpture from suitable material the various bone forms, he would necessarily gain thereby a far more practical knowledge of them than is possible by methods in present use.

For the past three years, and especially the past six months, experiments have been conducted with various materials and methods, until now a system

has been evolved which has proven so eminently satisfactory to the author that he ventures to bring it as a modest offering to the altar of his art.

The technique of the method is, briefly, as follows:

1. A rectangular solid is constructed (preferably of plaster of Paris), having its three maximum perpendicular dimensions equal respectively to the corresponding dimensions of any given solid (however irregular).



Working Drawing for a Model of the Astragalus.

2. Upon each appropriate face of the constructed solid the corresponding aspect of the bone is outlined. The various faces of any block mapped for cutting, the astragalus, for instance, may be shown in the form of a working drawing, as in the accompanying illustration. The interposed lines dividing such surface into fourths each way, are brought into use for the purpose of better localizing the outline for reproduction.

3. The extraneous portions are now cut away, according to the various outlines, leaving a rough, but accurate, approximation of the piece desired.

4. By a few more strokes the main features of surface topography are added, and we have a reproduction of any given model, sufficiently accurate for practical purposes, varying in fact much less widely than nature varies within normal limits on any given specimen.

5. The sculptured piece is now hardened by soaking in glue and drying. (Even yet the plaster is somewhat brittle, this being the most unfavorable feature of plaster of Paris for the work; and for long, slender bones, the fibula for instance, if less fragile specimens are desired, certain kinds of wood may be used to better advantage.)

6. When all the bones for a given part, a hand, for example, are sculptured, they are drilled and mounted in the usual way.

7. A further, and very valuable, practice consists in marking by appropriate methods the various muscle insertions upon each bone.

Although as yet a complete skeleton has not been made, the author has on exhibition several feet and upper extremities, and about six hundred models, sufficient to prove that the entire skeleton, so far as necessary, is amenable to delineation by this method.

By courtesy of Dr. G. M. Price, professor of anatomy in the Medical Department of Syracuse University, the method is soon to be tried on a class of students, to test its availability as a means of teaching undergraduates their osteology.

## DERMOID OVARIAN CYST SIMULATING FLOATING KIDNEY.*

By A. E. ISAACS, M.D.,

SURGEON BETH ISRAEL HOSPITAL.

Mary N., age 19, seamstress by occupation, was admitted to the hospital for an acute abdominal condition. There was nothing definite in her previous history except that she had been troubled with pains in the epigastric region and in the right side of the abdomen for about two years. Four days previously she had been suddenly taken ill with severe pain in the right side of the abdomen, and especially in the right kidney region. Vomiting continued for two days. There was considerable bladder irritation, with frequent micturition.

On her admission to the hospital the acuteness of the symptoms had subsided. Temperature was normal and pulse not frequent. On examination a tumor about the size and with the distinct shape of a kidney was found in the abdomen. It had a tendency to locate itself in the right kidney region, but

could be moved to any part of the abdomen or pelvis. It could be pushed up out of reach under the liver on the right side or under the ribs on the left, and could be gotten down into the pelvis for bimanual rectal examination. If let alone with the patient supine it would locate itself in the right kidney region. In consistency, shape, and size it resembled a kidney, its convex border and the hilus as well as the pedicle could be distinctly felt through the abdominal wall, though that the pedicle was attached to the convex border was not discerned at the time. Urinary examination, chemical and microscopical, was negative.

The absence of sufficient previous urinary history and the great mobility of the tumor caused me to diagnose ovarian cyst as most probable, with twisting of the pedicle as the cause of the acute condition.

Out of respect for the opinion of a few colleagues, among them some of our best diagnosticians, who thought it was a kidney, I made the incision along the outer border of the right rectus which would allow of removal of the cyst or be convenient for exploration of the kidney region should that organ be the one involved.

An Ovarian Dermoid Cyst Simulating Floating Kidney. From a Specimen presented at a meeting of the East Side Physicians' Association.

As may be seen by the specimen, it was a dermoid ovarian cyst with a pedicle about seven inches long which permitted the large range of motion. The pedicle was twisted on itself a few times, was attached to the convex border of the tumor, and its proximal end to the tissues covering the spine at about the promontory of the sacrum. This high attachment of the pedicle was probably due to a previous twist with local inflammation resulting in adhesions. The pedicle included the fallopian tube stretched over its whole length, the fimbriated extremity being adherent to the tumor.

240 East Broadway

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**A Floating Eye-Hospital.**—The congregation of the North United Presbyterian Church in Philadelphia has decided to place a hospital boat on the Sobat River, a tributary of the Nile, 289 miles long, in the Egyptian Soudan, for the purpose of giving medical aid to natives along the shores of the river who suffer from trachoma. Dr. Hugh R. Magill will have charge of the boat. It is intended to make two trips a month from the mouth to the source of the Sobat. The boat will be named in honor of James A. Elliott, founder of the North Church, who died two years ago.

## THE ALKALINITY OF THE BLOOD IN FEBRILE TOXEMIA.

By FREDERICK W. D'EVELYN, M.D.,

SAN FRANCISCO.

Professor Loeb of the University of California, in one of his papers on the subject of Life, says that "the sodium ions of the blood are essential for the maintenance of life phenomena." This point had already been clinically urged by Sajous, when he stated that diminished alkalinity of the blood goes hand in hand with increased susceptibility to infection, and that in febrile diseases there is a direct ratio between a deficiency of sodium and death.

The following case presented in its course some features of interest, and the ultimate results I am confident were obtained largely through the recognition of the altered alkalinity of the blood, and its immediate clinical significance in its bearing upon the reserve forces, so essentially valuable in acute febrile disease, especially where pulmonary tissue is involved.

The case I refer to was one of right pneumonia in a substhenic male, 44 years of age, and about three-fourths of the lung being involved. It is not necessary to give all details; suffice it to state the pulse averaged 104, respirations 44, temperature (rectal) 104.2°; sputum was abundant, containing blood, fibrin, and mixed bacteria, Fränkel's diplococcus being in evidence. Alkaline drinks were given very liberally, and after first twenty-four hours a pint and a half of warm salt solution was given as a high enema every one and a half hours. The skin and kidney reactions were well sustained. The pulse was very variable, oftentimes deficient in tension, but no special stimulation was indicated.

On the fifth day the patient became more distressed, the respirations were more rapid and shallow, the pulse was intermittent, with reduced volume and tension, but with rate exaggerated; the face was jaundiced, the liver resistance and volume were increased; there was much venous pulsation in neck. The pulse suddenly dropped until its beats were far distant and feeble; the area of the right heart was increased and intruding upon the right pulmonary zone; the pulmonary heart sound became modified accordingly, while (and this was interesting) a rough murmur, presystolic in rhythm, was recognizable, with a superadded character which seemed to denote recent and progressive stenosis; the conclusion was that there was a fibrinous deposit in the right auricle extending into the adjacent ventricle. The radial pulse finally became so intermittent that it appeared at times as if it would never recover the beat. Mechanical respiration was initiated and sustained for a period of some five hours; while medication consisted of three minims of liquor ammonii portis and five minims of a 10 per cent. alcoholic solution of iodine mixed just at time of administration; a hot salt solution was given frequently as enema. No other stimulation or medication was employed. After six hours, the pulse in volume and rhythm became much improved, while at the end of twenty-four hours the heart murmur was only faintly in evidence. Abundant crepitant râles appeared over the anterior surface of the upper third of both lungs. The iodide-ammonia treatment was sustained, longer intervals intervening in the administration.

Some fifty hours from the initial alarming symptoms as above noted, the pulse suddenly became flabby, not broken, and the body was bathed in a profuse perspiration. No heart murmur could be detected; this "spell," which I did not consider as of the same character as the first, rapidly responded

to what was indicated—adrenalin and strychnine. Subsequent recovery took place by lysis; the lung cleared very nicely, the cardiac dullness became normal; jaundice and the hepatic conditions quite disappeared, and convalescence was complete. It is not illogical to conclude that, had the ordinary alcoholic and cardiac stimulants been used and the blood surcharged with toxic waste, the chances of overcoming the grave central condition would have been reduced to an unconditional surrender. Acute febrile diseases have always seemed to me to despoil nature early of many of her essential and defensive properties. This being so, it follows that the more nearly we can restore these, the better will be our clinical results. There is almost too much straining after the mysterious in modern clinical medicine, and our attention is apt to be engrossed by "microscopic evidence," while more grave factors are complicating a balance of reserve upon which the final prognosis must of necessity be dependent.

Clinically it is often better practice to work backward toward a starting point than to press forward to a fanciful goal. No disease demands this consideration more urgently than pneumonia, which still registers a death rate seriously uncomplimentary to advanced medicine.

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**The Etiology of Noma.**—Charles Herrman from his work believes that although absolute certainty is impossible until pure, uncontaminated cultures and successful inoculations in animals can be obtained, nevertheless, the following conclusions may be presented with a fair degree of probability: The microorganism which the writer would call the spirochete of necrosis, corresponding to the streptothrix of Seiffert-Perthes, is the one which plays the most important part in the etiology of noma. This organism is identical with that found by Plaut, Bernheim, Vincent, and others in the ulceromembranous lesions of the mouth, and also with the spirillum sputigenum and spirochæta dentium of Miller, found normally in small numbers in the mouth. Though apparently two organisms, they are really different parts or different stages of development of the same organism. This microorganism is not a bacillus, but probably belongs to a family which serves as a connecting link between the bacteria and the lowest forms of animal life, the protozoa, namely, to the family of the spirochetes. This explains why it cannot be stained and grown on culture media by the usual methods. This organism is probably present in the atmosphere in the form of very resistent spores. By being deposited on food, water, etc., they may be introduced into the body with these. This organism is closely related to the bacillus necroseos found in the necrotic processes observed in some of the lower animals. In the human body, this organism requires unusual and exceptionally favorable conditions for its growth and development. On this account noma is very slightly contagious. In order that a gangrenous process should result, there must be a preceding physiological change in the tissue, which renders it possible for the organism to penetrate, live, and multiply in the apparently healthy portions. Ulcerative and gangrenous stomatitis represent different stages of the same process. The presence of diseased teeth undoubtedly plays an important part in the etiology of ulcerative and gangrenous stomatitis, partly by pressure and irritation, but primarily by producing a gingivitis, furnishing conditions favorable for the growth and development of the organism described; the space between tooth and gum serving as a storehouse for fresh supplies. In the infectious diseases of childhood, particular attention should be paid to the condition of the teeth. When diseased, they should be removed. The most rational treatment of noma is the application of the Paquelin cautery. It should be introduced so as to destroy not only the necrotic tissue, but also the finer filaments of the microorganisms which have penetrated into the underlying apparently healthy tissue. The term noma is here used to indicate a specific necrotic process. Similar processes may occur in any part of the body, providing always that certain physiological changes have taken place in the tissues, which render it possible for the microorganisms to penetrate, live, and multiply in the apparently healthy parts.—*Archives of Pediatrics.*

**Chronic Constipation in Children.**—Herman B. Sheffield declares that the causes of habitual constipation are very numerous. Faulty diet is responsible for a great many of these cases. Another cause, atony of the intestines, may be primary, congenital in nature, or secondary or acquired. In various chronic diseases associated with general debility and loss of flesh, the sluggishness of the bowels forms merely a symptom of the disease. In treating these cases, the causes instrumental in the production of this condition should first be arrested. Then the damage done during the continuance of the constipation should be removed. It is of great importance to train the child to have a movement regularly every day. An easy position for the child at the time of defecation should be studied. The child should be placed on a low seat so that it may assume a squatting posture. The aperture in the seat should not be too wide, for the gluteal group of muscles must be allowed to separate or relax. Correction of diet is very valuable for the prevention of this trouble but does not always remedy it. The addition of cream, buttermilk, honey, cooked or raw fruit, and vegetables to the regular "mixed diet" is invaluable as a corrective of constipation in older children. A glass of cold water on an empty stomach and before retiring is often very useful. Expert massage, oil enemas, and hydrotherapy, supplement one another in their beneficial effects. The galvanic or faradic current is sometimes used in very protracted cases. In certain cases drugs may be used besides the remedies just mentioned.—*Archives of Pediatrics.*

**A Preliminary Note on the Sterilization and Absorbability of Catgut.**—Charles B. Nancrede, F. R. Waldron, and C. F. Tenney state that the only material fitted for the majority of purposes is catgut. They find that sterilization by the Claudius method is entirely reliable. From experiments along this line they conclude: That tight winding of the gut markedly affects the gut physically and reduces the tensile strength; that strong solutions of iodine and potassium iodide do reduce somewhat the tensile strength of the gut; that more dilute solutions do not obviate this drawback except the most dilute examined which is probably not sufficiently germicidal; that alcoholic solutions preserve or increase the tensile strength except in dilutions which require the addition of potassium iodide to put the iodine in solution; that with a knot in the continuity of the gut, greater tension was almost invariably necessary to break the iodine gut than the wet, untreated gut; that the iodine gut is apparently somewhat more elastic than the wet, untreated gut; that the tensile strength of gut is lowered by the exposure to the Claudius solution, more so in case it has previously been exposed to formalin; that certain pieces of gut are absolutely worthless as ligature or suture material after exposure to the Claudius solution; that with a knot tied in continuity the relative loss of strength is much less; that in replacing unused gut in the Claudius solution, aseptic gut only must be replaced, as the iodine was present in the solution in less than one-eighth its original strength. The gut was kept in a glass-stoppered bottle, tightly closed. Finally, their experiments tend to show that the 1-4000 gut becomes absorbed in 15 days, the 1-5000 gut in about 20 days, the 1-6000 in 15 days, the 1-7000 in 12 days, while the 1-8000 gut becomes absorbed in the tissues in about 10 days.—*Journal of the Michigan State Medical Society.*

MEDICAL RECORD.

*A Weekly Journal of Medicine and Surgery.*

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PUBLISHERS

WM. WOOD & CO., 51 FIFTH AVENUE.

New York, December 30, 1905.

## THE ARMY MEDICAL BILL.

WITH the opening of the present Congress another effort has been made to secure justice for the Army Medical Department, and a bill for the reorganization of the latter has been sent in by Secretary Taft for legislative action. The need of such reorganization has been and is most apparent, and the arguments in its favor are well-known, numerous, and unanswerable. As Secretary Taft says in his memorandum accompanying the bill just introduced: "The proposed legislation involves no radical departure from existing methods, nor appreciable increase in cost, while its enactment into law will be highly beneficial to the efficiency of the medical corps of the Army." The urgent need of such reorganization was also strongly emphasized by President Roosevelt in his annual message to Congress.

It will be remembered that such reorganization has been urged by the army medical authorities at every Congressional session, save one, since 1898. It came nearer to being enacted into law at the last session than at any time before, being strongly endorsed then, as in the past, not only by the American Medical Association and the Army medical authorities, but also by the Army general staff and Secretaries Root and Taft, and was also made the subject of a special message to Congress by the President. In spite of all this, while the bill passed the Senate, it failed to receive action in the House. The Military Committee of the latter reported it favorably, but in such emasculated form as totally to fail of the purpose for which it was intended. During the sessions of previous years there was usually some pretext for letting the bill die in committee. Once it was actually discussed by the House, but failed of passage when a prominent member of the Military Committee opposed it, on the ground of economy, stating his opinion that the Army could secure the best medical talent in the country at a salary of one hundred dollars monthly!

In the past, however, the bill has failed not so much because it was opposed by any one as because no personal interests were brought to bear to secure its passage. Being a bill purely in the interest of the public service it offered the practical politicians no opportunities for the placing of political favorites or the paying of political obligations to their constituents. Had the plan of reorganization contemplated a recession from high professional ideals and opened up a way by which direct political appointments could be made from civil life to the medical corps, there can be no doubt but that such powerful political forces could have been aroused as long since to have secured its passage.

Not only is there lack of personal advantage for the politicians in pushing legislation for the government medical services, but the former are not held to their duty in this respect by political fear of a profession fully united for medical advancement. While numerically strong and representing the solid elements of the community, it is unfortunately true that the medical men of this country are usually content to keep out of politics and are not yet organized as an effective political force. Hence the humiliating spectacle of some hundred thousand of the best citizens of this country repeatedly appealing to Congress in behalf of needed professional improvements affecting the welfare of the State and receiving far less legislative consideration than is readily commanded by minor business interests of a personal character. The treatment accorded the army medical reorganization bill in Congress, and its vicissitudes, past and present, merely serve to illustrate the low political esteem in which the medical profession of the country is held at Washington.

The present bill is really non-partisan and purely humanitarian. It merely relates to the question as to whether the soldiers of the Army as now organized shall or shall not have enough doctors of the right kind to care for and safeguard them. It will be interesting to watch what attitude the present Congress will take in this matter. With its unqualified backing by the profession and from the White House and War Department, the bill should pass this year if it can ever be expected to do so. But even if it does pass without mutilation, the fact remains that a dignified and learned profession will have been for years in the position of having been denied adequate recognition on a matter concerning which there is none so competent as itself to pass upon, and which is one merely of public weal. The general public is being educated to a frame of mind where it is not safe to hold up public reforms merely because they do not carry with them opportunities for private advantage. Is it then too much to hope that in these days of independent politics the medical profession may be aroused and politically united for the advancement of non-partisan medical reforms?

If every physician in the country were to make of this a personal matter, and would write to the representative in Congress of his own district urging the passage of the bill, it would infallibly receive favorable attention in the House. Such an individual appeal would carry much greater weight than any formal resolution of the American Medical Association or even of the Association of Military Surgeons, for it would strike the personal note which is of necessity lacking in official resolutions.

The bill for the reorganization of the Army Medical Department should go through without delay, because it deserves to and because the public interests demand it.

## SOURCES OF ERROR IN TESTING GASTRIC EFFICIENCY.

THE credit for pioneer work in the modern science of functional gastric investigation undoubtedly belongs to v. Leube, who first suggested the use of the stomach tube as a diagnostic measure and also devised a plan of subjecting the gastric mucosa to

a definite thermic stimulus by the introduction of a certain amount of ice water ten minutes before the test lavage was performed. Jaworski first improved this plan by a somewhat different method of application, and then hit upon the idea of providing a digestive stimulant by the addition of cooked egg albumin to the plain water used. These more or less unsatisfactory gropings after a method suitable for routine use have never become popular, and it was not until Ewald and Boas, about twenty years ago, introduced the test breakfast that the analysis of the stomach contents became available as an every day measure. Riegel's test dinner of soup, meat, and potato, while superior in the one feature of affording the stomach a stimulus more nearly comparable to ordinary working conditions, has yet too many practical disadvantages—such, for example, as the difficulty in distinguishing between sarcolactic acid and that originating in local fermentation, and the impossibility of testing for occult hemorrhages, to mention only two of the number—to form a standard procedure for universal application. Sahli's butter-soup method, while promising theoretical advantages, has not yet passed through its probationary period, and until its reliability has been more firmly established cannot compete with the Ewald test breakfast in every-day practice.

That even the latter procedure is open to criticism in many counts has been recognized for a long time, and there has been a tendency in some quarters to discredit the method entirely on account of its more or less obvious shortcomings. Boas, in a contribution to the Ewald Festchrift (*Berliner klinische Wochenschrift,* October 30, 1905), considers the sources of error entering into such examinations and endeavors to show that frequently the unsatisfactory nature of the results obtained is due to improper carrying out of the various steps involved. In the first place, he says, Pawlow's observations on dogs have shown what slight variations in stimuli are sufficient to effect the mechanics of secretion, yet many authors, in their descriptions of the test breakfast, depart in important features from the original directions, and practitioners naturally are still more lax in their applications of it in practice. The test breakfast should consist of a roll weighing 35 gm. and 400 c.c. of either plain water or of tea unsweetened and without milk, which the patient is to take on an empty stomach, and which is to be withdrawn at the end of an hour. The directions given in different text-books offer all sorts of variants in the composition of the meal and in the time of its expression, while in practice it often happens that the patient takes it fasting, but not necessarily on an empty stomach. Boas urges that to avoid error it is always important to learn by a preliminary lavage whether the fasting stomach may not contain stagnating food remnants. Another error which is not without importance is that of having the breakfast taken not early in the morning, but at some later hour in the day which happens to be more convenient for physician or patient. Under such conditions satisfactory quantitative determinations are impossible. A source of error which does not seem to be susceptible of correction is the great variability in the composition of the gastric secretion which is observed in certain individuals, and which Hemmeter has called heterochylia. A physiological form of this affection exists in menstruating women, who have been found to exhibit the most abrupt fluctuations in their HCl secretion. A factor that may induce not inconsiderable elements of error is the presence in the stomach contents of abnormal constituents such as bile, blood, mucus, or saliva, and Boast states that, if these are present in quantity, quantitative determinations might as well be omitted and even qualitative results are of value only if positive. Deductions regarding the motor efficiency of the organ from the amounts of stomach contents obtained are also likely to be fallacious. A small residue usually indicates active motility, especially if a secondary lavage reveals no further food remnants, but a large amount of material obtained may be due mainly to active gastric reaction. A factor not mentioned by Boas, but to which other authors attach considerable importance, is the inhibition of secretion that almost invariably takes place in nervous individuals who are for the first time anticipating the ordeal of the stomach tube and so furnish a wholly atypical gastric secretion during the first one or more examinations, until the idea of the expression to follow has lost all its terrors.

This enumeration by no means exhausts all the objections that might be scored against the Ewald test breakfast. Boas does not refer to his own particular oatmeal test, presumably because it shows all the drawbacks of the other formula. It is therefore not surprising that an improved method for gaining an insight into the digestive capacity of the stomach should be a much-needed desideratum, and Sahli, in a recent communication (*Correspondenzblatt für Schweizer Aertzte,* No. 8, 1905), describes what appears to be a notable improvement. Taking advantage of the observation made by Ad. Schmidt, that raw connective tissue is digested only in the stomach, he ties off the neck of a tiny bag of rubber tissue containing a little methylen blue or iodoform with a strand of fine, raw catgut and has the patient swallow it after an ordinary meal. He then examines the urine at short intervals to detect the presence of either iodine or a blue coloration, which, if it occurs promptly, indicates that a good degree of gastric digestion must exist. This method has been tested in Ewald's clinic, and Eichler (*Berliner klinische Wochenschrift,* November 27, 1905) has reported on its comparative results obtained in thirty cases in which both the desmoid reaction of Sahli and the usual test breakfast were tried. The results are favorable to the new method and show that when the reaction in the urine appears within fifteen to twenty hours the stomach wall is secreting both pepsin and hydrochloric acid in sufficient quantities. The non-appearance of the reaction may, however, give rise to a fallacy, for in cases of good digestive power but marked hypermotility the little bag may be expelled from the stomach before time has been given for the digestion of the catgut to take place. In other respects also the test does not afford information regarding the details of the gastric processes, and Eichler concludes that although it is reliable and useful so far as it goes, it will not supplant the older procedure.

It would seem, therefore, that in spite of the manifest elements of difficulty and uncertainty which apparently are inseparable concomitants of the test meal, whether given as a breakfast or a dinner, this

is still to be regarded as the most efficacious means of investigating the functional capacity of the stomach. In order to give the information obtained by this means its due significance, however, greater care than has, perhaps, hitherto been regarded necessary must be taken to hedge about the entire maneuver from beginning to end, with every possible precaution and attention to detail. The Sahli desmoid reaction at present seems a very useful addition to the resources of the diagnostician, but it is likely that its widest field of utility will be found in dealing with those patients who either object to the introduction of the stomach tube through timidity, or in whom the operation is rendered inadvisable owing to the presence of some one of the well-known and not infrequent contraindications to esophageal instrumentation.

## THE AFTER-TREATMENT OF SURGICAL TUBERCULOSIS.

In patients who have been afflicted with tuberculosis of the bones and joints, the urogenital system, the peritoneum, the lymph nodes, or the skin, a so-called cure by operative or orthopedic means may be said to afford no guarantee whatever against a recurrence of the disease in the same or in a different locality at some future time, either more or less remote. In these cases of what is ordinarily termed surgical tuberculosis, it is essential to know whether apparently successful operative measures have been so in reality, and whether in addition there may not be some other unsuspected latent foci present. If some means were at hand for detecting this, appropriate treatment could be instituted at once, and the patient spared a later and perhaps more extensive recurrence.

In a suggestive article recently published, C. Kraemer (*Deutsche Zeitschrift für Chirurgie,* Vol. 79, Nos. 4-6) makes the claim that we possess such a means in tuberculin, and advocates its systematic employment for this purpose. The fact that a large number of patients remain in good health for the rest of their lives after appropriate operative or conservative treatment for one or more of the tuberculous lesions noted above, may be advanced as a possible objection to the universal application of tuberculin injections. Of this fortunate termination, however, we can never be assured in advance. The use of tuberculin may also appear superfluous in cases where the entire tuberculous focus has been eradicated at the time of operation, and another possible exception may include those instances in which, after the removal of the principal tuberculous process, subsidiary foci which have been left behind, undergo spontaneous resolution and cure. The latter has been known to take place in instances where the extirpation of a tuberculous kidney was followed by a complete subsidence of the process in the ureter and bladder. The element of uncertainty is very large, however, in all these cases, and the writer's contention that it would be better to be assured of a complete or incomplete cure by a test made immediately or some time after operation, seems reasonable and logical.

There are other aspects of this question to which Kraemer also calls attention. In the first place, individuals who harbor latent or hidden tuberculous foci are in a position readily to disseminate the infection to their surroundings, often unconsciously. In the second place, these patients are likely to produce offspring which, although not directly infected, are characterized by an hereditary weakness, if not actually a predisposition to contract the disease. Individuals in this class are therefore a menace to themselves, to those about them, and to posterity, and this is surely a sufficient warrant for an urgent warning against neglecting their incompletely cured ailment. If the result of a tuberculin injection made for the purpose of obtaining a diagnosis of the actual condition is positive, then early treatment will obviate the necessity for more radical measures at a future time, and will amply compensate for the slight inconvenience which attends these tests and the subsequent period of observation. Neither patient nor physician will then have to lament the omission of proper treatment during the time when a complete cure was still a possibility.

## AUTOINTOXICATION.

Autointoxication results from the absorption into the circulation of certain compounds of putrefactive changes in the intestinal canal. Brieger showed that disease may depend upon the presence in the system of substances capable of combining with the acids of the secretions to form salts which correspond with inorganic and organic bases. Selmi called these substances ptomains, chemical compounds basic in character, formed by the action of bacteria upon organic matter, in contradistinction to leucomains, which are classed as animal alkaloids, resulting from tissue metabolism in the body. Ptomains resemble vegetable alkaloids. Much has been written on the part played in digestion by the bacteria of construction and destruction, or the process of building up and breaking down, but space forbids a discussion of this here. We must assume that the processes are familiar to the reader and confine our remarks to autointoxication in its restricted sense.

First, then, by faulty elimination we may have normal excrementitious products retained in the body, for instance, in uremia from insufficient excretion by the renal cells; in the suppression of perspiration, whereby toxic products, which would otherwise be thrown off through the sudoriferous glands, are retained in the system; and a retention and absorption of the effete material that should be carried off through the bowels. Then we have incomplete chemical change, oxidation being incomplete, intermediary products being thrown into the absorbents instead of the less poisonous substances. An excessive formation or faulty elimination of uric acid is said to cause gout and a whole train of disturbances attributed to the condition called the uric-acid diathesis. The presence in the body of acetone in diabetes is another illustration of imperfect chemical change.

A deficient glandular secretion may result from incomplete chemical change. This occurs in that form of diabetes known as pancreatic, as well as in myxedema and Addison's disease. Excessive secretion of the thyroid gland is responsible for exophthalmic goiter. Albumins and peptones, as well as probably other compounds resulting from the digestive process through faulty absorption, may find their way

into the circulation instead of being reconverted into albumins, and so produce positive poisonous effects. Glycogen may in certain hepatic disorders find its way into the blood and urine, or certain foods such as the carbohydrates may be converted into glucose and produce, according to the degree of change, glycosuria or diabetes.

It is known that mental emotion may cause the milk of nursing mothers to become toxic, while the defective action of certain organs may lead to the formation of poisonous compounds. To undertake to outline a treatment for these conditions would tax the patience of the reader. Suffice it that the true cause of the disturbance should be sought for, and when found, combated according to modern ideas of intestinal therapeutics. To keep the bowels always freely open is the first requisite. Avoidance of such foods as are readily acted upon by the bacteria, such as milk, cheese, the carbohydrates, etc., should constitute a prime factor in treatment.

### Progress in the Care of Epileptics.

The fifth annual meeting of the National Association for the Study of Epilepsy and Its Treatment, held at the Academy of Medicine in this city on November 29, a special report of which is printed in another column, showed that satisfactory progress is being made in this country and abroad in the care of epileptics. Ohio, New York, Massachusetts, New Jersey, Pennsylvania, Texas, and Indiana have gone on record through legislative action as favoring State help for a class whose extraordinary malady shuts them out to a very large extent from home life, from educational institutions, from society, and from holding positions of trust and responsibility in the business world. In his address as president of the association, Dr. W. P. Spratling of the Craig Colony at Sonyea, N. Y., said that there are 150,000 persons in the United States who suffer from epilepsy, 14,000 of whom live in this State. Less than 1,100 of that number are at present under treatment in the Craig Colony, an institution that urgently needs to be made larger as soon as possible. Epilepsy is no longer regarded as an incurable disease. It can be cured in a considerable proportion of all cases if the disease is taken in time and treated properly for a period of two or three years. A unique feature of the New York meeting was a biographic reproduction of more than a score of epileptic convulsions of various types. These pictures were made at Sonyea last summer by Dr. W. G. Chase of Boston. To show such pictures in medical educational institutions in the future should be of great value. Many medical students go through college and enter practice without ever having witnessed a single epileptic convulsion; while many physicians never see certain phases of this strange disease. Through the use of the biograph, all this may be overcome and the student may now sit in the lecture hall and see an epileptic convulsion as accurately portrayed on the screen as though the actual fit was occurring before his eyes.

**A Dressing for Discharging Wounds.**—For wounds that are septic or have an offensive discharge Joseph Mullen advises dropping twenty drops of 40 per cent. solution of formaldehyde on the dressing three times a day. The effect on the wound is excellent, the dressing does not require such frequent renewal, and the odor of the discharges is eliminated.—*Medical Recorder.*

## News of the Week.

**New Health Board Building for Brooklyn.**—It is announced that the Department of Health intends to begin soon the erection of a new Board of Health building in Brooklyn. The building will be bounded by Flatbush avenue extension, Willoughby street, Fleet place and Fleet street, its dimensions being respectively 184 by 102 by 115 by 68 feet. This will give approximately 10,000 square feet, of which space one-half will be occupied by the offices. These are to be separate from the general building. There will also be a separate clinic and isolation ward. The Board of Aldermen has appropriated $295,000 for the purchase of the site, and bids for the contract for the building will be asked for within a few days.

**State of New Jersey Board of Medical Examiners.**—Dr. William H. Shipps has been elected acting secretary of the State Board of Medical Examiners of New Jersey, *vice* Dr. E. L. B. Godfrey, Secretary, who has been granted leave of absence until May, 1906. All communications should be addressed, during this period, to Dr. William H. Shipps, Bordentown, New Jersey.

**A Bureau of Exchange for Medical Literature.**—Dr. T. D. Crothers of Hartford, Conn., is anxious to secure the names and addresses of medical men who are interested in the literature relating to inebriety, alcoholism, drug-taking, drug neuroses, etc. One object is to obtain a list of names of physicians who would be pleased to receive reprints, papers, and abstracts of medical literature on this subject; also to establish a bureau by which the profession may be made acquainted with researches along these lines and thus be able to understand and advise concerning the rapidly increasing problems which center about the use of alcohol.

**The Medicolegal Society.**—At the annual meeting of this society, held December 21, the following officers were elected for 1906: *President*, Clark Bell, New York; *First Vice-President*, A. P. Grinnell, New York; *Second Vice-President*, Dr. J. Mount Bleyer, New York; *Secretary*, John R. Abarbanell, New York; *Corresponding Secretary*, Mortiz Ellinger, New York; *Assistant Secretary*, Dr. Anna W. Bloomer, New York; *Treasurer*, Theodore Baab, New York.

**Illegal Practice in Missouri.**—At the meeting of the Missouri State Board of Health which began its sessions in Kansas City on December 18 about fifteen practitioners from the northern part of the state were summoned to reply to charges of unprofessional conduct. The allegation was made that in certain districts where there are few saloons they had made a practice of providing all comers with prescriptions for alcoholic beverages and had even in some instances dispensed liquors themselves. The secretary of the board is quoted as having announced that about forty physicians would be prosecuted on these grounds.

**Louisiana Health Board.**—Gov. Blanchard has announced the membership of the new State Board of Health appointed to fill the vacancies left when all the members of the old board, including its president, Dr. Souchon, recently resigned. Dr. Clifford H. Irin of Bossier Parish is to be the president of the new administration.

**Varioloid at Governor's Island.**—Two military prisoners recently sent to Governor's Island for confinement in Castle Williams have developed varioloid or smallpox in mild form and are quarantined in tents near the post hospital.

All the other prisoners have been vaccinated as a precaution and the soldiers on the island, companies E, F, G, and H of the Eighth Infantry, will be revaccinated because they are about to depart for the Philippines.

**New Army Hospital.**—Plans for the new Army General Hospital, to be erected in Washington, D. C., have been accepted by Secretary Taft. A limit of $300,000 for the cost of the building was fixed by Congress, Majs. William C. Borden and W. D. McCall, of the medical department, and Major Thomas Slavens, of the quartermaster's department, compose the board that was appointed to consider plans.

**To Bar Consumptive Pupils.**—The School Management Committee of the Chicago Board of Education recently adopted without a dissenting vote a resolution calling for the appointment of a committee to draft a rule providing for the exclusion from the public schools of all victims of the disease. The committee was also empowered to prepare a plan for the medical examination of all "suspicious" pupils, with a view to determining whether or not they should be denied seats in the schoolroom.

**Yellow Fever in Havana.**—Early in the week over sixty cases of yellow fever with a score of deaths had been reported from Havana. President Palma has sent a message to Congress asking for a credit of $200,000 to fight yellow fever, as the present appropriation was exhausted December 24.

**Precautions Against Plague.**—Reports of the existence of bubonic plague in Hawaii have caused the authorities at San Francisco to require the quarantine officials at Honolulu to announce a new regulation under which all freight or express packages addressed to the United States must be fumigated before shipment.

**The Western Surgical and Gynecological Association.**—The fifteen annual meeting of this society was held at Kansas City, Mo., December 28 and 29.

**Fraternal Sanatorium.**—The board of directors of the National Fraternal Sanatorium has voted to accept the offer of 1,000 acres of land and a building, said to be worth $500,000 located at Las Vegas, N. M. The offer was made by the Sante Fé Railroad Company.

**Dr. William Seaman Bainbridge,** of New York City, has recently been appointed Consulting Surgeon to St. Andrew's Convalescent Hospital.

**Dr. Ernst Ziegler,** for many years one of Germany's foremost pathologists, died on November 30 at Freiburg, i. B., in his fifty-seventh year, after a painful illness.

**Kansas City's New Hospital.**—On December 18 the cornerstone was laid for the $350,000 hospital building in course of erection in Kansas City. The structure will be four stories high and when completed will have accommodations for over five hundred patients. It is believed that it will be finished within eighteen months.

**Meningitis at Newport.**—There have been eight cases of cerebrospinal meningitis among the apprentice seamen at the Newport Naval Training Station, and four of the patients have died.

**Southern Surgical and Gyneocological Association.**—At the meeting of this association held in Louisville on December 12 to 14, Baltimore was selected for the next convention. Officers were elected as follows: *President,* Dr. George P. Noble, Atlanta, Ga.; *First Vice-President,* Dr. Steward McGuire, Richmond, Va.; *Second Vice-President,* Dr. E. D. Martin, New Orleans; *Secretary,* Dr. W. D. Haggard, Nashville, Tenn.; *Treasurer,* Dr. C. M. Rosser, Dallas, Texas.

**Wyoming State Medical Association.**—At the annual business meeting of this society the following officers were elected: *President,* Dr. W. A. Wyman of Cheyenne; *First Vice-President,* Dr. Fred Horton of Newcastle; *Second Vice-President,* Dr. E. A. Croskery of Wheatland; *Treasurer,* Dr. Francis Hoff of Casper.

**Buchanan County (Mo.) Medical Society.**—At a recent meeting of this society the following officers were elected: *President,* Dr. O. B. Campbell; *Vice-Presidents,* Drs. C. G. Geiger and O. G. Gleaves; *Secretary,* Dr. Charles W. Fassett; *Treasurer,* Dr. J. B. Reynolds.

**Minnesota Valley Medical Association.**—The twenty-sixth annual meeting of the Minnesota Valley Medical Association was held in Mankato on December 5. At the business session the following officers were elected: *President,* Dr. M. Sullivan of Adrian; *First Vice-President,* Dr. G. R. Curran of Mankato; *Second Vice-President,* Dr. F. P. Strathern of St. Peter; *Secretary,* Dr. A. G. Liedloff of Mankato; *Treasurer,* Dr. G. F. Merritt of St. Peter.

**Seaboard Medical Association.**—The following officers were elected at the annual meeting of this society, held at Newport News, on December 7: *President,* Dr. John C. Rodman of Washington, N. C.; *Vice-Presidents,* Drs. B. R. Gary of Newport News; E. C. Hathaway of Bloxom, N. C.; J. W. Bowdoin of Accomac, Va.; W. D. Hassell of Grisom, N. C.; *Treasurer,* Dr. Israel Brown of Norfolk; *Secretary,* Dr. J. R. Bagby of Newport News.

**The Health Association of New Orleans.**—The governing committee of the New Orleans Health Association has resolved to present a resolution to Governor Blanchard, stating that it is the sense of the Association that the nomination for State Health Officer be made from the recommendations of the State Medical Society. It has also been proposed to erect a permanent isolation hospital to cost $100,000.

**Doctors and Druggists.**—Two hostile petitions are being circulated in Iowa for signatures, and will later be presented as bills before the legislature. One has been drawn up by the physicians, and asks that pharmacists be restrained from counter prescribing, while the other is sponsored by the pharmacists, and provides that physicians shall be prohibited from compounding prescriptions.

**Tuberculosis Exhibition.**—After removal first to Boston and then to Philadelphia, it is expected that the material of the New York tuberculosis exhibition will be displayed in the Municipal Museum of Chicago early in February.

**Dedication of Ottawa Tent Colony.**—A new structure of this colony, costing $15,000, and under the direction of the Illinois State Medical Society, was dedicated December 12. Nearly five hundred physicians and persons interested in the cure of tuberculosis were present from Chicago and other towns of the State. The principal address was delivered by Dr. Frank Billings of Chicago. Speeches were also made by Dr. J. W. Pettit and Dr. Geo. A. Zellar, Superintendent of the Hospital for Insane at Peoria. Dr. Harold N. Moyer presided.

**The Illinois Training School for Nurses** has just completed twenty-five years of existence as a corporate body. This institution was the first to adopt the three-year course, and also to affiliate with smaller schools in order that their graduates might attain the standard demanded for prospective State registration.

**Mercer County (O.) Medical Association.**—Officers of this association elected for the ensuing year are: *President,* Dr. D. H. Richardson; *Vice-President,* Dr. L. D. Brumm; *Secretary,* Dr. J. E. Hattery; *Treasurer,* Dr. W. C. Stubbs.

**Portland (Me.) Medical Club.**—At the twenty-eighth annual meeting of this association, held on December 7, the following officers were elected: *President,* Dr. J. H. Patterson; *First Vice-President,* Dr. C. R. Burr; *Second Vice-President,* Dr. Owen Smith; *Secretary and Treasurer,* Dr. G. H. Turner.

**Obituary Notes.**—Dr. George I. McLeod of Philadelphia died at Bryn Mawr on December 18 of pneumonia at the age of sixty-nine years. He was graduated from the Medical Department of the University of Pennsylvania in 1857. After graduation he became a resident physician in the Philadelphia Hospital and later he served in the medical corps connected with the troops from the State of Pennsylvania during the Civil War. He was Secretary of the State Committee on Lunacy, after having served for thirteen years as chairman of that body. He was for eighteen years a member of the State Board of Charities and for thirty-one years a member of the Twenty-seventh Sectional School Board.

Dr. Walter Williams Naylor died at Philadelphia on December 16 at the age of thirty-eight years. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1889 and he became interne to Howard Hospital. He was police surgeon in the second district since 1897, and he was a member of the Philadelphia Medical Emergency Corps.

Dr. Elwood S. Gloninger died at Philadelphia on December 14 at the age of fifty years. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1877. He was the first resident physician at Girard College, a position since abolished, and he was the son of David Stanley Gloninger, who established a hospital at Race and Crown streets in 1865 for the treatment of soldiers wounded in the Civil War.

Dr. Ezra H. Wilson, for many years connected with the Brooklyn Department of Health, died December 19 at his home in Williamsburg, in his forty-eighth year. He was a well-known bacteriologist, and was one of the first in this country to use formaldehyde as a disinfectant. In the old City of Brooklyn he manufactured all the antitoxin that was used by the Health Board, and he established stations for its distribution throughout the city. He was born in Port Jefferson, L. I., and was graduated from the College of Physicians and Surgeons in this city in 1882. He became connected with the Hoagland Laboratory as associate to Surgeon General Sternberg of the United States Army, and later succeeded him as director of that institution. Up to the time of his death he devoted his entire time to research work in bacteriology and hygiene.

Dr. De F. W. Chase of Boston died of nephritis on December 19 at the age of thirty-eight years. He was graduated from the Bowdoin College Medical School and later took post-graduate courses in New York City. He recently inherited $1,000,000 through the death of his stepmother in Swampcott. Her relatives contested the will, but the case never came to trial on account of the illness of Dr. Chase.

Dr. Wm. C. Armstrong died at Wayne, Pa., on December 20 at the age of forty-seven years. He was graduated from the Medical Department of the University of Pennsylvania in the class of 1880.

Dr. John M. Rand, one of the oldest physicians in Newark, N. J., died on December 18 after a few hours' illness. He was seventy-two years old, and had studied at Harvard and Dartmouth. In the Civil War he was Surgeon of the Twenty-fifth Army Corps.

Dr. Oliver A. Blumenthal of Syracuse died on December 21 at Saranac Lake of tuberculosis at the age of thirty-five years. He had made a specialty of the disease, but contracted it himself.

## Correspondence.

### WOMAN IN MEDICINE.

To the Editor of the Medical Record:

Sir:—I was interested in reading the article on "Medical Education," written by Dr. Castelli, and I wondered if his opinions were gained from observation, or were only adopted from the mouldy, worn-out theories of men who one hundred years ago were in a dreadful state of alarm because of the expected deterioration of women, body and soul, when, in addition to cross-stitch, they were to study some reading, writing, and arithmetic. The doctor says physicians in general are different now, because they derive all their knowledge from books; he immediately goes on to say that women are unfitted for the profession of medicine, because their knowledge of the world is all second-hand, the impression at first given being that the sexes were alike in this matter. He should have noticed that intelligent educated women are observant, and are, moreover, interested in what is going on around them, as well as what happens at a distance. Do the writings of such women as George Eliot and Mrs. Humphry Ward show that they had a limited knowledge of the world, such as the doctor intimates all women possess, or is the worldly knowledge of which he speaks to be obtained only by an actual participation in the delights and woes which lead to such questionable wisdom, and which is only mentioned behind closed doors, and in congenial society? Surely knowledge so gained is demoralizing to any sex, and instead of being a necessity to the equipment of a physician will be but a blot upon him. If such knowledge contributes to a physician's usefulness, it ought to be of still more value to a clergyman, so that he may know whereof he speaks.

The doctor says, if married, she is so "absorbed in maternal cares, all other considerations become of secondary importance." If this is true of the married woman physician, it cannot be said of the wealthy lady who delegates to paid dependents the care of her offspring, and this, too, without the excuse of having to earn her daily bread. But is it true? Is there not something in knowing how to systematize work and how to direct others? And why is the privilege of parenthood made so one-sided? Is it not as great a mistake for the male parent to be so absorbed in professional cares that he can give no thought to the care and nurture of his children, as for the female parent to lose sight of every other duty in the sole one of propagation?

The doctor goes on to say that sympathy in women is a product of her feminine weakness, and constitutes another objection to her in the profession. Whether the quality of sympathy is present or absent in the male sex, and if it is present, what it proceeds from is not made clear. Most people, I believe, would consider that sympathy, like mercy, would bless both giver and taker, and we notice that it is the sympathetic physician who, other things being equal, is always welcome at the bedside of the sick, and not the cold, unfeeling creature who has no care for any wounds and bruises but his own, and whose visit constitutes a daily dread to the patient. Occasionally the charge is made that women are rendered hard and unfeeling by the practice of medicine; evidently there are differences of opinion.

The statement that "woman's natural tendency is to lead a life of dedication to some one" is absurd. It is true that women, as a body, are more moral, more conscientious, and more affectionate than men; that we are more likely to find a daughter working hard to support a widowed mother, and educate the younger members of the family than we are to find a son performing those duties. But instances of this kind, though far from rare, would only prove the daughter's sense of duty and her family affection. For if an elder brother, or any other relative, could and would relieve her of the burden the offer would be thankfully accepted, and the "life of dedication" would be ended. The statement is made that immense numbers of

women are engaged in philanthropic work, and, again, that women only become philanthropists when they are married to a philanthropist, or through devotion to the ideas of a dead husband, or from disappointment. This sounds rather contradictory.

We have some philanthropists whose wives, as philanthropists, are seldom in the public eye. We rarely hear of Mrs. Nathan Straus, or Mrs. Andrew Carnegie, or Mrs. Rockefeller, except as the wives of their well-known husbands, and not as philanthropists. I shall mention the names of just a few women whose deeds of philanthropy are due—not to disappointment, not to sorrow for the dead, and not to love for any one living person, but to a Christ-like love and care for all fellow-creatures, especially the suffering and the needy: Baroness Burdett Coutts, Jane Addams, Elizabeth Fry, Helen Gould. Did Mrs. Coutts "dedicate her life" to her husband? and give up her philanthropic work as soon as the honeymoon was over! Not a bit of it. She simply made her husband her almoner, and continued her works of charity as before. This was one of the then unusual instances of a woman being free to do as she pleased with a large fortune. There are still but a comparatively small number of women so blessed and privileged, and one cannot give away what is not possessed.

As to "the immense numbers of women engaged in philanthropic work" giving it up as soon as they become wives and mothers, we find that the majority of women engaged in such work are married ladies, many of them with families, and that many of the single ladies receive a salary for their work who labor with them, and that, instead of the married ladies doing this work to please living or dead husbands, the gentlemen in question have rarely manifested an interest in, or displayed any sympathy with, their wives in this field of activity. Now as to this "man's philanthropy, with its thought of humanity at large, this philanthropy with its broad significance," which robs the widow and orphan, which has been the cause of untold suicides, and spread misery and sin over vast areas, so that millions may be given to educational institutes and hospitals, huge and lasting monuments to the donor's name and generosity; this is philanthropy, indeed, of a kind. Men of this class have been styled by one of our senators "unhung criminals," who grind the masses in the dust, and bestow alms on the children of the men they have robbed.

Another objection made to woman in medicine is that she is "systematically infirm" for seven days in the month; the doctor says he has noticed an inability for the performance of her duties, at these periods, in women medical students and women physicians whom he met in hospitals in the performance of daily tasks. Are women in the habit of speaking of their condition at this time to the men with whom they come in daily contact? If a student has burned the midnight oil and worked herself up to a state of nervous tension over some, to her, important matter, or a woman physician has been up all night with a critical case, and these women are not just as bright as usual next day, must the absence of the usual alertness be attributed to but one cause? Trying as the life of a physician is, it is not nearly so arduous as that of a trained nurse. The average duration of the working life of a trained nurse, after graduation, has been placed at ten years; she is sometimes required to remain on duty thirty-six and forty-eight hours at a stretch. She is often obliged to eat cold or lukewarm food, badly served and partaken of at irregular hours. She gets what sleep she can on some kind of lounge, too narrow and too short for her to lie upon. She must use tact with the patient and his relatives, who are apt to be severe critics. The care she bestows on her patient may mean his life, the lack of it his death. A physician who knows and trusts a nurse will often leave much to her discretion, so that she can use her judgment in case of emergency. All this means added strain. A few years of nursing often reduces women of splendid physique to physical and nervous wrecks. How is it we do not find any objections to nurses working in this way on the score of sex or posterity? Think of our thousands of trained nurses, compared to the few, comparatively, women physicians.

One is impelled to ask, "Why display such solicitude for women physicians, and evince such a callousness to the welfare of women who are such useful members of society as trained nurses?" Has this solicitude a financial basis? If trained nurses were paid $100 or $200 per week, instead of $25, would it not be straightway discovered that such a life was very injurious to the nurses as women, but that men were eminently fitted to perform the work called for in the discharge of the duties of the nursing profession? It should be borne in mind that economic conditions have forced women to enter the business and professional world—or to starve. Such conditions are none of her making, as the six millions of working women in the United States to-day can testify. Why should all avenues of work be closed to her, except the most insignificant and the most poorly paid, which are often as arduous as any?

This pseudo-protective care is nauseating to any lover of even-handed justice, who believes in calling a spade a spade, and not a silver trowel.

Maude Glasgow, M.D.
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## OUR LONDON LETTER.

(From Our Special Correspondent.)

THE QUEEN AND THE LONDON HOSPITAL—JAPANESE ARMY MEDICAL SERVICE—AMALGAMATION OF SOCIETIES—DISCUSSION ON RHEUMATOID ARTHRITIS—MEDICAL COUNCIL—OBITUARY.

London, December 8, 1905.

The Queen takes a great interest in the London Hospital, of which Her Majesty is president. The governors' meeting on Wednesday resolved to recognize the interest of their Royal President by erecting a statue of Her Majesty in the grounds. This will be the first statue of the Queen on English soil. Of course, the funds of the hospital will not be used for this purpose. As soon as the idea was broached £1,300 was subscribed for it out of £1,500, which will cover the cost. The practical re-building of the hospital is nearly complete. About half a million has been spent in the last eight or ten years. It seems an extravagant price to have laid out on repairs amounting to a practical rebuilding.

The success of the Japanese Army Medical Service is being commented on our general press. Statistics have been issued lately showing that the Japanese have completely reversed the experience of former wars with respect to the mortality from disease and from wounds. Prevention of preventible disease has been the aim and an object lesson of splendid success the result. Between February, 1904, and May, 1905, the Japanese armies lost 52,946 men in battle and only 11,992 from disease. The same tale is told of the Japanese Navy, in which the total casualties were 3,682. Of these, 1,891 were killed and 1,791 wounded. Of the deaths, 1,445 were due to drowning in the ships sunk by mines. Of the 1,791 wounded, 117 died; 647 required hospital treatment, and, of these, 32 were among those that died. Here is a lesson for us and our War Office. And yet, on the authority of Lord Roberts, a force beyond 55,000 would have to take the field "without any trained medical establishment whatever." Surely the War Office should wake to its responsibilities.

Several of the societies have now considered, with more or less attention, the question of the proposed amalgamation. There seems to be a general concurrence with the view that union offers many advantages, but the difficulties are rather formidable. Most of these are financial, and some of them seem almost insuperable. Endowed or trust funds, reserves, costs of *Transactions*, varying amounts of subscriptions, how are all these to be arranged? Some seem to think that the amount of subscription is of no consequence, but others see that it must not be high. No one seems to have been struck by the fact that if all the societies amalgamated to-morrow, half a dozen practitioners could start another the day after.

Dr. A. E. Garrod opened a discussion at the Medical Society on Rheumatoid Arthritis. He said the clinical group of cases did not coincide in extent with the anatomical, and no single morbid entity corresponded to the rheumatoid arthritis of the text books. He sketched the systemic affection—probably infective—in which fusiform swelling of joints and thickening of their capsules were attended by conspicuous muscular atrophy and constitutional symptoms (anemia, pyrexia, rapid pulse, brown pigmentation). He emphasized the distinction between the active state and the sequelæ. The joints did not exhibit osteo-arthritic changes—at least in the active stage. Such changes were not specific, but were degenerative lesions and might be the sequelæ of any disease which damaged the joint structures. In some cases the joints became the seats of osteo-arthritic changes, but these cases were distinct from rheumatoid arthritis, which was rather a peri-arthritis. This and many other joint affections were only local manifestations of constitutional change—mostly of microbic origin. Absolute rest in the early stage, bath treatment and massage later were recommended. Gouty dietary was useless. Aspirin sometimes relieved pain. Guaiacol carbonate was reported to be useful.

Dr. Cave, of Bath, divided cases into infective and trophoneurotic. Possibly both groups were of toxic origin, as there were several infections; so, also, several portals. He referred specially to two: the biliary passages

and the alveolar sockets of the teeth. It was important to attend to the state of the mucous membranes, but diet was of minor importance. Iodide and guaiacum were valuable.

Dr. A. P. Luff thought it easy to sort out septic cases. He objected to the term chronic rheumatism being applied to rheumatoid arthritis, which was an infective disease from one of the mucous membranes, not necessarily symmetrical in early stages. Chronic rheumatism was really a fibrositis of joints with obvious cracking. Iodide and guaiacol carbonate were valuable, if pushed, especially together.

Dr. Buckley, of Buxton, regarded spondylitis deformans as a fibrositis distinct from rheumatoid arthritis. For the latter he advocated climatic measures and raw or underdone meat, with copious libations of hot water.

Dr. Harburn, of Buxton, thought most cases auto-toxemic, often of gastrointestinal origin. He supported or modified Salisbury diet, electricity, counter-irritation, arsenic and guaiacol.

Dr. B. Abrahams said it was remarkable how joints recovered in acute cases, as proved by radiographs, showing the lesion was really periarthritis. Guaiacol was useful in early stage, but not later. Sand baths helped later.

Dr. P. Weber said septic cases were more acute and more likely to relapse. Stills' affection in children and spondylitis deformans were both distinct.

Dr. Hale White, on the contrary, regarded Stills' affection in childhood as identical with rheumatic arthritis. He had found the bones quite healthy in a case examined in the early stage, so it was quite distinct from osteoarthritis.

Dr. Sandwith referred to cases of arthritis following dysentery and resulting in deformity and atrophy, just like rheumatoid arthritis. Egypt was a good climate.

Dr. Poynton had produced the lesions of rheumatoid arthritis experimentally and the organism was the same as that of rheumatic fever. He believed it could produce several different joint lesions. He did not feel sure that rheumatoid arthritis was a definite, distinct disease.

Dr. Garrod, in his reply, said he could not think all these cases were the product of a single microbe. The osteoarthritic changes represented residual lesions of different joint diseases.

The General Medical Council managed to complete its session within the week. The second and third days were occupied with judicial business, resulting in the expulsion of offending practitioners from the register, chiefly on charges of advertising, canvassing, or covering. In some cases the sentence was postponed until next session, to give the offenders an opportunity of coming up again with further explanations and proof of conduct in the interval.

A large part of the fourth day was occupied with similar work as to the Dentist's register. Seven persons on that register were brought up for forming a limited dental company, two of them having been previously convicted of infringements of the Dentists' Act and fined for that by the magistrate. The business of the company, consisting of these seven shareholders only, was carried on by objectionable circulars containing untrue statements and in connection with a so-called Benevolent Dental Society advertising on an extensive scale. It was proposed to pronounce judgment on the charge at once (on the report of the Dental Committee), but the Council was saved from so unjudicial a step by an amendment to hear the parties. The incident illustrates how unsuitable a body the council is for the discharge of judicial functions. After hearing some of the parties and solicitors, the council deliberated *in camera*, after which the president announced that two of the names would be removed from the register and the other persons would have to appear at the next session.

Several reports of committees on matters referred to them were received and ordered to be entered on the minutes, and in some cases the recommendations of the committees were adopted. The committee on teaching practical midwifery, mentioned in my last, was only able to send in an interim report, as replies from some teaching bodies were belated.

A long discussion took place on the report of the Education Committee, with reference to the curriculum, resulting in a resolution asking for a report as to (1) the desirability of transferring physics, biology, and chemistry to the preliminary stage and (2) the advisability of requiring a five-years' curriculum after such transfer.

The state of the Irish Poor Law service was brought before the council by Sir William Thomson, who asked for a committee and declared that the circumstances under which the medical officers worked were a grave danger to the public health. The president questioned whether the Council could undertake an inquiry of this sort unless brought before them by a responsible body outside. He suggested a postponement until next session, and in the meantime taking the opinion of the legal advisers as to whether the Council was empowered to appoint such a committee of inquiry. This suggestion became the finding of the Council.

At the ripe age of 83, on the 18th ult., died Dr. Henry I. Fotherby, consulting physician to the Metropolitan Hospital and ex-president of the Hunterian Society, of which he was also a trustee until about two years ago, when his health induced him to resign. His energy and zeal did much to promote this society's work. He also took an active part in the London Institution and served many years on the committee. He retired to his country home in 1888, where he enjoyed a peaceful old age, surrounded by many friends and continuing the interest he had always felt in all philanthropic, charitable, and Christian movements, and not at all abating that in the progress of his profession. He was M.D., Lond., and M.R.C.P.

On the 22d ult., died P. Robert Cresswell, J.P., C.B., V.D., senior surgeon of the Merthyr General Hospital and Hon. Colonel in the Welsh Volunteers. He qualified in 1859 and took the Fellowship of the Edinburgh College in 1873. He organized and sent to South Africa, in the late war, three companies of Welsh Volunteers, and will long be remembered as an earnest officer in the force which he entered as assistant surgeon in 1860.

## OUR LETTER FROM THE PHILIPPINES.

(From Our Special Correspondent.)

FAILURE OF EXPERIMENTS WITH COPPER SULPHATE—DISPOSAL OF MANILA SEWAGE—THE CHOLERA—PERSONAL NOTES.

MANILA, P. I., November, 3, 1905.

THE experiments which have been conducted for some time by the local health authorities, in the treatment of the city water supply with copper sulphate, with the view of rendering all the water safe against cholera germs, have shown that this method is a complete failure in actual practice, in Manila. The efficacy of copper sulphate placed in the local water supply was thoroughly tested at the Bureau of Government Laboratories. Solutions of copper sulphate varying from 1 to 2,000,000, to 1 to 150,000 were prepared. Cholera organisms which were introduced into these solutions were recovered in each instance in all strengths between 2,000,000 and 200,000. In the strength of 1 to 150,000, no growth could be detected after four hours, and in the strength of 1 to 100,000, no growth of cholera organisms was found in one and a half hours. From this it will be seen that even in strengths of 1 to 150,000, a period of at least four hours would be required in order to make the Manila water supply safe against the cholera vibrio.

Great hopes were entertained by the health authorities that the use of copper sulphate in the city reservoir would remove the grave menace which has hung over the city since the reappearance of cholera upon the Manila watershed, which occurred almost at the beginning of the outbreak. In view of the fact that the disease commenced during the rainy season, and which is not yet at an end, it is feared that the dejecta of cholera cases may be swept into the stream.

The military has been on constant guard, and so far, their efforts to prevent the infection of the water seem to have been effectual.

If copper sulphate could have been used successfully in the reservoir, it will be seen that the city of Manila could have viewed the presence of cholera upon the water-shed with more or less indifference, but in view of the fact that the strength of 1 to 150,000 would be required in order to render the water safe, it was not deemed advisable to permit the population to drink constantly a copper sulphate solution of this strength. While there may be no immediate danger from copper sulphate in such strength, still, an accumulative effect might be expected if the practice should be continued over a long period of time.

Another factor to be considered in using a disinfectant in such a wholesale manner is, that the greater portion of the human excreta in the city of Manila is disposed of in septic tanks, and it was seriously questioned whether copper sulphate in a strength sufficient to kill cholera organisms would not also destroy the saprophytic germs and thus stop the putrefactive action which they start in the septic tanks. If the latter should have been the case, a stench would no doubt have arisen which would have been well nigh unendurable.

In view of the conflicting results which have been obtained in various cities, it would seem that the efficacy of copper sulphate depends largely upon the composition of the water supply into which it is placed.

Cholera has been almost completely stamped out of the city of Manila. There are cases occurring every few days, but they usually can be traced to the infection being introduced from the provinces. In the provinces, the situation is not so reassuring as it might be. The disease is gradually spreading over a greater area, and the health authorities find themselves seriously handicapped in not having a sufficient number of experienced inspectors to send to the various towns in which it makes its appearance, to aid the local authorities in combating the disease.

Col. Joseph B. Girard, the Chief Surgeon of the Division of the Philippines, who went to the United States last Spring on account of his health, has returned to Manila, and resumed his former duties.

Col. Charles B. Byrne, who has been acting as Chief Surgeon of the Division of the Philippines, now becomes Chief Surgeon of the Department of Luzon.

Lieut. Col. Wm. B. Davis, who has been Chief Surgeon of the Department of the Visayas, has been directed to return to the United States on the November transport.

## THE TOYAMA MILITARY HOSPITAL AT TOKYO, JAPAN.

To the Editor of the Medical Record:

Sir: It is with a keen delight, and a glow of scientific pride in his profession, that an American physician observes Japanese medical advances as he travels through this interesting "Sunrise Kingdom" and looks about with more or less alert eyes through some of the great military hospitals of Japan. It was my fortune a few days ago to see the gigantic Toyama Military Hospital, located here in Tokyo. It has a capacity for 7,000 patients, and its four great sections are located in different parts of a beautiful park, the whole hospital grounds covering over 150,000 square meters. The chief surgeon was my guide. I have forgotten his Japanese name, but whatever it may be, his courtesy and kindly disposition to show the hospital in all its phases, whether good or bad, surely entitle him to a place in the front rank of this courteous Japanese nation. When a visitor, especially a medical man from a foreign land, desires to gain access to any of the Japanese Military Hospitals and look about through them, it is necessary to obtain an official permit from the Japanese Department of War. This is usually granted when the request comes from the Legation of the physician's country, in my case from Mr. Griscom, our Consul-General at Tokyo. Armed with this official permit, on presenting it to the sentry at the gateway of the Toyama Hospital an escort was sent with me to the reception room of the Administration Building, about one-quarter of a mile distant. My card was taken by a very much alive Japanese boy, who soon returned and with bows and smiles motioned me to be seated. Then came a wait, during which steaming hot tea was served, accompanied by Japanese cigarettes. In about fifteen minutes, steps from heavy boots, with the clanking of riding spurs sounded in the hallway. The chief surgeon appeared, and we started on our tour of hospital inspection. He spoke English fairly well.

All the buildings are of cedar and pine boards, neatly and securely nailed together. None of the fifty odd structures is more than one story high. There are two up-to-date operating rooms supplied with every modern facility. As I looked into one of these rooms the surgeons were just tying the last stitches of a thigh amputation case. The drainage tube was in, and the flaps appeared to be very neatly in apposition. In the other operating room I observed all the essentials of a first-class equipment and scrupulous cleanliness was everywhere apparent. A surgeon need touch nothing with his hands once he begins "scrubbing up." Foot levers open and close, turn on and turn off everything. The sterilizing process is as absolute as anything modern methods in Europe and America have devised, and the charcoal-heated sterilizers, made in Japan, which are used, are the simplest things imaginable. In another part of the grounds I observed the Japanese method of sterilizing bedding by steam. A great cylinder on wheels, four feet in diameter, and six feet long, is employed. It is readily moved about, and both of its ends may be closed and opened. A water arrangement is underneath, which connects with the cylinder space. Charcoal is the fuel. The cylinder is loaded with bedding, and steamed for one hour; the bedding then removed and allowed to dry. Common sense, efficiency, compactness, cheapness are predominating characteristics in the sterilizing procedures. The kitchen arrangements by which such a large number of patients are kept properly fed, must of necessity be on a very large and scientifically studied scale. The Toyama Hospital kitchens number two, and they meet their requirements. At least one dozen giant iron pots of nearly one cubic yard capacity have in them, in each of the kitchens, the various component parts of the Japanese ration which are cooking, or waiting to be placed in the ration cups and rice boxes which each soldier patient is entitled to receive. The rice boxes of wood are about the size of an American brick. The rice is thrown into boiling water for ten minutes, when it is deemed sufficiently cooked, and is rationed into the long rows of empty wooden rice boxes standing nearby. Vegetables constitute a part of the Japanese ration also, together with fish and some foods typically Japanese, the character of which I do not at present know. The food rations are hauled on hand trucks of bamboo to the patients at their bedsides in the different buildings. There is no general mess hall. Inquiry regarding the average length of confinement for each patient in the hospital, surgical and medical, suffering from all kinds of ailments, revealed the fact that forty days was the approximate term of invalidism.

The hospital is divided into four separate divisions. One is a receiving ward for the wounded and medical cases sent in from the field. Another is for the medical and surgical convalescents. Another for infectious diseases, and the last of the four sections is for those cases, both medical and surgical, sent from the receiving wards. As each of the four divisions has many separate buildings, the surgical and medical cases are kept isolated. For example, there are separate buildings in which are quartered the venereal cases, skin diseases, dysentery, beriberi, tuberculosis, and the different groups of surgical cases.

In looking through the venereal wards, inquiry elicited the fact that syphilis among the soldiers comprised about 10 per cent. of those diseased, chanchroidal bubo cases, etc., about 30 per cent., and gonorrhea the remainder. Though these figures are but approximate, I mention them because there seemed to be an idea prevalent on our Pacific Coast in the United States, when I was there last winter, that the Japanese is immune to syphilis—a very serious fallacy. The skin diseases seen comprised the usual variety of eczemas, some scabies, scurvy, and the less common lesions. Beriberi was very manifest, and several separate buildings in the infectious disease division were devoted to the care of this ailment. The pathological findings of this peculiarly Oriental disease, are as interesting as its specific cause is puzzling. According to the exhaustive studies of Dr. Kinnesuke Miura, Professor of Internal Medicine, University of Tokyo, there is usually found in beriberi a degeneration of the myeline substance, and later of the axis cylinder of the nerves; a marked myositis with accompanying cellular infiltration, and occasionally a degeneration of the posterior horns in the cord, but never any involvement of the motor cells in the anterior horn of the spinal cord.

In the surgical wards, many of the operative results were of the most gratifying nature, the plastic surgery being especially ingenious and effective. Many of the stumps of the amputation cases were ideal in every respect. A look into the laboratory revealed the fact that the Japanese recognize the great importance of this medical aid. Every essential facility was there to do efficient laboratory work, from excellent microscopes to the different culture media for bacteriological studies. Ii the art of massage, too, the Japanese at Toyama recognize a powerful factor in hastening convalescence. Many rooms are set aside for this distinct purpose, and at stated intervals each day the various patients assemble to receive their particular massage prescriptions, the basic principles of which closely resemble those of the Swedish massage system. When a patient has reached the stage of progress from massage enabling him to perform the required movements, he is sent to an improvised gymnasium on the grounds, where he is made to exercise his leg, thigh, foot, hand, fingers, arm, neck, or whatever part of the body his prescription calls for, the apparatus being out of doors and of the simplest but most practical nature. In fact common sense is one of the most predominating features that is revealed in the direction of this gigantic military hospital. It is common sense based on such scientific knowledge as Mr. George Kennan, the War Correspondent for the "Outlook" in the far East, was telling me about the other day. He observed the Japanese soldiers throughout the siege and final capture of Port Arthur use a small mosquito netting to cover their faces and necks, and a mosquito proof glove to cover their hands when they slept at night in the mosquito-infested districts. "Each soldier," said Mr. Kennan, "carried his own little net, and used it just as conscientiously as he avoided drinking any but boiled water."

In the matter of latrine sanitation, the Toyama Hospital has at the end, and comprising a part of each of its buildings, a room of two sections, one a bath room, about ten by ten feet in area, and a smaller room as a water closet. All fecal and urine excretions enter a large thick wooden bucket, about one foot in diameter, and two feet high. These are emptied each day, and their contents sold to farmers who use it as soil fertilizer. Toyama has no sewage system other than this. Its waste garbage is disposed of in the same manner. Sometimes cremation is employed. The hospital water supply comes from the Tokyo

water supply, which was installed several years ago. Though the hospital buildings, averaging nearly one hundred yards long by ten wide, are of unpainted pine boards, with tar paper roofs, they are kept scrupulously clean. All who enter must remove their shoes at the doorway entrance. The patients who are sufficiently strong, are permitted to roam about the beautiful grounds at will, where small groves, many flowers, picturesque fountains, well laid out walks, green grass, etc., all combine to make an ideal locality for convalescence. Though this last stage is one of great importance in every patient's illness, and though it appears to be ideally met and facilitated at Toyama, this state of efficiency simply expresses what exists in every other department of this great hospital's machinery. From the admission to the discharge of a patient, each department appears to work absolutely efficiently and in scientific harmony with all the others, just as the different departments of the Japanese army in the fields against the Russians have done, and with such signal success.

There are many vitally important medical lessons to be learned from the Japanese, and one of the best places in which to study them is the Japanese Military Hospital called Toyama, located at Tokyo.

DONALD G. MCCASKEY, M.D.,
FORMERLY OF MEDICAL CORPS, PHILIPPINE CONSTABULARY.

## THE PATRICK CASE.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR:—Albert T. Patrick, convicted of murder in the first degree, will, unless the Governor interferes, be electrocuted January 22, 1906. The Court of Appeals, by a narrow vote of four to three, has declined to grant him a new trial, and this certainly constitutes a reasonable doubt of his guilt.

I have investigated the records of the trial and am convinced that the proof of his participation in the crime, if there really was one at all, is based upon testimony of which our profession has no reason to be proud, so loose have been the methods adopted and the conclusions reached. The attempt to find minute or other disturbances in the organs of circulation and the lungs in a body where not only all the chambers of the heart, but the larger vessels and the capillaries, contained embalming fluid to a greater or less amount is one certainly not entitled to credit, and there is something very horrible about such testimony being used for purposes of conviction. One of the chief witnesses was a weak-minded person who, under suggestion, made several contradictory confessions as to his guilt and evidently testified through compulsion.

I write this letter to the MEDICAL RECORD, earnestly hoping that all who feel as I do will communicate with Governor Higgins at once in behalf of Albert T. Patrick, or send their names to me.

ALLAN MCLANE HAMILTON, M.D.
44 EAST 29TH STREET, NEW YORK.

# Progress of Medical Science.

*Boston Medical and Surgical Journal, December 21, 1905.*

**Some of the Advantages and Fallacies of Urinary Examination.**—E. C. Savidge believes that laboratory findings are often misunderstood and used as the basis for erroneous deductions. This is particularly the case with reference to urinalysis. The author notes the following pertinent facts with reference to the matter. (1) In almost all patients over forty who put the tension of concentration on their vasomotor system, faint traces of albumin can be found if the urine is examined often enough This is especially noticeable with those who have overdeveloped venous calibers, whereby the extra capacity of the veins keeps an undue share of the whole volume of blood in the veins of sewerage blood. (2) Certain forms of therapeutics can vary the specific gravity, the output of urea; can compass the solution of crystals which, like pepper in the eye, must irritate the delicate kidney substance and point to sure future trouble; can, in these relaxed venous cases, even remove albumin by enhancing the tonicty of the veins. (3) Having thus, by repeated laboratory use, seen the relation between arterial tension and the output of urea; between venous tonicity and albumin; between specific gravity and the appearance and disappearance of hemoglobin; the following conviction has grown upon the author, viz.: Varying these conditions will vary the laboratory findings. Also, the conditions may exist and be perfectly observable some time before the laboratory will give any finding.

*New York Medical Journal, December 23, 1905.*

**The Diagnosis of Acute Hemorrhagic Pancreatitis.**—After defining this condition, J. C. Wilson declares it probable in the highest degree that cholelithiasis is its chief predisposing influence. The direct diagnosis rests upon the sudden occurrence of intense pain in the upper abdomen with vomiting, possibly slight epigastric swelling and tenderness with obstinate constipation. A normal or subnormal temperature may be present and collapse comes on early. We must base our decision upon the onset of the foregoing symptoms in an adult who has suffered from chronic gastroduodenal catarrh or from attacks of biliary colic; the location of the pain and tenderness in the upper abdomen; the absence of the distinct, boardlike rigidity characteristic of early peritonitis and an early high leucocytosis. Conditions always to be thought of in doubtful cases are poisoning by food stuffs (meat and fish) and corrosive chemicals, hernial tumors, acute obstruction, and perforative peritonitis.

**Complexions of the Insane.**—An interesting series of observations has been made by C. E. Woodruff, who notes that data have been collected proving that the short rays of light were responsible for much nervous damage to our blonds who, from lack of pigmentation, were not sufficiently protected from light rays in the climate to which they have migrated. Not only are they more susceptible to neurasthenia than are brunets, but this nervous condition in America is most frequent in light or Southern climates, and least in the dark Northern and cloudy ones. It has been presumed that insanity also followed the same rule, for in every part of the world statistics show that the greatest number of cases occur in or near the lightest months—May, June, and July—a fact as true for India as for France or Germany. Statistics assembled by the author tend to bear out this general contention. In a general way it may be said that the well-pigmented Americans do not suffer from insanity as much as the less protected types, but exact comparisons are impossible until we study the normal population. The man with dark hair, brown eyes, and olive or brown skin, has a tremendous advantage in the struggle for existence in light countries, and can evidently stand mental and nervous strains which the blonds cannot endure, except in cloudy places. There is no doubt that damage is done by the short rays of light and by the ultra-violet if too intense, to living tissues, and it is of importance that observations should be recorded of the complexions of all the sick, particularly of those suffering from nervous affections.

*Medical News, December 23, 1905.*

**Wandering Gallstones.**—W. L. Estes reports two cases. He summarizes the symptomatology of the condition as follows: a tumor which usually presents all the manifestations of an abscess, though the exact character of the swelling may be masked by adherent coils of small intestines which may lie over it anteriorly; great pain, marked interference with the functions of the stomach and intestines; jaundice is usually present only in the earlier stages, and may be absent entirely. The general symptoms are those of septicemia. The general sequence of pathological changes is doubtless (1) development of the calculi in the gall-bladder; (2) after infection of the interior of the gall-bladder; (3) suppuration and ulceration of the lining of the gall-bladder; (4) coincident adhesions of the gall-bladder to the transverse colon, both omenta, and possibly to duodenum and mesocolon; (5) perforation of the gall-bladder by extension of the ulceration; adhesions strong enough to resist the pressure of the escaping contents of the gall-bladder; (6) encysting fibrous sac; (7) gradual working downward of the abscess and contents.

**Results of Cold Irrigations as Compared with Warm Irrigations in the Treatment of Gonorrheal Urethritis and Endometritis.**—These observations were made by E. C. Shattuck, whose reasons for trying the cold irrigations were, first, the care of chronic metritis in spite of all treatment did not make satisfactory improvement; second, it was desirable, if possible, to reduce the time of treatment; third, he had used cold intrauterine irrigations when hot water was not available, had seen no bad results, and knew that they were used to some extent by hydrotherapeutic authorities in similar cases. From the figures given it does not seem that the cold irrigations were of any special advantage in any way over the hot.

**Treatment of Lobar Pneumonia.**—A. Ko[illegible] describes the plan usually followed by modern physicians, nothing especially new being presented. He believes that drugs should be administered whenever possible by the hypodermic method. The patient's position in bed should be very carefully changed from time to time in order to equalize circulation in the lungs. This is especially important in the aged. External applications are useless though cold compresses may be of some value, but even these ought not to be changed too often. For high temperature, if it is disturbing the patient, small doses of the coal-tar antipyritics may be used with perfect safety, prefer-

ably combined with a small amount of caffein. Delirium calls for bromides and possibly the guarded dose of morphine. Too much water must not be given; carbonated beverages should be avoided. For cardiac stimulation alcohol is the best remedy; next in value comes strychnine. For a weakened right heart venesection may be indicated. In pulmonary edema wet cupping is of greatest service. Oxygen is indispensable at this point. Atropine, strychnine, and nitroglycerin may all be given in one hypodermic. To this we may add the fluid extract of digitalis. Tincture of musk is a valuable remedy deserving of more frequent use.

*American Medicine, December 23, 1905.*

**One Patient's Experience with Two General Physicians, One Neurologist, One Leading Physician, One Gastrologist, Two Ophthalmic Surgeons, One Diagnostician, and One Refractionist.**—George M. Gould reports a case in which the patient had suffered from profound symptoms seemingly of intestinal nature, but also from psychic symptoms, such as lapses of consciousness, at least closely simulating those of major epilepsy, morbid delusions etc. His disease was diagnosed by the leading specialists mentioned as indigestion, hysteria, neurasthenia, nervous breakdown, hyperchlorhydria, etc., but all the treatments ordered had no effect in lessening the symptoms. One ophthalmologist reported to the neurologist that nothing was wrong with the patient's eyes, and then tried glasses, which gave no relief. A leading consultant made the diagnosis of eyestrain as the fundamental cause of the trouble, and soon after the ametropia had been accurately corrected by the third oculist the patient was restored to health. The lessons suggested by the case are set forth by Dr. Gould.

**Diagnosis of Bright's Disease.**—L. B. Pilsbury states that for diagnosis of this disease it is unnecessary to make minute distinctions. Clinically there are the acute, subacute and chronic form, which often shade into each other almost imperceptibly. If an acute process is followed for months or years by a train of symptoms indicating constant disturbance of kidney function we may feel justified in making a clinical diagnosis of chronic kidney trouble, though we may be disappointed at autopsy in finding few anatomic changes. It is perfectly proper to treat such a patient for renal insufficiency. Clinically we need only decide whether the lesions are predominantly either acute or chronic, parenchymatous or interstitial. Strictly speaking, an acute nephritis must show an inflammatory exudate of serum, leucocytes, and erythrocytes between the tubules, but the degenerative changes are always present in the tubules and in the glomeruli. In chronic parenchymatous nephritis the secondary or fatty and conntracted kidney may be as small as that of a chronic intersitial nephritis, but it is distinguished from the latter by the fact that the stage of contraction was preceded by a stage of something else, and that the production of connective tissue was preceded and overshadowed by degenerative changes. In chronic interstitial nephritis the production of new connective tissue precedes or goes hand in hand with the degenerative changes in the tubules and the glomeruli.

**Control of Nasal Hemorrhage.**—Henry Jones Mulford describes a simple method for controlling nasal hemorrhage, citing cases and outlining the blood supply of the nose and pharynx. His method consists of the subcutaneous injection of adrenal extract into the arterial supply at the nearest accessible point to the bleeding area. The injection may be made directly into the artery supplying the part, or it may be thrown into the tissue closely adjacent to the artery. This certainly is simple, but the result is marvelous. The ingoing arterial current sweeps the solution directly into the leaking area, all the vessels of the part are constringed, and almost at once the hemorrhage ceases.

*Journal of the American Medical Association, December 23, 1905.*

**The Elimination of Chlorides In Nephritis.**—J. L. Miller referring first to Widal and Laval's observation as to the inability of certain nephritic patients to eliminate sodium chloride in a normal manner and to the confirmation of their findings by ohers, reports his own observations as to chloride elimination in patients suffering from various types of nephritis, uremia, and myocarditis, and also in normal individuals. The patients were kept on a fairly uniform diet, and when possible were weighed daily. The chlorides were estimated for a period of nine days, the first and last three of which they received only the chlorides contained in their food, while in the three middle days an additional ten grams daily was administered. The author's conclusions are summed up as follows: "In patients with moderately severe nephritis associated with edema, the ingestion of large amounts of sodium chloride is followed by a chloride retention. The patient gains in weight, the edema becomes more marked, the albumin increases and symptoms may develop resembling uremia. In patients with severe nephritis, and especially those with uremia, chloride retention is very marked, as scarcely any of the extra chlorides administered are eliminated. In individuals with apparently healthy kidneys, following the ingestion of sodium chloride, there is a chloride retention equal to that of mild nephritis. The individual gains in weight, but there is no visable edema, no albuminuria, and no uremic symptoms appear."

**Diethyloxyacetyl Urea**—F. M. Houghton has investigated this substance, one of a new group of chemical bodies belonging to the methane series and condensation products of urea and teh various oxyacetic acids. There being no short name for the ethyl compound of this group, he offers the name given above as the most desirable one indicating its chemical structure. It is a clear, transparent, oily liquid, sp. gr. 1107, with a peculiar characteristic etherial odor and taste. It is soluble in about twenty parts of water, and is soluble in most of the organic solvents, e. g., alcohol, ether, chloroform, etc. The sodium salt forms flaky, very soluble crystals, having a mild etherial taste. Its chemical structure warrants the belief that the depressing ethyl group, 40 per cent., and stimulating nitrogen, 9.6 per cent., are in the right proportion to produce a safe and efficient hypnotic. Experiments on cold-blooded and warm-blooded animals show that diethyloxyacetyl urea is a relatively non-toxic chemical compound. the estimated fatal dose for man being nearly two ounces. It produces prompt hypnotic action with any of the usual methods of administration in warm-blooded and in cold-blooded animals, and complete anesthesia is produced by large doses and is followed by complete recovery. The pulse rate, blood pressure, cardiac action and respiration are influenced little, if at all, by reasonable doses. While laboratory results indicate that it will be of practical value, clinical experiments are still needed to demonstrate its desirability as a hypnotic for human beings.

**Inversion of the Uterus.**—L. V. Friedman describes the types of uterine inversion and suggests the use of the term "initial" instead of "partial" for the cases in which the fundus has not passed the internal os, reserving the latter term for those cases in which the os has been passed but the uterine cavity is not yet obliterated. He thinks the condition is probably much more frequent than is indicated by the oft-published statistics of Denham and v. Braun, and that the mortality is higher than Winckel's figure of 22 per cent. in 54 cases. The prognosis of acute cases will probably always be grave, in spite of the ease of immediate reposition; shock or sudden overwhelming hemorrhages are possibilities to be feared. A certain number of cases are probably unrecognized and these may affect the mortality statistics. A diagnosis is often very difficult, and in no other condition is an error more dangerous to the patient. Inversion may occur after labor without pain, hemorrhage or pronounced shock, and the favorable time for replacing may have elapsed before the attendant is aware of the complication. While in acute inversion immediate reposition is usually advisable, Friedmann, in case of severe shock, provided thh hemorrhage can be controlled, would defer manipulation. Leaving an adherent placenta until after reposition has, he says, many objections; its removal is then more difficult and it adds to the bulk to be replaced. He describes the use of taxis and also the vaginal (Spinelli's) operation and the abdominal methods of reposition. The objections to the vaginal method (complete anterior colpohysterotomy with replacement of the uterus after incision) are the danger of infection, the risk of injury to the tubes and ligaments and even to the bowels, the resulting adhesions and the possibility of the rupture of a uterine scar in a later pregnancy. He believes that with the progress of surgery, the method of abdominal section and intra-abdominal dilatation of the cervical ring will yet give better results than the vaginal operation, though at present the statisics are not nearly so favorable. He gives the details of the operation and reports two patients thus operated on successfully by himself shortly after delivery, attempts at taxis having failed. If this operation can be perfected so as to insure invariable mechanical success, he believes that it will be an ideal procedure for reposition of the inverted uterus without injuring its peritoneal investment. It also permits inspection of the tubes, which in some cases may require resection.

**Gonorrheal Inflammations.**—S. M. Burnett remarks that while gonorrheal iritis has long been recognized by ophthalmologists, it is a singular fact that it is almost entirely ignored in the treatises on genitourinary diseases, with the exception of two American text-books. Opinions differ as to its frequency, some authors holding it to be extremely rare, while others consider it rather common. It secms from his own experience, to be rare in Washington, even in a class, the negroes, in which gonorrhea is most rife. It may appear under various forms; the so-called spongy iritis, usually one of the rarest types, is met here, he thinks, with greater comparative frequency

than the other forms. Another distinctive feature is its tendency to recur during the same or subsequent attacks of gonorrhea. Like gonorrheal rheumatism, it almost invariably appears in the declining stages of the disease, and one or both eyes may be affected. The importance of an early correct diagnosis for proper treatment is obvious, as a delay of a few days or even a few hours may mark the line between the preservation of good vision and partial or complete blindness. An illustrative case is reported. Burnett also gives the account of a case of conjunctivitis occurring in connection with gonorrhea, which he considers an instance of the rare indigenous infection by gonorrheal toxins, as careful examination of the purulent discharge revealed only pure mucopus. This case suggests to him the importance of bacteriological examination in every case of purulent conjunctivitis occurring in gonorrheic patients. If no gonococci are found the prognosis is materially modified as compared with cases in which they are present. No author, so far as he has observed, has mentioned the pronounced mucopurulent type of conjunctivitis from endogenous gonorrheal toxin infection seen in the case here described.

*The Lancet, December 9, 1905.*

**Irritation of the Kidney Caused by Hexamethyleneamina.**—A case is reported by T. W. Parry of renal irritation from the remedy named, familiarly known as urotropin. His patient was a man with enlarged prostate and chronic cystitis, who took the drug in five-grain doses t. i. d., the dose being given after a couple of days, every four hours. Irrigation was practised in the usual manner. Marked improvement resulted, and in a week the amount of urotropin taken was cut down one-half, but in two days increased to the original amount, as the patient retrograded. The urine, which had formerly had but a trace of albumin, showed an increased amount of this substance. Bladder irritability came on and it became evident that the remedy was being decomposed into (among other constituents) formaldehyde and that the irritating symptoms were referable thereto. Discontinuance of the urotropin led to a subsidence of all annoying symptoms. This result appears to show that urotropin, if given for a sufficient time, may not only cause persistent vesical irritability even with an acid, normal-smelling, non-sedimentary urine, but in certain circumstances it may produce a nephritic irritation of a decidedly detrimental character. The chemistry of urotropin is discussed at some length.

**Clay-Colored Stools without Jaundice, but with Copious Bilious Vomiting.**—The patient of W. Gordon was a middle-aged man who complained of intense pain in the upper part of the abdomen, copious vomiting of green bile, and passage of clay-colored stools. At times the latter were of a pale-cream color. Basng his views on similar cases previously reported, the author made a diagnosis of cancer of the pancreas. The peculiar color of the stools may have been due to a slight admixture with unaltered bilirubin. It is considered that under normal conditions the coloring matter of the feces is the result of the mutual reaction of the bile and pancreatic juice under the influences met with in the intestinal tract.

**Are the Problems of Cancer Insoluble?**—This question is discussed by E. F. Bashford, who declares that the investigation of cancer suffers from a too great readiness to hold dogmatic opinions on a subject of which we know so little. Reference is made to older hypothetical explanations of the nature and growth of the malady, and an outline is given of the organized agencies for the prosecution of the work at the present day. We now know that all races of mankind, and, in fact, all vertebrate animals, suffer from cancer, and that the histological lesions are alike in both men and animals, having also in both the same relative high-age incidence. There are certain limitations to transmission. Habitat, food and conditions of life play little if any direct part in causing a disease showing constant and unique factors in organisms so divergent. The results of certain lines of inquiry show that civilized man's responsibility for the occurrence of cancer in native races and domesticated animals is in all probability limited to providing them with an opportunity for reaching the "cancer ages." We now know that cancer possesses powers of growth after the death of the original host unparalleled by either organisms or tissues in the vertebrate kingdom. The artificial propagation of the disease tells us nothing directly as to its origin. It only indicates that the distinctive characters of any single malignant new growth, once acquired, are probably permanent, for under artificial propagation different carcinomata of one organ (the mamma) retain their individual characteristics. They are not convertible into one another nor do they merge into a common type. Artificial propagation gives the opportunity of studying many of the properties of malignant new growths in detail with a thoroughness unattainable in the case of sporadic tumors. It has already proved the inadequacy of the standards by which an anthropocentric pathology has attempted to measure the proliferation and to probe the nature of cancer. The true measure of that proliferation has not yet been arrived at. Its study suggests what appears at first sight to be a series of new problems, but may really be restatements of old ones—viz., Why is the amount of the growth of cancer relatively greater than that of any vertebrate organism? Are growth and cell division always progressive? Is cancer subject to a process of natural decay, or if not, how is its energy of growth and assimilation maintained? To all these questions it should be possible to obtain a definite answer with the means at our disposal, and once they have been answered the original problem, so long the object of futile direct attack, will present itself in another form more approachable than the old problem, "What is the cause of cancer?" has proved to be.

*British Medical Journal, December 9, 1905.*

**The Treatment of Typhoid Fever.**—William Ewart believes that the two essential aims in the treatment of typhoid fever are to feed the patient and to starve the disease. He explains the empty bowel treatment, which he considers worthy of a thorough trial. As to the question of stimulants, he declares that they are not often necessary, and in the majority of cases should not be given. As it is hopeless to disinfect the feces, the only course left is to suppress them. The writer speaks first of agents employed in the local treatment. Although neither paraffin nor charcoal is capable of arresting the growth of Eberth's bacillus in the bowel, nevertheless both are used in these cases with benefit. The writer has used the maximum daily dose of two teaspoonfuls of liquid paraffin every four hours for adults. This quantity might easily be increased. This substance in sufficient doses is a non-irritating mechanical laxative. Frequency in the repetition of the doses is indicated both for the sake of lubrication and for cleansing. He quotes various authorities as to the value of vegetable charcoal. Secheyron advocates its use as a general household antidote, his opinion being that although it is not a germicide, nevertheless it absorbs the toxins; this agrees with Bouchard's observation that sleep is restored to bad cases of typhoid fever by the administration of charcoal. A systematic inspection of the feces together with a daily examination of the abdomen will show if the powder is doing its office without any tendency to accumulation and concretion. An important part of the treatment is the frequent or daily administration of from one to two grammes of castor oil every morning if the bowels should fail to act at least once daily. Under empty bowel conditions paraffin and charcoal are brought into direct contact with the diseased surfaces. The writer has for some years entirely substituted whey for milk. Sometimes even whey has to be diluted, but usually complete absorption of the small amount of albumin which it contains occurs in the upper bowel except during the apeptic stage of typhoid prostration. The dietary of typhoid fever patients must contain the mineral salts and the organic acids and essences contained in fruits and vegetables. Common salt is a help to digestion and to metabolism. It should be given in the whey in the proportion of ten to fifteen grains to the half-pint in addition to sugar. Phosphates may be given in syrup as a medical food, but a vegetable diet is the natural source for their derivation and for that of other mineral and organic salts. The watery extracts, duly strained, of vegetables and fruit, especially when freed by boiling from any excess of coagulable albumen, may be given. The juice of various fruits and a daily cup or two of vegetable soup or broth lightly flavored with fresh beef or bacon and carefully clarified are excellent. Fruit jellies may also be given. The nitrogenous supply is represented by peptonized whey, and, if desirable, by artificial peptones. However, white of egg diffused in the whey before peptonizing is a more simple form. Sugars and dextrines are all absorbable without residue. Clarified honey and maltine come under this class. Oil is the least likely among the fats to yield any residue, but cream is more acceptable. It is substantially true that no organized remnant and no chemical precipitate can be left in the jejunum by the foods enumerated. It is the physician's duty to suit the proportion of each to the stage under treatment, remembering that it is a mistake to attempt much feeding during the first few days.

**Peritoneal Tolerance.**—W. Horton Date reports this case. The patient was a laborer, seventy-two years old, a farm hand. He first felt discomfort in his right iliac region four or five years ago. There were never any acute abdominal attacks, but just a feeling of distention. Constipation was habitual, and aperients were necessary. Two years ago, a swelling appeared above the right groin. Considerable pain developed in it. The swelling was tense, irreducible, dull on percussion and about the size of a hen's egg. At operation the lump was found to be an abscess. After being opened, a finger could be passed downward and backward toward the right sacroiliac joint. The abscess was drained. In two

weeks but a small sinus remained. Examination revealed the presence of a foreign body in this opening which was finally removed under an anesthetic. It was found to be an almost perfect rabbit's rib. Recovery was uneventful. The writer adds that it was remarkable that this rib should have traveled from the intestine without producing any acute symptoms. It had rested in the patient's abdomen for four or five years.

**Shock.**—John D. Malcolm states that shock, sleep, extreme lowering of the surrounding temperature associated with bodily exhaustion, death from old age, and death from certain complicated febrile conditions, have the following common features: the functions of the central nervous system are partly in abeyance, so that unconsciousness ensues, the powers of sensation and motion are lost, while the temperature tends to fall. Profuse loss of blood may lead to a condition very difficult to differentiate from that of shock. The writer believes that in shock, the condition of the unconscious, inert body approximates somewhat to that of a cold-blooded animal, so that its temperature is influenced by that of its surroundings, which, as a rule, is lower than the normal body heat. As to the changes in the vessels, the writer believes that whatever be the condition of the large arteries, the arterioles of the splanchnic area are not relaxed, and therefore the vessels of this area are not paralyzed as a consequence of shock. Perhaps in all states of unconsciousness which are not accompanied by any discoverable lesion, there seem to be two disturbing conditions tending to bring about a loss of brain power, nerve exhaustion and brain anemia, due, except in sleep, to the intense contraction of the arteries. The writer contends that the blood pressure is lowered where the vessels are contracted. A relaxation of the vessel from exhaustion of the vasomotor centers cannot occur until the arteries have been intensely contracted. Exhaustion follows extreme effort. The writer does not believe that there is any evidence of the existence of a paralysis of the vessels from exhaustion of the vasomotor centers. He calls attention to the fact that when a patient is in an extreme state of shock, the administration of vaso-dilators such as nitroglycerine and alcohol, causes the small vessels to relax, a greater volume of blood circulates through them and improvement in the pulse follows. He thinks that this would be an impossible effect of these drugs, if it is assumed that the pulse is already absent from over-dilatation. The complete or partial anuria observed in shock also indicates that the arterioles are constricted. As to treatment, the wrier adds, all the usual methods seem to be in harmony with his views. If it were true that the vessels became relaxed in the state of shock, the application of warmth and the administration of stimulants and other vaso-dilators would be harmful, at least theoretically. He thinks that the suggestion naturally following, that we should revolutionize our views on these methods of treatment, is one of the strongest arguments against the theory that the condition of shock is due to a relaxation of the vascular system.

*Berliner klinische Wochenschrift, December* 4, 1905.

**Gigli's Hebotomy.**—Dührssen says that the induction of abortion, the classical cesarean section, and perforation of the living child have been rendered almost entirely unnecessary by Gigli's operation of lateral pubic section, while symphysectomy will become totally obsolete. Hebotomy has now been performed on 115 recorded cases, and though death resulted in six of the cases the unfortunate outcome cannot, the author believes, in any instance be ascribed to the operation. He summarizes his views regarding the indications for hebotomy as follows: The operation is adapted for cases in which the true conjugate measures from six and a half to nine centimeters, and is to be performed in primaræ if after full dilation of the cervix and in the presence of good pains the head does not descend into the pelvis, or if with an incompletely dilated cervix and a movable head there is danger either for the mother or the child. In the latter case, Dürhssen's cervical or lateral perineal incisions, vaginal cesarean section, or the use of the metreurynter may also be required. In multiparæ, hebotomy is to be carried out in all cases in which former children have been stillborn in consequence of pelvic contractions, if necessary inducing labor by the preliminary use of the metreurynter. If living children have already been obtained as well as stillbirths, it may be advisable to place the saw in position but not to complete section of the bone until it is found to be unavoidable as Döderlein has advised. The author prefers to make the operation truly a subcutaneous one by carrying the saw behind the pubic bone by means of a special trocar under guidance of a finger in the vagina. Performed in this way he considers that already existing infection is not a contraindication, while troublesome hemorrhage is less likely to be encountered than if the more open technique advised by some authors is employed. He believes that the operation is one that can be safely performed by the practitioner, and does not think that a separate assistant must perform the delivery as Reeb has suggested. The greatest stress must be laid on the necessity for having the soft parts sufficiently dilated or dilatable to render obstruction to delivery from this source unlikely, and he advises that in order to avoid any possibility of vaginal laceration opposite the gap in the pelvic ring the outlet be freely incised on the same side as that on which the pubiotomy is performed.

**Experimental Observations on the Effect of Tea on Gastric Secretion.**—Sasaki has made a series of experimental observations on dogs having a Pawlow fistula, The experiments were conducted as follows: The animal was given 300 c.c. of tea through the esophageal fistula, this was allowed to remain in the stomach fifteen minutes, and any residue was then drained off through the gastric opening. The interior of the stomach was wiped dry with sponges and the resulting secretion collected at intervals of five minutes and tested. The results showed that the preliminary treatment with tea caused a distinct inhibition of gastric secretion. The gastric juice obtained under these conditions had a lower acidity and was secreted in smaller amounts than was the case in control experiments in which the same amount of plain water was given instead of tea. The author considers, however, that the local effect of the beverage may in man be somewhat neutralized by the stimulation to the appetite afforded by its flavor and aroma. He also suggests that the use of tea as a routine constituent of the usual test breakfast given for the purpose of obtaining specimens of stomach contents in cases of gastric disease may not be altogether rational in view of the apparently not unimportant local action of the infusion.

*Münchener medizinische Wochenschrift, December* 5, 1905.

**The Treatment of Wounds and Wound Dressings.**—Graser says that the fate of a wound is usually determined at the close of the operation. The progress that has been made in this field of late years depends more on the recognition of important sources of error than on the invention of new procedures. He regards as the greatest step in advance made during the last decade the recognition of the fact that it is not possible to free the hands from germs by any means of sterilization if they have been recently thoroughly contaminated with infected material. It is therefore of the greatest importance for the surgeon to avoid contact with surgically dirty substances and in case such pollution occurs immediate and repeated cleansing must be regarded as a sacred duty. The author warmly recommends the use of rubber gloves both as a means of avoiding soiling of clean hands in dealing with infectious cases, and for the protection of the wound in performing clean operations. He uses a cap while operating, but wears a veil only when suffering from nasal catarrh. For the ligation of vessels he employs iodine catgut of the thinnest possible sizes. His most radical innovation, however, is concerned with the actual dressing of the wound. All wounds which can be completely closed by suture and from which no oozing of blood or exudate is to be expected may, according to the author, be freely exposed to the air without risk of infection. He carries this principle so far as to leave clean laparotomy or hernia wounds entirely unprotected, save for a thin veil consisting of one or more layers of gauze, the edges of which are fastened to the skin by collodion or plaster. Free access of air is allowed to the wound in order that dessication of the secretions may occur as promptly as possible and thus form an impenetrable barrier to infection of the cut surfaces The author also applies the same principle in the treatment of amputation stumps and arthrectomy wounds If drainage is necessary in these cases it is secured by the insertion of a small glass drain through a special buttonhole in the skin a short distance from the incision proper. A suitable protective framework is adjusted to prevent injury to the stump and the adjacent joint is immobilized to a plaster dressing. The author has applied this principle of wound treatment to 500 laparotomies, 130 amputations, 52 osteotomies, and 70 resections of joints. Another suggestion made is that in cases in which the operation must be followed by the application of an extensive plaster-of-Paris dressing, this be to a large extent applied beforehand, as in this way the dressing at the close of the operation is much simplified.

**Operations in the House of the Patient.**—Landenburger reports the results obtained in eighty-eight major operations performed in the houses of patients often belonging to the poorest classes. Most of these were laparotomies, and all of the others were procedures such as suture of the patella or other joint operations which require the highest degree of aseptic technique. Seven deaths are recorded; one of acute pancreatitis, several others were cases of general peritonitis, and one following the extirpation of a large carcinomatous goiter in a man of seventy, who died of collapse twelve hours later. The

author advocates the performance of such operations outside of hospitals on the ground that the results justify the proceeding practically, while theoretically the same degree of asepsis is obtainable and it is even probable that there are fewer dangerous germs to be found about the average dwelling than are present in a busy hospital. Another advantage lies in the greater education of the general practitioner who, by his participation in such operations, gains a better insight into the pathology and necessity for prompt action in abdominal conditions than is possible in any other way. The author sterilizes all of his own sutures and dressing materials himself at home; the instruments and rubber gloves are boiled at the patient's house. He uses as operating table any substitute that may be found on the premises; the anesthesia is carried out according to Witzel's drop method, and in this form may safely be entrusted if necessary, to an unskilled assistant. The author is his own instrument-passer, and works with only one trained assistant. Although the preparation of the sterile goods entails more work for the operator, he secures the certainty of their proper sterilization and is not obliged to depend on the conscientiousness of nurses or attendants.

*Deutsche medizinische Wochenschrift, December 7, 1905.*

**The Hand as an Obstetrical and Surgical Instrument.**—Ahlfeld, under this title, endeavors to bring forward fresh evidence in favor of the thesis he has long maintained, to the effect that his hot-water alcohol method of hand disinfection is the most serviceable for routine use in obstetrics. He asserts that under favorable conditions it is possible to achieve absolute asepsis of the hand and to maintain it sufficiently long, and under conditions corresponding to those present in operative work. An experiment to demonstrate this claim is described as follows: The hand was first scrubbed with soap and water and was dried on a clean but not sterile towel. The hand was again dipped in hot water and was scrubbed in 90 per cent. alcohol for three minutes with a brush and for two minutes longer with flannel. The hand was immediately placed in a vessel containing warm sterile water and kept there twenty minutes. It was then passed through the neck of a jar containing 500 c.c. of nutrient broth and immersed below the surface. For a period of one hour the hand was kept in motion in the fluid; the jar was closed and placed in the incubator, but even after several months no growth of germs occurred. The author asserts, however, that certain conditions must be fulfilled in order to render such perfect sterilization possible, and he ascribes the discrepancies between the results he has obtained and those reported by other observers largely to the fact that most of his experiments have been conducted on pupil midwives. The female hand is usually, by its smoothness and favorable conformation about the nails, more advantageous for such experiments than the coarser male member. In addition, Ahlfeld was able to insist more strictly on thoroughness in carrying out the procedure with these pupils than would be the case in dealing with the persons ordinarily used for such experiments. He closes his article with a strenuous plea for the rehabilitation of the naked hand as an obstetrical instrument and supports his contention by referring to the favorable results that have been obtained in the Marburg Gynecological Clinic under his direction. Rubber gloves he condemns for habitual use, on the ground that he has found in actual practice that in 50 per cent of the cases they are punctured or torn in actual operative work. Their widespread use would, especially among midwives, and to a lesser degree among doctors also, undoubtedly lead to a serious degree of neglect of the necessary thoroughness in hand disinfection.

*The American Journal of Medical Sciences, November, 1905.*

**The Influenza Bacillus in Bronchiectasis.**—Thomas R. Boggs, from the researches which he has made in this subject, believes that the influenza bacillus is probably capable of producing extensive pathological changes in the lungs, leading at times to bronchiectasis. The organism may be a secondary invader or associated with other bacteria; the latter may be the preponderant factor. In the writer's small series there was no clinical difference determinable between the pure influenza infections and the mixed or non-influenza cases. The very close clinical resemblance of these cases of bronchiectasis to some cases of chronic tuberculosis with cavity formation is important, and may, in the absence of cultural investigation, lead to wrong diagnosis. Physical signs alone, therefore, cannot be relied upon for a positive diagnosis of tuberculosis. Care should be taken to prevent the possible infection of others from these chronic cases having influenza bacilli in the sputum, as the organisms may not have lost their pathogenicity by a continued growth in these old infections.

**Angioneurotic Edema Involving the Upper Respiratory Tract.**—Thomas H. Halsted calls attention to the fact that while all text-books on the skin describe this disease under one heading or another, nevertheless, text-books on the nose and throat, with few exceptions, have neglected any reference to or description of the diseases in any way. He then gives a description of several interesting cases in which this disease affected the nost and throat. The acute circumscribed swelling of angioneurotic edema as it appears in the mucous membranes of the respiratory and gastrointestinal tract appears, according to the writer, to resemble that on the skin. Its onset is very sudden. Sometimes the patient is asleep, sometimes awake, and the symptoms seem to be largely due to mechanical obstruction. The etiology of this disease is not well understood. In some cases heredity is clearly shown. The individual attacks are probably caused by some toxin which is either produced within the body or introduced from without. It is probable that this disease is often mistaken for manifestations of gout and rheumatism. Worry, mental excitement and fright, anxiety, exposure to cold, and traumatism are without doubt immediate causes for outbreaks. In cases in which this disease affects the upper respiratory tract, the treatment may be divided into the management of the various acute attacks as they occur, the correction of any local disease which may have to do with the localization of the lesions or edemas in the air passages, and the treatment of the constitutional disease which is at the root of the attacks. The writer has had successful results with the use of adrenalin and cocaine locally in edemas in the fauces, pharynx, and larynx, and in more severe cases he has employed scarification. Tracheotomy may be indicated. Ice locally may add to the edema. Quiet in bed and removal of anxiety are most important. Saline laxatives and alkalies reduce the usual hyperacidity of the urine and increase its quantity.

**Report of a Case of Pneumococcus Sepsis.**—John S. Thacher reports this case. He states that before the onset of this illness the patient was said to have been in good health though inclined to indulge too freely in alcohol. The pneumonia occurred unexpectedly and ran a course which did not vary greatly from the ordinary except as it was modified by the alcoholic history. It resolved, though slowly and incompletely. Toward the end of this process an empyema developed, followed immediately by a general pneumococcic infection which attacked the lining of the heart and the membranes of the brain and spinal cord so severely that within a few days ulcerative endocarditis and meningitis developed. The effects of the virulent infection by the pneumococci were very rapid and intense. Autopsy was made 27 hours after death. Ten blood serum tubes were inoculated from the blood of the right and left ventricles and from the pericardium. On one inoculated from the left ventricle, appeared a growth of pneumococci giving the characteristic reaction with Hiss' inulin medium.

**Gonorrheal Septicemia and Endocarditis.**—W. S. Thayer declares that the comparative frequency of gonorrheal septicemia and endocarditis may be regarded as generally recognized. The development of symptoms suggestive of septicemia with fatal results, consecutive to gonorrhea, without evidence *intra vitam* of any focal complication is also not a rarity. The writer has seen a number of cases in which an ulcerative endocarditis has followed gonorrhea. In the only one of these in which cultures were taken *intra vitam* streptococci were obtained. However, in every one of these cases the connection of the urethritis with the development of the symptoms was such as to make it probable that the acute infection had served as the portal of entry. The writer reports two cases at the end of this article which presented the usual features of ulcerative endocarditis, developing on the one hand in a case of acute gonorrhea with arthritis about five weeks after the onset of the disease, and in the other during a urethritis. In both cases with a pure aortic lesion, there was a well marked, presystolic, rumbling murmur (Flint), suggestive of mitral involvement. In one case cultures from the blood during life were positive. In both cases at necropsy pure cultures of the gonococcus were obtained from the affected valves. The writer calls attention to the following points of interest: The demonstration of the fact that the mild, continued fever sometimes seen in connection with gonorrhea without apparent complications is, in some instances, at least, evidence of a true gonorrheal septicemia. A true gonorrheal septicemia in cases in which there is no evidence of local complications may run a course not dissimilar to that of typhoid fever. In doubtful cases of continued fever associated with gonorrhea the possibility of a gonorrheal septicemia should always be borne in mind.

# Society Reports.

## THE NATIONAL ASSOCIATION FOR THE STUDY OF EPILEPSY AND THE CARE AND TREATMENT OF EPILEPTICS.

*Fifth Annual Meeting, Held in New York City, November 29, 1905.*

THE PRESIDENT, DR. WILLIAM P. SPRATLING, OF SONYEA, N. Y., IN THE CHAIR.

**Epilepsy, the Strangest Disease in Human History.**—Dr. WILLIAM P. SPRATLING delivered the presidential address, taking this as his title. (See page 1051.)

**Reports on Progress In the Public Care of Epileptics.**—Dr. H. M. WEEKS, the superintendent of the New Jersey State Village for Epileptics, located at Skillman, N. J., said that this village was established by an act of the Legislature in 1898, and was formally opened for the reception of patients on November 1, of that year. The village contained about 800 acres of land, nearly all of which was under cultivation. There were at the present time accommodations in the village for 300 patients.

Dr. M. L. PERRY, Superintendent of the Hospital for Epileptics at Parsons, Kansas, which was opened for the reception of patients in October, 1903, said that the institution now had a population of 340, and a total capacity of 400 The number of patients was steadily increasing, and it would soon become necessary to refuse applications for admission. There was little doubt, however, that the next Legislature would provide for the construction of several additional buildings, and such other improvements as circumstances might demand. The first aim of the institution was to relieve the State Hospitals for the Insane of their epileptics, and the first patients that were received were transferred from those hospitals. Subsequent transfers had been made, until at the present time the separation of those two classes was complete, and there was not an epileptic remaining in those hospitals. Experience had demonstrated the wisdom of that course, and it had proven beneficial alike to the insane and the epileptic. It had been the policy of the institution from the beginning to allow the patients as much individual freedom as possible, consistent with necessary discipline. All of the patients who were not confined to bed or who were not physical wrecks were required to do some work, and they had found this to be one of the most important and efficient adjuvants to treatment. The results obtained by treatment had varied greatly, but on the whole had been satisfactory. In some of the patients there had been no improvement whatever, but in a great many others there had been a marked diminution in the number of seizures, with decided improvement in their mental state and general physical health. There were several now under treatment who were considered to be on the road to recovery, and three had been discharged as cured. Of those three, all of whom presented well marked cases of epilepsy, two had returned to their homes and work, and had resumed their places in society; the third had been lost sight of. These results might appear to some as trivial and unsatisfactory, but it should be borne in mind that thus far they had been dealing almost exclusively with cases of chronic epilepsy of long standing.

THE PRESIDENT said that at the Craig Colony for Epileptics, at Sonyea, N. Y., there were now under observation and treatment 1,050 patients, and 900 applications were on file from epileptics who could not be received for lack of room. The plant represented an investment of about $900,000, and included seventy-one buildings scattered over 2,000 acres. Additional buildings for the accommodation of 200 more patients had recently been contracted for.

Dr. J. CLIFFORD SCOTT, Superintendent of the Pennsylvania Epileptic Hospital and Colony Farm at Oakbourne, Penn., said that this colony was supported largely by private contributions, and that over 75 per cent. of the patients were on the free list. The colony was located on a farm of 110 acres, and had admitted, up to the present time, 161 patients, of whom nine had died, two had been discharged cured, 67 improved, and 32 unimproved. Fifty-one patients still remained in the institution. An effort was made to furnish employment that was adapted to the ability and natural tendency of the individual. Outdoor work was, of course, most beneficial, and the men were kept employed, excepting in inclement weather, on the farm, lawn, truck garden, and about the buildings. Sufficient vegetables were raised in the garden to keep the table supplied most of the year. The women did most of the household and laundry work, besides having sewing and embroidery classes. Frequent entertainments were given, consisting of musical recitals, dramatic sketches, etc. The results of the colony treatment were most encouraging. The patients became more cheerful and more healthy physically, and without exception the number of their seizures were lessened.

Reports on progress in the public care of epileptics were also presented by Dr. WILLIAM F. DREWRY, the Superintendent of the Central State Hospital at Petersburg, Va., and by Dr. THOMAS C. F. FITZSIMMONS of Wilkes-Barre, Pa.

**The Public Care of Epileptics in Australia.**—Miss ALICE HENRY of London, England, sent a communication on this subject, in which she stated that material progress had been made in regard to the increasing sense of social responsibility toward the epileptic in Australia. Communications were also presented by the Secretary from various sections of the civilized world, as an evidence of the great general interest that this subject had aroused.

**History of a Case of Epilepsy of 52 Years' Duration, With 28,000 Convulsions.**—Dr. MATTHEW WOODS of Philadelphia said that when this patient, a man about 57 years old, first came under his observation, the history obtained from him and from his mother, who had been his constant nurse, was that he had suffered from severe and frequent epileptic attacks for 52 years. The patient himself had kept a carefully tabulated record for many years of his *grand mal* seizures, and he had estimated that during his life he had had over 28,000 severe attacks. During the first fifteen years of his infirmity he had consulted many physicians, and had tried numerous remedies without apparent benefit, so that all treatment had long ago been abandoned. Dr. Woods said it was the first chronic case he had ever seen where the patient did not come to him saturated with the bromides. The patient frequently had three or more attacks daily, and scarcely a day passed that he did not have at least one. The treatment advised by Dr. Woods was as follows: An almost exclusively vegetable diet was ordered, only a little meat being allowed, and that in the middle of the day. The patient's supper was to consist of tea or coffee, with bread and butter, and he was told to avoid eating pork, veal, cabbage, cooked tomatoes, pastry, and other foods difficult of digestion or apt to excite fermentation. A pill containing one-tenth of a grain of capsicum, one-thirtieth of a grain of strichnine, and one-half of a grain of the hydrocyanate of iron was ordered before each meal and at bed-time. Also a dram and a half of the bromide of potassium, divided into four doses, each dose given with the utmost regularity at 8 A. M., at 12 o'clock, and at 4 and 8 P. M. The bromide was ordered to be given in a very weak solution, the quantity of water with each dose being increased by one ounce every week, until each dose was taken in twelve ounces of water. When the attacks were nocturnal, the last two daily doses should be united and taken at 9 P. M. in a pint of water. After two weeks of the above treatment, during which period the patient had two convulsions, he consented to an operation, under ether, for the relief of a phimosis of long standing. The prepuce was removed, together with three calculi and nearly an ounce of thickened, gelatinous, subpreputial secretions. This added very much to his comfort and satisfaction, and made a profound impression

upon him. Subsequent to the beginning of his treatment, the patient had six convulsions in all; four of these occurred while he had temporarily stopped his medicine, and the other two while he was taking medicine, but prior to the operation. His death occurred three years and nine days after his last convulsion, at the age of 60, and was due to valvular insufficiency.

Dr. M. Allen Starr of New York said he heartily commended and thoroughly believed in the colony treatment of epilepsy among the poorer classes, and he would like to see it extended to cases that existed among the well-to-do, but he did not consider that feasible. He agreed with Dr. Woods that it was not uncommon to see a chronic epileptic practically make his family sacrifice their happiness and usefulness to the community to his care.

**Can a Colony for the Care and Treatment of Epilepties Be Made Self-Sustaining? If So, How?**—Dr. Thomas C. Fitzsimmons of Wilkes-Barre, Pa., read a paper with this title. He stated that among the obstacles in the way of accomplishing substantial material aid for the epileptic, the most serious was the securing of sufficient money properly to house and care for all classes who suffered from this distressing malady. The question naturally arose, could a colony of epileptics be made self-sustaining? In the speaker's opinion, it would require from seven to eight years to develop a colony institution sufficiently to place it on a self-sustaining basis. However, with a sufficient acreage, say an average of two acres of arable land to each colonist, and the wise and judicious selection of a soil which should be adapted to the raising of crops most productive and profitable in that locality, he thought such a colony would become self-sustaining.

**Statisties of Epilepties in Hampden Conuty, Mass.**—Dr. Everett Flood of Palmer, Mass., presented this paper. He stated that in general it seemed to be true that the more familiar we became with a community, the more epileptic cases we found. The population of Hampden County was 175,603. The number of epileptic persons reported in the whole county was 224, a ratio of 1 to 783; adding 56 as the number of cases that were probably overlooked, it would give a total of 280, or a ratio of 1 to 550. These statistics were collected in 1900, and revised one year later.

Dr. Spratling said he could corroborate the statement made by Dr. Flood that statistics of the number of cases of epilepsy were misleading, and that many cases remained concealed. The more that was done for the epileptic, the more that he felt was being done for him, the greater the number of cases that would come to light.

Dr. Edwin A. Down of Hartford, Conn., said that the ratio of epileptics to the general population given by Dr. Flood corresponded very closely to the figures he had obtained in Connecticut. The difficulty of securing accurate statistics on this point was increased by the fact that many so-called cases of masked epilepsy went unrecognized.

**The Use of a Bromide-Ferrated-Aperient Water in the Treatment of Epilepsy.**— Dr. G. Kirby Collier of Sonyea, N. Y., presented this paper. He said that while the use of the bromides in the treatment of epilepsy had long been recognized as a valuable adjunct to our materia medica, the many abuses of the drug were well known, as well as its harmful effects. Among these he mentioned chronic bromism, characterized by a loss of appetite, a nauseous, fetid breath, chronic gastritis, constipation, muscular weakness, frontal headache, a sense of mental weakness, failure of memory, congestion of the uvula and fauces, inactivity of the excretory organs, and hallucinations; also various skin eruptions. In order to remove, or at least minimize the injurious effects of the drug, Dr. Collier devised the method of administering the bromides with a saline purgative, in order to promote the elimination of the bromide, and disguising the taste of the two, so that the dosage could be more easily regulated. The method devised was as follows: A concentrated solution of the bromides, the sodium, potassium, calcium, and ammonium salts, was made with the addition of magnesium sulphate. Epsom salt was selected on account of its prompt action without giving rise to any nausea or griping, and its diuretic property. The bromides were used in the strength of sodium bromide, 6 parts; potassium bromide, 3 parts; calcium bromide, 2 parts; ammonium bromide, 1 part, and magnesium sulphate, 8 parts. The bromides and magnesium sulphate in the above proportions were added to a quantity of water sufficient to yield 128 volumes, which gave a concentrated solution. The object in view was to have this so-called bromide water take the place of the ordinary drinking water at meals, two ounces of the concentrated solution being added to one quart of water, preferably iced, the patient drinking one glass, equal, approximately, to one-half pint at each meal, or oftener, if necessary. It was thought desirable to make this a ferrated water, and to that end one fluid ounce of the tincture of chloride of iron was added to the 128 parts of the concentrated solution. The use of the bromides in this form was begun in June, 1905, being given to patients who had previously been taking large amounts of the drug, and the method had resulted in a distinct lessening of the number of seizures, and a marked improvement in the general condition of the patients.

Dr. James W. Wherry of Dansville, N. Y., said that while all recognized the value of the bromides in epilepsy, the harm that frequently followed their use could not be lost sight of. If the combination proposed by Dr. Collier would retain the good qualities of the bromides, and eliminate their injurious ones, it would prove a boon not only to the physician, but to the patient.

Dr. Spratling said that during his fifteen years' experience with 2,500 cases of epilepsy, he had never yet given the bromides with the expectation that they would ever cure the disease. He took the stand that they had a place in the treatment of epilepsy, but it was wholly secondary to any good they could do in the way of a cure. He had yet to see a genuine case of epilepsy cured by the bromides alone; on the other hand, he had seen an enormous amount of harm come from their use.

Dr. M. L. Perry of Parsons, Kansas, said that perhaps a partial explanation of the good results obtained by Dr. Collier with his bromide-ferrated-aperient water could be traced to the eliminative properties possessed by the combination, and the consequent improvement in the patient's general health. The great difficulty was to get the sedative effect of the bromide without its injurious effects upon the patient's general health and mentality.

Dr. Max Mailhouse of New Haven, Conn., raised the query as to how much of the benefit that followed the use of the combination bromide mixture was due to the treatment itself, and how much to the other factors that formed a part of the colony treatment. He was inclined to agree with Dr. Perry that the favorable results were to a certain extent, at least, attributable to the eliminative effects of taking such large quantities of fluid; perhaps by helping to eliminate toxins that were absorbed from the digestive tract.

Dr. Everett Flood of Palmer, Mass., said that when the sedative effect of the bromides was first discovered, and there was great need for a drug of that character, it was very likely that excessive doses were administered. The time had now come when we should be very careful about the dose and the method of administration, and we knew that a small dose would often answer all the purposes of a large one. He was firmly of the opinion that the drug should be given in smaller doses and at longer intervals. He believed that the bromides still had a place in the treatment of epilepsy, and that we should oppose their misuse rather than their use.

Dr. Collier, in closing, said that the dose of the bromide salts in the mixture was about eleven grains to the half pint of water; the patient received eleven gains of the bromides daily, whereas the other patients were receiving from thirty to a hundred grains daily in the ordinary form.

The demand for salines and cathartics was also very much lessened while they were taking this mixture.

**Traumatic Psychic Epilepsy.**—Dr. Pearce Bailey of New York city read this paper. He stated that focal, or Jacksonian epilepsy, resulting from injuries to the motor cortex, was a clinical condition, thoroughly established, of unmistakable identity, and in which the relationship of cause and effect was incontestable. Traumatic general epilepsy, though its individuality was less well assured, was nevertheless recognized by most competent authorities as a legitimate and direct outcome of trauma to the head. Traumatic Jacksonian epilepsy was rarely accompanied by any purely psychic manifestations. General epilepsy from trauma, on the other hand, was not infrequently associated with psychic phenomena. When associated with recurring convulsive seizures there was no difficulty in recognizing the purely mental manifestations as part and parcel with the epilepsy. When, however, all convulsive phenomena were absent, the diagnosis of epilepsy became a much more uncertain matter; and, indeed, it was questionable whether the diagnosis of epilepsy from psychic symptoms alone was justifiable. Neither the periodicity, the amnesias, the automatisms, the periods of depression, nor the myoclonia were in themselves characteristic of epilepsy and of nothing else. This became particularly apparent when observing the occasional mental effects of head injuries. After the initial unconsciousness had passed off some patients continued to present mental symptoms. They were of a delirious, confusional and, especially, impulsive character. They might be continuous, or, more frequently, periodic, with normal intervals. The impulsiveness of these patients closely resembled that in the epileptic psychoses. The patient at one moment might talk rationally and coherently; at the next be irrational, irresponsible, and violent. Dr. Bailey then reported in detail a case of traumatic psychic epilepsy, and said the only point he wished to raise was to call attention to the resemblance between psychoses resulting from brain injuries and epileptic states, and to express his own opinion that a differential diagnosis between the two conditions, if they were individual, was often impossible.

Dr. L. Pierce Clark of New York city said he recently saw a case quite similar to the one reported by Dr. Bailey. The patient was a girl of twelve years who, after an injury to the head, developed attacks corresponding very closely to the description given by Dr. Bailey, excepting that she also had typical *grand mal* attacks, in addition to her psychic manifestations. The speaker said he would be very loath to make a diagnosis of true epilepsy without the presence of some convulsive features, although such a case might be classed as epileptoid.

Dr. Adolf Meyer of New York city said he had seen a number of cases that could be classed in the category of traumatic psychical epilepsy, and he reported such a case coming under his observation. He thought the early recognition of the condition was of great importance, and emphasized the desirability of an operation in certain cases.

Dr. Spratling said that these cases were of great interest from a medico-legal point of view.

**Biographs of Various Types of Epileptic Seizures.**—By Drs. William P. Spratling of Sonyea, N. Y., and Walter G. Chase of Boston, Mass. This paper was illustrated with biographic pictures taken by Dr. Chase at the Craig Colony for Epileptics at Sonyea. Dr. Chase said that some months ago it had occurred to him that the biograph might be employed to depict pathological motion, and that a series of films covering the various phases would not only be useful to the student from a diagnostic standpoint, but of value in studying and analyzing the muscular action. The most difficult pathological movement to reproduce was that of an epileptic seizure, for the reason that it took several minutes to set up and focus a biographic camera, and the patient was not always sufficiently obliging to have his seizure out of doors in an available place, and also at a time when the sun was at its best, for an out-door light or a room with powerful electric lights especially arranged was absolutely necessary to good results. An abundance of material was also necessary. Dr. Spratling, of the Craig Colony, had kindly placed the resources of the colony at his disposal, and with the assistance of the staff he had been able to biograph successfully twenty-one separate seizures, including one of status epilepticus.

**Election of Officers.**—The following officers were elected for the ensuing year: *President,* Dr. Max Mailhouse of New Haven, Conn.; *First Vice-President,* Dr. Everett Flood of Palmer, Mass.; *Second Vice-President,* Dr. William F. Drewry of Petersburg, Va.; *Secretary and Treasurer,* Dr. James W. Wherry of Dansville, N. Y.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON SURGERY.

*Stated Meeting, held December* 1, 1905.

Dr. George E. Brewer, Chairman pro tem.

**Result of Interscapulothoracic Amputation for Sarcoma of the Scapula.**—Dr. John Douglas presented this patient, who was a man, 37 years old, a laborer, who was admitted to the hospital on September 19. Nine months previous to admission his left shoulder became stiff, especially in the mornings, and this stiffness would disappear after using the arm for some time. He had had constant pain in the shoulder and along the nerves of the arm. Pain became so bad that he could not use the arm, and for the three months before coming to the hospital could not raise the arm above his head. He was unable to sleep at nights and he lost 35 pounds of weight. The shoulder girth was larger than on the normal side. On September 25 a section of the tumor was removed and submitted to the pathologist, who reported it to be a giant celled sarcoma. On October 6, interscapulothoracic amputation was performed, according to Berger's method, with but a slight modification of flaps. Cocaine was injected into the brachial plexus. Primary union occurred and the patient was up on the sixth day. Jeanbrau and Riche, in the *Revue de Chirurgie,* No. 8, 1905, reported 188 cases, 125 of them verified histologically. Before 1887 the mortality from this operation was 30 per cent., but since that date had been reduced to 8 per cent. Berger reported 129 cases; 69 amputations for tumor of the humerus gave a mortality of 4.5 per cent., 25 amputations for tumor of the scapula gave a mortality of 25 per cent, and 35 amputations for tumor in the axilla gave a mortality of 11 per cent. With regard to the average length of life Jeanbrau and Riche in 105 cases report three years, 24 cases alive after five years, and one after 26 years. The special point of interest was in its rarity; in 129 cases reported by Berger only 25 were for tumor of scapula.

**Modified Method of Resecting the Elbow and Ankle Joints.**—Dr. Albert A. Berg presented two patients. In one the patient, a boy, had an attack of anterior poliomyelitis, which was followed by paralysis of the extensor muscles of the left lower extremity and some of the muscles on the posterior aspect of the leg of the same side. There was also a complete paralysis of the anterior and posterior tibial groups of muscles of the right leg. The boy was totally unable to walk and the mother requested that something be done to prevent the deformities becoming worse. He, therefore, determined to ankylose the ankle on one side, doing an arthrodesis on the left side. In so doing he followed the suggestions of Mayo and with excellent results, the little fellow being able now to move about well.

**Acute Infectious Osteomyelitis.**—Dr. A. V. Moschcowitz presented a patient, 13 years of age, who was admitted to Mount Sinai Hospital December 16, 1904, and was discharged June 1, 1905. During his stay at the hospital it became necessary in successive operations to remove the entire right ulna and the upper four cm. of the right radius, to chisel open the left humerus throughout its entire extent, and to resect its lower two inches. All of these op-

erations were performed for progressive acute infectious (*Staphylococcus aureus*) osteomyelitis, with perforation into the elbow joints. In spite of the bilateral extensive resections the functional result was perfect, the patient having complete flexion and extension.

**A New Method of Excision of the Knee Joint Without Opening the Joint.**—Dr. Carleton P. Flint described this new method, illustrating the steps of the procedure by the lantern. A rectangular skin incision was made, the flap with the subcutaneous tissue being reflected upwards. The next incision was a curved one, with its concavity upwards, and started in the vastus internus a little above the upper limit of the subcrural bursa and was carried down and outwards to the tendon of the quadriceps extensor, one-half an inch above the patella; from here outwards and upwards to a point corresponding to the beginning on the inner side. The muscle with the tendon was completely divided and turned upwards, thus exposing the subcrural bursa. Two small incisions on either side of the femur were next made, starting on each side of the patella in the incision just described and carried downward and backward to the joint line. The one on the inner side divided the tendinous expansion of the quadriceps, the one of the outer side the tendinous expansion and part of the iliotibial band. The subcrural bursa was now separated from the femur and turned down, tilting the patella when not adherent. The last incision was carried transversely across the front of the tibia down to the bone just below the joint line. A flat retractor was next introduced on the inner side behind the head of the tibia close to the joint line in such a way that all the soft parts were held back. The tibia was sawn through as close to the joint as warranted, the leg being held flat on the table. After exposure of the posterior region of the condyles the femur was sawn through from behind forward and slightly downward at a sufficient level to clear the cartilage behind. This saw-cut was carried forward until it reached the margin of the cartilage on the anterior surface of the femur, and the saw was then withdrawn. The leg was then placed in a horizontal position and the saw introduced behind the subcrural bursa at the upper margin of the articular cartilage on the front of the femur and a cut made which would meet the anterior limit of the horizontal saw-cut made from behind. This last cut was almost vertical in the coronal plane, and allowed the articular portion of the femur which extended upwards in front to be removed with the joint. Now it was possible to lift out the joint with the patella and subcrural bursa, the articular surfaces of femur and tibia, all complete without having opened the joint. The subsequent steps of the operation differed in no way from those hitherto used. This method of resection offered the following advantages: It was quick; there was little danger of contamination of the wound by tuberculous or other infections from the joint; hemorrhage could be reduced to a minimum; the operation was thorough, there being but slight chance of leaving diseased tissue behind, thereby diminishing the probability of recurrence.

Dr. Arpad G. Gerster said that the method of operation presented by Dr. Flint was an admirable one, but the advantages recommended were not real; they were, in fact, theoretical and academic, especially the point raised regarding the danger of reinfection of the wound. In his own experience he had never seen a single case of tuberculosis secondary to opening a joint. With regard to hemorrhage due to the application of prolonged constriction with the dissecting away of the capsule little by little, he believed here too the dangers were exaggerated. If the surgeon picked up the larger blood-vessel, made apparent by milking the limb, and if the limb was compressed properly, hemorrhage would be absolutely controlled. He acknowledged the beauty of the procedure demonstrated which removed all that was diseased, but only in cases that were suitable for such an operation. But there were a limited number of cases of tuberculous joints that were suited for this operation in his opinion. Many of them, for instance, requiring resection were already opened and many had a mixed infection. In such cases the method would not be at all applicable.

Dr. Howard Lilienthal agreed with all that Dr. Gerster had said, and that in properly selected cases the operation described by Dr. Flint was the most surgical method for performing resection. With regard to the dangers from contamination he said he had had but three cases, two of resection of the knee, and one of resection of the humerus, in which there was undoubted invasion of distant parts through faulty operative procedure. One man had tuberculosis of the knee and after operation got up an undoubted tuberculous meningitis, from which he recovered. Another had a tuberculous osteomyelitis of the humerus and, after operation, also developed a tuberculous meningitis, from which he died. Therefore, in properly selected cases, the opening the joint in these operations was to be avoided and the method advocated seemed to be a good one.

Dr. Royal Whitman had never had any trouble with hemorrhage following these resections.

Dr. Reginald H. Sayre believed that there were cases in which the method proposed would be a valuable one.

Dr. Eugene H. Pool said that the claims of Dr. Flint for the method described were, in his opinion, justified by the results he had obtained after using that method. This patient had an advanced tuberculous arthritis of the right knee. The pains were so severe that an operation was demanded and he decided to try the method advocated by Dr. Flint, telling the patient, however, that the method might fail and an amputation might have to be done. There was no shock or post-operative bad effects. It was surprising how little hemorrhage there was and how little time was consumed.

**Hand Protection in Roentgen Praxis.**—Dr. Henry G. Piffard read this paper. He said that rays that passed entirely through a tissue without let or hindrance did not affect it, and *per contra* those that were arrested or absorbed by the tissues were the ones that affected and interfered with its physiological functions. The employment, therefore, of non-penetrable (absorbable) rays and their prolonged impact resulted in the most serious disorganizations of the integument. The dermal lesions early received the name of *x*-ray "burns," and the non-penetrating and easily absorbable rays that produced them Dr. Piffard designated as the *caustic* rays to distinguish them from the more penetrating ones that expended their energies on the deeper tissues without appreciable damage to the skin. As a warning to those who might be inclined to carelessness in personal protection he showed the photograph of a hand of a well-known radiologist, which really conveyed but an imperfect idea of the ravages that had followed the incautious use of this form of energy. Not only had fingers been lost, but also hands and arms, and even death had followed in the track of the earlier lesions. Undoubtedly the most frequent cause of hand burn was the pernicious habit of using the hand for the purpose of testing the quality of the rays with the fluoroscope. It was manifest, however, that the use of the human hand as a test object must be abandoned and a suitable substitute be employed. Unquestionably Benoist's radiochromometer afforded the most accurate and definite information as to the penetrating power of the rays issuing from a given tube and in radiographic work gave the information with great precision. The professional radiographer should know the conditions of the tube if he hoped to obtain satisfactory negatives, and he rarely made an exposure without first testing the quality of the rays. This unfortunately was not true always of the radiotherapeutist; some rarely took any cognizance of the state of their tubes or of the quality of the rays issuing from them. This accounted for the somewhat discordant clinical results obtained by different operators. Whichever radiometer was employed, or whenever a tube was in action, some form of protection for the hands should be employed. Many shields that he had used he said he had found somewhat incon-

venient in practice and he had substituted a home-made arrangement that had proved entirely satisfactory. It consisted in simply covering the anterior hemisphere (except a two-inch window opposite the target) with a sufficient number of coats of lead paint to absorb the less penetrating rays. In the one he presented twenty coats of paint were used. A radiograph was here shown taken on an *x*-ray plate, actuated by a 12-inch coil with a current of 8 amperes through the primary and an exposure of .45 seconds. The radiometer showed that penetration of the rays was equivalent to a No. 8 on the Benoist scale. Tested with the electroscope the ionizing radiations were in the ratio of 20 through the window to 1 through the protected portion next adjoining the window. Therefore, it was fair to assume that the protection was amply sufficient so far as the caustic rays were concerned. This statement referred only to the *x*-rays that traversed the anterior hemisphere. Perhaps in most instances parts or the whole of the posterior hemisphere became fluorescent, indicating the direct impact of the cathode rays and subsequent emission of *x*-rays. Such a tube, therefore, became nearly as dangerous from the rear as the front, and unless this tube could be coerced into better behavior, should be entirely enclosed in a non-radiable box, or completely covered with a sufficient coating of lead paint. From his statements it was shown that a tube actuated by a coil was unsafe, behind as well as in front of the target. The usual means whereby the trouble from an inverse current could be obviated was by the use of a Villard valve, largely used abroad but not well known in this country. With this valve, properly connected in series with the tube, the break current had free passage, while the make current was choked off. The hands should be further protected and Dr. Piffard used an old pair of driving gauntlets that were well worn and flexible, and applied six coats of white lead paint to their backs, leaving the fingers unpainted. The gloves were radiographed and showed that the protection was sufficient. The fingers were then painted. In conclusion he said that body protection, *i. e.* protection against the deeply penetrating or sterilizing rays, was of but little moment to those who made but occasional use of the rays, but the professional radiologist had already learned that still more strenuous measures were needed. Briefly, if using a coil, means should be taken to protect from the wild rays generated by the inverse current. In addition to this it was wise to enclose the entire tube in a non-radiable box or to interpose a movable protecting screen between the tube and operator. The lower part of this screen should be covered with sheet lead, while the upper part was furnished with a window of dense lead glass. Some radiologists arranged the tube and patient in one apartment, while they themselves occupied an adjoining one, protected by lead and with a lead glass window, the rheostat and switches being controlled from the protected room. Personally, and as a matter of convenience, he kept a brick wall between himself and the patient during the exposure and observed the behavior of the tube with a mirror.

Dr. L. G. Cole, referring to what Dr. Piffard said of the rays which were absorbed by the tissues causing the burning, or disturbances in the skin, said that this might be so with the so-called caustic ray, but he was inclined to believe that it was the ray which set up secondary rays in the soft parts which caused the trouble; that was to say, the ray coming from the tube generated the ray in the living tissues, of the same character as the one found in that part of the tube. When light was thrown through the tissues one was going to generate in the tissues rays which were a variety of *x*-ray; and this he said was the ray that would give the most trouble, causing sterility and some of the more dangerous manifestations. The ray that generated the ray in the tissues came from the walls of the tube and not directly from the anode. There were two distinct classes of rays from a tube, one capable of setting up indirect rays, the other absorbed by the tissues. Referring to hand protection, he said the covering of the hands was like covering the gauge of a boiler. His own hands had suffered greatly from cracks; but so soon as he stopped working with the rays practically they cleared up.

Dr. Hermann Besser and Dr. Stern discussed the paper.

## American Society of Tropical Medicine.

At a meeting held December 8 in the ampitheater of the Medico-Chirurgical College at Philadelphia, Colonel Wm. C. Gorgas, Assistant Surgeon-General, United States Army, and Sanitary Inspector at the Isthmus of Panama, delivered an address entitled "The Relation of Mosquitos to Yellow Fever on the Isthmus of Panama," in the course of which he declared that yellow fever and malaria are no longer to be feared by those engaged in building the Isthmian Canal by reason of preventive measures that have been instituted. A hospital has been equipped with modern safeguards for preventing the spread of the diseases named. Two wards were carefully screened and although for two years they contained constantly one or more cases of yellow fever no case of the disease developed in the hospital. Each patient suffering from yellow fever is kept in a wire cage bed until all danger of infection is past. In addition the wards are disinfected with sulphur every two weeks. All cisterns and water-barrels in the area of possible infection are screened and to ensure the reporting of all cases the Government offers a reward of $100 for each case reported. In the discussion Dr. Abram Jacobi, of New York, took the ground that American physicians will build the canal. He held that the American physician has accomplished what physicians of no other nation in the world have been able to achieve. If the United States is to become the first Power in the world it will be through the intelligent application at Panama of sanitary principles.

## College of Physicians of Philadelphia.

At a stated meeting held December 6, Dr. Burton K. Chance read a paper entitled "Report of a case of Cerebellar Tumor." The patient was a man who presented severe occipital headache, with vomiting unrelated to food, abducens palsy on the left side and facial palsy on the right side, and restriction of the fields of visions, with the appearance of optic papillitis. Nystagmic movements of the eyeballs developed, but there was no disorder of gait or station. Operation was decided on, but convulsions occurred, and terminated fatally before this was carried out. On post-mortem examination a fibrosarcoma, rather larger than an English walnut was found attached to the left lateral margin of the cerebellum, in which organ it was embedded without infiltration. The growth was of a character and so situated that it might have been enucleated with perfect success. Dr. John H. Gibbon read a paper entitled "Report of a Case of Successful Suture of Penetrating Wound of the Heart." The patient was a colored man who received a knife-wound in the precordium which after rib-resection was found to involve the wall of the right ventricle. The opening in the heart was sutured and drainage provided for and uncomplicated recovery ensued. The patient was exhibited.

## College of Physicians of Philadelphia: Section on General Medicine.

At a stated meeting held November 13 Dr. Frank Billings of Chicago by invitation read a paper entitled "The Medical *versus* the Surgical Treatment of Diseases of the Stomach." He dwelt on the importance of a knowledge of the mechanical conditions of the stomach; namely, the size, position, and motor activity of the viscus, from the diagnostic standpoint. Closely related to these is the gastric chemistry. Special attention was devoted to the consideration of ulcer and carcinoma and the indications for medicinal and surgical treatment respectively. Dr. George E. Brewer of New York read by invitation a paper entitled "The Indications for Surgical Intervention in Diseases of the Stomach in the Absence of Symptoms of

Perforation or Hemorrhage." Dr. JOHN H. MUSSER presented a communication entitled "The Relation of Carcinoma to Ulcer of the Stomach Especially as Influencing the Treatment of Ulcer." Dr. JOHN B. DEAVER read a paper entitled "The Final Results of Operations, Such as Gastroenterostomy, Pyloroplasty, etc., in the Treatment of Diseases of the Stomach." Dr. J. DUTTON STEELE read a paper entitled "Certain Therapeutic Indications Based Upon the Presence of Occult Blood in the Gastric Contents and the Feces."

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At a stated meeting held November 22 Dr. H. EMERSON WETHERILL exhibited a device of bent heavy wire intended as a holder for various laboratory appliances and numerous other uses of allied character. Dr. JOSEPH SAILER presented a communication entitled "The Quantitative Estimation of the Stomach Contents." He traced the evolution of the study of the gastric chemistry and described in detail modifications of modern methods of testing with the results of his own observations. Dr. J. DUTTON STEELE read a paper entitled "The Treatment of Some Phases of Gastric Indigestion." He pointed out that a condition frequently encountered is hyperesthesia of the gastric mucosa sometimes simulating hyperacidity. The underlying state is often neurasthenic and the most appropriate treatment consists in the administration of nervines and sedatives. Dr. JOHN B. DEAVER read a paper entitled "The Surgical Side of Gastric Indigestion." He insisted upon the necessity of a surgical opinion, at least when relief fails to attend medical treatment carried out for a reasonable time. Among the conditions amenable to surgical intervention are dilatation of the stomach, with or without pyloric obstruction, gastric ulceration under certain circumstances, and gastric carcinoma if discovered at a sufficiently early stage. Dr. ALFRED HAND, Jr., read a paper entitled "Some of the Manifestations of Congenital Syphilis."

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## Medical Items.

**Contagious Diseases—Weekly Statement.**—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, New York City, for the week ending December 23, 1905.

| | Cases | Deaths |
|---|---|---|
| Measles | 764 | 12 |
| Diphtheria and Croup | 300 | 39 |
| Scarlet Fever | 170 | 6 |
| Smallpox | ..... | ..... |
| Chickenpox | 206 | ..... |
| Tuberculosis | 312 | 174 |
| Typhoid Fever | 72 | 9 |
| Cerebrospinal Meningitis | 15 | 15 |
| Typhus Fever | ..... | ..... |
| Yellow Fever | ..... | ..... |
| Cholera | ..... | ..... |
| Totals | 1,839 | 255 |

**Presence of Saccharomyces in the Milk of the Cow, and Their Bacteriological Activity.**—F. Valgussa and G. Mafera have examined commercial samples of milk as to whether they contain saccharomyces, and the changes that take place in the milk as a result of their activity, with a view to producing a new form of artificial milk suitable to the infant. In all the samples of milk examined saccharomyces were found in greater or less number; they were found in milk with a neutral or acid reaction, especially when pronouncedly acid. It is not possible to classify these germs as found in milk; they vary with the condition and state of preservation of the fluid. Certain germs belonging to the alcoholic ferments are constantly found. When lactic acid fermentation ceases, the germs continue to live on the albumins, fats, and secondary products. In certain conditions, the saccharomyces prevent the action of parasitic germs on the albumins; some coagulate the casein directly, independent of acid reaction, by the action of a ferment analogous to the lab-ferment, and produce a fine precipitate of casein; others segregate the ferments, and give unusually active enzymes of amylolytic power, lactases, glucases, lipases, proteolytic ferments, and probably caseases. Oxidizing ferments and salol ferment are unchanged; some of the alcoholic ferments produce a strong odor in the milk. By the action of saccharomyces it is possible to modify milk in its chemical and physical characteristics and its action toward ferments even when the milk has been sterilized.—*Rivista di Clinica Pediatrica.*

**Indications for the Extirpation of the Adnexa in Connection with Hysterectomy.**—G. Miranda gives certain indications for the removal of the adnexa when hysterectomy is done for causes not connected with diseases of the tubes and ovaries. It is as yet impossible to demonstrate the existence of an internal ovarian secretion, and to foretell the influence on the body processes of the removal of the gland. Clinical observation shows that the preservation of the ovaries has only the influence of causing a slighter grade of atrophy of the genital organs left after hysterectomy, lessening the number of women who have the menopause induced by operation on the uterus. Experimental and anatomopathological researches confirm clinical results, showing that the preservation of the ovaries renders the climacteric less sudden and modifies its disagreeable symptoms; the ovaries atrophy slowly and give the organism time to accommodate itself to the loss of function. There are certain dangers and inconveniences due to the leaving of the ovaries behind which counterbalance the advantages of so doing. It is not possible to leave them when the operation is done for disease of the adnexa or malignant disease of the uterus, or in 60 per cent. of myomata. It is especially in hysterectomy done for accidents of labor, exclusive of osteomalacia and disease of the sexual sphere, that the ovaries should be left, in conjunction with a restriction of the body of the uterus.—*Archivio di Ostetricia e Ginecologia.*

**Health Reports.**—The following cases of smallpox, yellow fever, cholera, and plague, have been reported to the Surgeon General, Public Health and Marine Hospital Service, during the week ended December 23, 1905.

SMALLPOX—UNITED STATES.

| | | CASES. | DEATHS. |
|---|---|---|---|
| California, Los Angeles | Dec. 2–9 | 4 | .. |
| San Francisco | Nov. 25–Dec. 2 | 5 | .. |
| Illinois, Galesburg | Dec. 9–16 | 1 | .. |
| Kentucky, Covington | Dec. 9–16 | 1 | .. |
| Maryland, Baltimore | Dec. 9–16 | 1 | .. |
| Michigan, Gratiot County | Nov. 1–30 | 1 | .. |
| Washington, Spokane | Nov. 1–30 | 1 | .. |

SMALLPOX—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Bahia | Oct. 28—Nov. 25 | 90 | 5 |
| Pernambuco | Nov. 1–15 | .. | 43 |
| Rio de Janeiro | Oct. 22–Nov. 19 | 20 | 12 |
| Chile, Antofagasta | Oct. 24–Nov. 7 | 48 | 13 |
| Coquimbo | Oct. 22–Nov. 4 | 17 | 4 |
| Iquique | Oct. 26–Nov. 9 | 20 | 22 |
| Canada, Toronto | Nov. 25–Dec. 9 | 5 | .. |
| Ecuador, Guayaquil | Nov. 19–26 | .. | 5 |
| France, Paris | Nov. 25–Dec. 2 | 22 | .. |
| Great Britain, Plymouth | Nov. 25–Dec. 2 | 6 | .. |
| India, Calcutta | Nov. 4–11 | .. | 1 |
| Karachi | Nov. 4–19 | 2 | 1 |
| Madras | Nov. 11–17 | .. | 2 |
| Italy, General | Nov. 16–30 | 23 | .. |
| Mexico, City of Mexico | Nov. 18–Dec. 2 | 7 | 4 |

YELLOW FEVER—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Rio de Janeiro | Oct. 22–Nov. 19 | 20 | 6 |
| Cuba, Habana | Oct. 16–Dec. 15 | 60 | 14 |
| Matanzas Province | Dec. 8–17 | 7 | 1 |
| Santa Clara Province | Dec. 5 | 1 | .. |
| Ecuador, Guayaquil | Nov. 19–26 | .. | 3 |
| Honduras, Choloma | Nov. 15–21 | 2 | 1 |
| Puerto Cortez | Nov. 15–21 | 2 | 1 |
| San Pedro | Nov. 15–21 | 4 | 1 |
| Mexico, Coatzocoalcos | Dec. 2–9 | 1 | 1 |
| City of Mexico | Nov. 25–Dec. 2 | 1 | 1 |

CHOLERA—FOREIGN.

| | | | |
|---|---|---|---|
| India, Calcutta | Nov. 4–11 | .. | 33 |
| Madras | Nov. 11–17 | .. | 12 |

PLAGUE—FOREIGN.

| | | | |
|---|---|---|---|
| Brazil, Bahia | Dec. 14 | 5 | 3 |
| Pernambuco | Nov. 1–15 | .. | 5 |
| Rio de Janeiro, Rio de Janeiro | Oct. 22–Nov. 19 | 48 | 17 |
| Sao Paulo | Oct. 15–22 | .. | 1 |
| Japan, Kobe | Nov. 8–15 | 7 | .. |
| Osaka | Oct. 21–Nov. 15 | 18 | 14 |
| Mauritius | Nov. 2–16 | 23 | 13 |
| Peru, Callao | Oct. 11–31 | 1 | .. |
| Chiclayo | Oct. 11–31 | 1 | 1 |
| Lima | Oct. 11–31 | 8 | 6 |
| Mollendo | Oct. 11–31 | 1 | 1 |
| Zanzibar | Oct. 8–21 | 37 | 28 |
| India, Calcutta | Nov. 4–11 | .. | 21 |
| Karachi | Nov. 5–19 | 10 | 10 |

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